

PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 13TH JANUARY, 2023

The SEAC met on 13th January, 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 |
| 2. Dr. K. Murugesan | - | Secretary |
| 3. Dr. Chittaranjan Panda | - | Member |
| 4. Prof. (Dr.) H.B. Sahu | - | Member |
| 5. Prof. (Dr.) Abanti Sahoo | - | Member |
| 6. Dr. Ashok Kumar Sahu | - | Member |
| 7. Er. Fakir Mohan Panigrahi | - | Member(through VC) |
| 8. Prof. (Dr.) B.K. Satpathy | - | Member(through VC) |
| 9. Dr. K.C.S Panigrahi | - | Member (through VC) |
| 10. Shri. Jayant Kumar Das | - | Member(through VC) |

Draft proceedings of the meeting was finalized by the members through e-mail and also 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 FOR ENVIRONMENTAL CLEARANCE OF M/S INDIAN METALS FERRO ALLOYS FOR MAHAGIRI MINES (CHROMITE) FOR EXPANSION IN PRODUCTION CAPACITY OF CHROMITE ORE FROM 3 LAKH TPA TO 6 LAKH TPA OVER AN MINING LEASE AREA OF 73.777 HA. LOCATED AT VILLAGE- KALIAPANI, TAHASIL - SUKINDA, DISTRICT - JAJPUR, ODISHA OF SRI SANDEEP B. NARADE - EC

1. This proposal is for Environmental Clearance for M/s Indian Metals Ferro Alloys for Mahagiri mines (Chromite) for expansion in production capacity of Chromite ore from 3 Lakh TPA to 6 Lakh TPA from over a mining lease area of 73.777 ha. located at Village - Kaliapani, Tahasil - Sukinda, District - Jajpur, Odisha of Sri Sandeep B. Narade.
2. **Category:** The present proposal falls under category 'B' project of schedule 1(a) – Mining of minerals under as per EIA Notification 14th September 2006 and amended thereafter.
3. The State Government granted the mining lease over an area of 73.777 ha. in Village-Kaliapani, Tahasil-Sukinda, District - Jajpur, Odisha. The lease was executed on 20.09.2005 in favour of M/s Indian Charge Chrome Limited for exploitation of chromite ore for a period of 30 years i.e., from 20.09.2005 to 19.09.2035 (Lease validity is deemed to have been extended upto 19.09.2055 as per MMDR amendment act, 2015).
4. Transfer of the mining lease from M/s Indian Charge Chrome Ltd. to M/s Indian Metals & Ferro Alloys Ltd. was executed on 19.11.2015. It is a running mine with lease validity up to 19.09.2055 as per MMDR Act.

5. Forest Clearance has been obtained for the entire lease area of 73.777 ha. in three phases. First phase FC has been granted on 18.05.2005 vide letter no. F.No. 8-116/2002-FC for an area of 63.91ha. Second phase FC has been granted on 18.11.2014 vide letter no. F.NO.8-116/2000-FC(VOL) for an area of 2.47ha. (Safety zone). While third phase FC has been granted on 30.10.2018 for an area of 7.397ha. (Sabik Kisam Forest) vide letter no. F.No.8-116/2002-FC (Vol.I).
6. NOC from CGWA has been obtained for extraction of 1000 KLD of groundwater vide letter no. CGWA/NOC/MIN/REN/1/2021/6551, dated 04/06/2021 and valid up to 03/06/2023 where 10 KLD water abstraction is allowed from borewell for drinking & domestic purpose while 990 KLD is through dewatering of mine seepage water.
7. The site specific wildlife conservation plan has been approved vide letter no 720/7WL-FD&WLC-209/2020 on dated 25.01.2021 with financial forecast of Rs. 346.032 lakh for various activities.
8. The modified Mining Plan for the period 2020-21 to 2024-25 with enhancement in production capacity of 3.0 to 6.0 LTPA of chromite ore from fully mechanized underground mining has been approved by IBM vide its letter no. MRMP/A/17-ORI/BHU/2020-21/784 dated 11.08.2021, which is in force. The proposed production from underground is envisaged to be a maximum of 6.0 LTPA which will be achieved in 2029-30 progressively.
9. Earlier Environmental Clearance for production of 3.0 LTPA was granted by MoEF&CC vide letter no. J-11015/345/2007-IA.II (M) dated 29.10.2012 and by subsequent amendments dated 02.01.2014 (for extension in EC validity for grant of Forest Clearance regarding diversion of 2.47ha. of safety zone by 31.01.2015) & 17.03.2015 (deletion of specific condition (iii) of EC letter dated 29.10.2012 & 02.01.2014).
10. CTO has been obtained from State Pollution Control Board vide letter no. 551/IND-I-CON-5331 dated 07.01.2022 which is valid upto 31.03.2026 for the production of 0.3 MTPA.
11. Past production had been certified by Deputy Director Mines, Jajpur road circle, Jaipur vide memo no 757/mines on dated 27.05.2021.
12. Six Monthly Compliance report has been submitted for the period of April 2022 to Sep 2022 on dated 24.11.2022 to RO, MoEF. The Project proponent has submitted previous certified compliance report issued by RO, MoEF, Bhubaneswar, vide letter no. 101-331/21/EPE dated 21.10.2021.
13. The project has been granted Terms of Reference by SEIAA, Odisha vide letter no. 3496/SEIAA dated 18.11.2021.
14. **Public Hearing details:** The public hearing for the project was conducted on 06th July, 2022 at Mahagiri Enclave (Khata No. 53/15, Plot No. 664), Village - Kaliapani, Tahasil - Sukinda, District- Jajpur, Odisha. Local Employment, medical facilities and plantation was the main issues raised during the public hearing. The project proponent has proposed to spend Rs. 200 Lakhs in next five years under social activities.
15. Present proposal is for expansion of mining of chromite mineral from production capacity 3 LTPA to 6 LTPA from Mahagiri mines of M/s Indian Metals & Ferro Alloys Limited. The entire mine lease area of 73.777 ha. is forest land.

16. **Location and connectivity:** The lease area of 73.777 ha. is located in village Kaliapani, Tahasil - Sukinda, District - Jajpur, Orissa State. The study area falls in the Survey of India Topo-sheet no. F45N16 and the geo coordinates are Latitude - 21°01'16.66"N to 21°01'56.83"N and longitude 85°46'24.94"E to 85°47'13.58"E. Nearest road is Tomka-Mangalpur road passes in the north-north western side of the mining lease area at a distance of 1.29 km. The project is at a distance of 11.07 km South from NH-200. The nearest railway station is Tomka at 21.60 km from the lease area. Nearest Airport is Birasal Airport at 10.98km. There are no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site, Tiger/Elephant Reserves within 10 km of the mine lease area. The area comprises hilly and undulating terrain. The Daitari hill range is located in the north and the Mahagiri range occupies the southern portions. The central valley portions of the area is drained by Damsal Nala flowing in westerly direction. It forms the main watershed of the study area. The entire drainage originating from Daitari hills in north and Mahagiri in the south join Damsel Nala.
17. **Mining method and production:** Mining of Chromite will be done by fully mechanized underground mining in a lease area of 73.777 ha. The process of underground mechanised mining will involve drilling, blasting, loading and transportation. There is no processing or beneficiation process involved, except, ROM is only crushed and screened to different sizes. This method of development and stopping leaves no rib pillars between two stope blocks. A crown pillar of 10 m thickness is being left in between two stopping levels. Drilling is being done by single/double boom jumbo drill & blasting is being done using slurry explosives for development in waste and ore drives. Ultimate pit limit of underground mining will be (-) 395 mRL as per present exploration. The maximum proposed production of Chromite Ore will be 6 LTPA.
18. During the period from 01.04.2021 to 31.03.2025, it is proposed to exploit 15.0 lakh tons of ROM from underground mines. So, the mineral reserve and resource category after 2024-25 shall be 157.45 lakh tons. Life of Mine will be 31 years.
19. **Waste generation:** Generation of waste in the conceptual period is estimated to be around 8.89 Lakh CuM. The waste generated from underground working shall be utilised for backfilling of mined out areas of opencast working, as well as for ground levelling within the leasehold area for different land use purposes. The overburden/waste material shall be utilised for backfilling of underground stope voids. In case of the generation of mineral reject, it will be separately stacked within the area designated for Mineral Storage.
20. **Water requirement:** The water requirement of the project will be fulfilled by seepage water which will be used after treatment in ETP located in Sukinda Mines (Chromite) of the same lessee and 10 KLD fresh water from the borewell will be used for drinking & domestic purposes. For this purpose, NOC from CGWA has been obtained for extraction of 1000 KLD of groundwater vide letter no. 21-4(107)/SER/CGWA/2008-1212 dated 12.06.2018 where 10 KLD water abstraction is allowed from the borewell for drinking & domestic purposes and 990 KLD is through dewatering of mine seepage water. Detailed water usage is mentioned in below table.

Particulars	Unit	Existing Quantity	Total after expansion	Source (Groundwater/Surface Water/other)
Drinking & Domestic	KLD	50	60	U/G mine dewatering after treating in WTP
Plantation	KLD	134	143	ETP
Sprinkling	KLD	90	90	ETP
Underground Drilling	KLD	100	150	U/g mine dewatering
Backfilling Plant	KLD	160	160	U/g mine dewatering
Total	KLD	534	603	

21. **ETP/STP:** It is proposed to expand the capacity of existing ETP from 360 cum/hr to 1260 cum/hr and to install the additional ETP of 900 cum/hr capacity in view of increase in the dewatering rate after expansion of the project. Domestic wastewater generated from administrative activities and canteen is treated in the Sewage Treatment plant of capacity 50 KLD. The treated water is used for mines, dust suppression and plantation. Discharge to outside lease area into the natural drainage after meeting SPCB standards is 940KLD.
22. Rain water Harvesting system has been adopted and each year 61985 cum/year of water is harvested.
23. **Power requirement:** Total power requirement after the proposed expansion project will be 4.0 MVA and it will be met from Central Electricity Supply Utility of Odisha (CESU) grid line. A 2000 KVA Sub-station has been established with 33 KV/433V transformers. Three 750 KVA, D.G. sets have been installed for illumination, ventilation and operation of pumps in case of power failure. The daily consumption of diesel for running machineries & DG set is 5 KLD and after expansion will be 10 KLD. The diesel will be sourced from the M/s Indian Oil Corporation Limited (IOCL).
24. **Greenbelt:** Green belt/plantation has been developed around the mining activity area, safety zone, along haul road. In addition, 1.8 ha. out of 5.090 ha. of OB dump area and 2.19 ha. out of 6.9 ha. of backfilled area has also been covered by plantation, around 9.33 ha. is under greenbelt. At the end of the conceptual period around 60.66 ha. area will be reclaimed by plantation.
25. The baseline data was collected from October 2021- December 2021 .The details are given below:
26. **Micro- meteorological data:**
- Temperature: Temperature of the area varies from 6.62⁰C to 31.08⁰C
 - Relative Humidity: The relative humidity varies from 40.4 to 99.93.
 - Wind Speed: Wind speed normally is in the range of 0.02 Km/hr to 6.86 Km/hr.
27. **Ambient Air Quality Results** - Samples were collected from 8 sampling locations. The following results were obtained.

S.No	Parameters	Mean Value Range (Core Zone)	Mean value Range (Buffer Zone)	Standard
1.	PM 2.5 (µg/m ³)	24.15 - 25.97	25.19-37.66	24 hrs: 60 µg/m ³
2.	PM 10 (µg/m ³)	58.69-63.11	61.22-91.51	24 hrs: 100 µg/m ³
3.	SO ₂ (µg/m ³)	6.40-6.92	6.71-10.71	24 hrs: 80 µg/m ³
4.	NO ₂ (µg/m ³)	16.77-18.03	17.49-26.33	24 hrs: 80 µg/m ³
5.	CO (mg/m ³)	0.24-0.25	0.25-0.37	8 hrs: 02 mg/m ³

28. **Noise Quality results:** Samples were collected from 9 locations. The following results were obtained.

S. No.	Parameters Leq noise level	Type of Area	Range dB(A) - Core Zone	Range dB(A)- Buffer Zone	Standard in dB(A)
1.	Day Time	Industrial Area	64.9 - 65.5	–	75
2.	Night Time		57.9-58.8	–	70
3.	Day Time	Residential Area	--	56.2-58.2	55
4.	Night Time		--	46.5-48.9	45
5.	Day Time	Commercial Area	–	68.5	65
6.	Night Time		–	62.7	55

29. **Water Quality Results:** The samples were collected from 18 locations (8 samples of ground water 10 samples of surface water).

30. **Ground water quality- Core zone & Buffer Zone:**

- ❖ The **Total Dissolved Solids (TDS)** of the sampling locations W1, W2, W3, W4, W5, W6, W7, W8 ranges from 49.7 mg/l to 317 mg/l which are within the drinking water standard (IS:10500) i.e. 500 mg/l.
- ❖ The **Total Hardness** of the sampling locations ranges from 28 mg/l to 260 mg/l. Total Hardness of sampling locations Sukurangi Village and Giringamali village are found higher than the drinking water standards (IS:10500).

- ❖ The **Alkalinity** of the sampling locations ranges from 31 mg/l to 356 mg/l. Alkalinity of all sampling locations except for Sukurangi Village (356 mg/l), OMC colony (244 mg/l), Giringamali village (356 mg/l), and Kendubani Village (321 mg/l) are within the drinking water standards (IS:10500) i.e. 200 mg/l.
- ❖ The **Fluoride** content in the sampling locations ranges from <0.1 mg/l to 0.4 mg/l. which are within the drinking water standard (IS:10500) i.e. 1.0 mg/l.
- ❖ The **Calcium** Concentration of sampling locations ranges from 4.8 mg/l to 67.2 mg/l. Calcium levels of sampling locations are within the drinking water standards (IS:10500) i.e. 75 mg/l.
- ❖ The **Magnesium** Concentration of sampling locations ranges from 3.9 mg/l to 25.3 mg/l. Magnesium levels of sampling locations are within the drinking water standards (IS:10500) i.e. 30 mg/l.
- ❖ The **Chloride** Concentration of all the sampling locations ranges from 14 mg/l to 48 mg/l. Chloride levels of all the sampling locations are within the drinking water standards (IS:10500) i.e 250 mg/l.

31. **Surface water quality-** The majority of the water quality parameters in the selected sites were within their respective drinking water quality standards. Moreover, DO values fall under class 'D' and 'E' as per CPCB guidelines. Surface water quality criteria indicating that the surface water quality within the region can be used for Irrigation, Industrial Cooling, and Controlled Waste disposal.
32. **Soil Quality Results:** The samples were collected from 18 locations:
33. **Core Zone:** The soil samples collected from the core zone sites show that the soil texture in the core zone is Clay, Sandy clay, Sandy loam, Silt loam, Loam having average fertility in the Core Zone.
34. **Buffer Zone:** The soil samples collected from the buffer zone sites show that the soil texture in the buffer zone is Clay, loam, silt clay and Clay Loam. Primary nutrient profile shows that soil is average fertile due to the availability of low amounts of nitrogen, available potassium.
35. **Ecology and Biodiversity Results:** There are a total 11 Schedule I Species of fauna found in the buffer zone as mentioned, for which site specific wildlife conservation plan has been approved by PCCF & Chief Wildlife Warden, Odisha vide letter no.720/7WLF&WLC/209/2020 dated 25.01.2021.
36. **Manpower:** The proposed project will be additional 331 manpower for the proposed expansion in the mine, apart from existing 746 employees.
37. **Project cost:** The project cost is Rs. 154.30 Crores (Only for expansion project) and Proposed EMP Capital cost is Rs. 69.66 Lakh and annual recurring cost is 28.69 lakhs.
38. The Environment consultant **M/s Perfact Enviro Solutions Pvt. Ltd, New Delhi**, 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 Perfact Enviro Solutions Pvt. Ltd, New Delhi** along with the project proponent, the SEAC decided to take decision on the proposal after receipt of the following from the proponent:

- a) Detail report on leaching of Cr⁶⁺ and microbiological analysis on water of ETP.
- b) Traffic study report vetted by a reputed institute.
- c) Detail report on biomagnification on water discharge to Damsala Nala.

- d) Certified compliance report to existing CTO conditions from SPCB, Odisha.
- e) Copy of study report conducted on backfilling materials.
- f) The mine is a captive mine of Ferro- Alloys Plant of the proponent. Justification whether the plant is designed to use 6 lakh Ton per Annum of Chromite Ore as proposed.
- g) The test results for the water quality parameters for all the sampling locations to be provided in tabular format.

ITEM NO. 02

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR PARSURAMPUR DECORATIVE STONE MINES FOR PRODUCTION OF 24,992 CUM/ANNUM, OVER AN AREA 10.513 HA. LOCATED IN VILLAGE - PARSURAMPUR UNDER PARALAKHEMUNDI TAHASIL OF GAJAPATI DISTRICT OF SRI SAPTAGIRI KONCHADA - EC

1. This proposal is for Environmental Clearance for Parsurampur Decorative Stone for Production of 24,992 cum/annum of decorative stone over a mining lease area 10.513 ha. located in village - Parsurampur under Paralakhemundi Tahasil of Gajapati district of Sri Saptagiri Konchada.
2. **Category:** The present proposal falls under category 'B' project of schedule 1(a) – Mining of minerals under as per EIA Notification 14th September 2006 and amended thereafter.
3. Parsurampur Decorative Stone Deposit is a fresh mining lease granted and executed for PL on 25.07.2008 in favour of K. Saptagiri. After the prospecting operation, in response to grant the ML for a period of 20years, the lease terms & condition letter was issued by the Department of Steel & Mines, Govt. of Odisha, on 16.11.2016, vide letter no. 9389/SM.
4. Mining plan for Parsurampur Decorative Stone Deposit was approved by the Director of Mines, Odisha vide letter no. MXXII-(a)-7/2017 2096 DM., Dt. 23.03.2018.
5. **Public Hearing details:** Public Hearing for Parsurampur Decorative Stone Mines was conducted on 18.10.2022 at 11.00 A.M. in the community hall of Puduni village. As per the demands, the project proponent has committed to provide drinking water, developing drainage facility, road maintenance, medical facility, etc. Rs. 11 lakhs will be spent under CER for various socio-economic activities, whereas Rs. 7.3 lakhs will be spent annually towards regular maintenance & recurring activities.
6. **TOR Details:** Terms of Reference (TOR) was issued by the SEIAA, Odisha vide Letter No. 4915/SEIAA, on dated 19th July 2022 to carry out EIA Studies and prepare EMP report for obtaining Environmental Clearance.
7. **Location and Connectivity:** The lease area comprises of two hill ridges in the revenue village of Parsurampur, coming under Paralakhemundi Tahasil of Gajapati district. The geo coordinates for the project are Latitude : 18⁰ 48' 01.7" N to 18⁰ 48' 16.4" N & Longitude : 84⁰ 05' 59.4" E to 84⁰ 06' 17.8" E & can be seen in SOI toposheet No. 74 B/1 (E45G1). The ML area of 10.513 ha. comprises of entirely of Govt. land i.e. Anabadi Parbat type land. The DFO, Paralakhemundi Division, vide letter no. 1379/4F, dated 1st March, 2008 has certified that the lease area is non forest land. The nearest habitation is Parsurampur village, at a distance of 400m in SE. This project site is 2.5km from Paralakhemundi town and connected to district Gajapati, through all weather road. NH–326A (originates from Mohana in Odisha & ends in

Narasannapeta of Andhra Pradesh) is at a distance of 1.5km whereas Parlakhemundi – Pudini road via Parsurampur, passes adjacent to the western boundary; it originates from Paralakhemundi town and joins NH- 326A at Pudini junction, 2.5km away in SE direction.

8. **Topography and Drainage:** The ML area comprises of two hill ridges thus has boulder hill topography; highest altitude of the area is 185m AMSL in the SE of the hill and lowest altitude point is at 100m AMSL in NW side. The drainage pattern of the region is dendritic. The lease area is devoid of any perennial /seasonal nala. The major drainage system of the area is Mahendra Tanaya River, which flows at a distance of 4km from the ML area in north-east to south-west direction.
9. There is no National Parks /Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger Reserves within 10 Km radius of the mining lease area in Odisha.
10. **Reserves:** As per the estimation, the geological reserve is estimated to be 37,00,990.0 m³ total rock mass and recoverable decorative stone is 9,25,247.0 m³ & Mineable reserve is found to be 20,06,430.0 m³ total rock mass and recoverable decorative stone is 5,01,607.5 m³.
11. **Mining method and production:** The lessee has proposed to extract decorative stone blocks and tiles from Parsurampur Decorative Stone Deposit within the lease area of 10.513 ha. by opencast semi-mechanized mining method in single shift involving drilling, cutting & transportation only. The mining process shall not include blasting, crushing, beneficiation, etc. The mine shall be developed to produce 24,992 cum /annum of Rock, out of which 6,248 cum (25% of the extract) will be marketable rock & 18,744 cum will be waste. About 40% of the total waste proposed to be utilized for construction & maintenance of road within & outside the lease area. During the process of mining, the only solid waste material to be produced is the unused rock material. Year Wise Production of Stone is given in below table:

Production Year	Volume of Rock (in m³)	Volume of Marketable Rock (in m³)	Volume of Waste (in m³)
1 st Year	24250.00	6062.50	18187.50
2 nd Year	24500.00	6125.00	18375.00
3 rd Year	24650.00	6162.50	18487.50
4 th Year	24750.00	6187.50	18562.50
5 th Year	24992.00	6248.00	18744.00

12. **Mine development and bench geometry:** The mine will be developed to produce 24,992 m³ /annum of rock, of which 6,248 m³ /annum i.e. 25% of the excavated rock will be sold as marketable rock whereas balance 18,744 m³ /annum i.e. 75% of the excavated rock will be stacked as waste. The benches will be developed along the counters. Height & minimum width of the benches are proposed to be 3m each with 45^o as overall bench slope; width will be 3m or more than the height. Benches will be developed in a down to top manner.
13. **Life of mine:** Considering the average rate of production of decorative stone during the proposed plan period @ 6157 cum /annum, the life of the mine will be about 81 years.

14. **Land use breakup:** An area of 8.975 ha. land is likely to be degraded/ utilized for mining till the conceptual period. Presently, an area of 0.118 ha. out of the total leasehold area of 10.513 ha. is already degraded due to illegal mining activities & removal of rough blocks during reserve estimation.

Details of the Land Utilization plan

Sl. No.	Type of Land use	As at the end of plan period (ha.)	As at the end of conceptual period of the mine (ha.)
1	Area under mining	2.184	8.95
2	Overburden / waste dump	0.692	---
3	Mineral Storage	0.101	---
4	Infrastructure (Office, Rest Shelter, etc)	0.024	0.024
5	Others (Settling pond)	0.001	0.001
Sub-Total		3.002	8.975
6	1.025	1.025	3.68
7	6.486	0.513	4.24
G. Total		10.513	10.513

15. **Reclamation:** By the end of the life of the mine, an area of 8.975 ha. will be degraded due to mining & ancillary activities. Ultimate extend of quarry will be 8.95 ha. pit size will be 370m X 70m with depth of pit upto the probable limit i.e. 102m AMSL. By the end of the conceptual period, out of 8.95 ha. of total mining pit area, an area of 3.9 ha. will be back filed upto 118m AMSL; whereas the remaining 5.05 ha. will be fenced with barbed wire for the safety of human & animals.
16. **Water requirements:** Total water requirement for the proposed mining in Parsurampur Decorative Stone mining is estimated to be 7 KLD. For dust suppression peak water demand shall be 5.5 m³ /day, plantation will consume 0.7 m³ /day whereas drinking water need along with cleaning & washing at work place is 0.8 m³ /day. The total required water shall be collected form ground water source with due permission.
17. There will not be any residential area within the ML area except the Site Office. Therefore, the domestic waste from the sewage system will be disposed off to Soak Pit via Septic Tank.
18. **Power requirements:** Since the mining will be single shift and no accommodation is proposed, there will be no need of electricity. However, for emergency office use, a 225 KVA DG will be installed.
19. **Greenbelt:** There is a proposal to plant about 1645 saplings over 1.025 ha. (10250 m²) along the lease area near boundary pillars in a width of 7.5m during the first five years of mining. The saplings proposed for plantation are Mango, Neem, Jackfruit, Jamun, Amal, Gamhari, Kasi and other indigenous species. Species of the saplings are proposed to be kept at 2.5m apart.
20. **Manpower:** The project shall create direct employment for 34 (managerial & supervisory personnel – 03, Skilled- 14, Semi-skilled- 08 & Unskilled- 09) persons once the mine comes to its operational stage.

21. **Baseline study** was conducted during March 2022 to May 2022. Following observations are found w.r.t to air quality, water quality and soil quality.

22. **Air quality level -**

LOCATION	PM _{2.5} (µg/m ³)			PM ₁₀ (µg/m ³)			SO ₂ (µg/m ³)			NO _x (µg/m ³)		
	Min.	Max	98 percentile	Min.	Max.	98 percentile	Min.	Max.	98 percentile	Min.	Max.	98 percentile
A ₁ (Inside ML Area)	25.2	31.4	31.3	48.5	56.2	56.2	<4	4.7	4.6	<9	9.8	9.8
A ₂ (Vill.- Tulasi Padu, 1.6km to N)	26.2	34.2	32.8	55.2	63.5	63.3	4.7	9.4	9.4	9.9	14.9	14.7
A ₃ (Vill.- Anararha, 1.2km to NE)	28.5	35.3	34.8	54.6	64.3	64.1	5.4	10.1	9.5	9.9	14.5	14.5
A ₄ (Vill.- Podani road, 0.4km to NE)	26.2	30.8	30.4	53.6	62.8	62.1	<4	9.7	9.5	9.2	13.3	13.2
A ₅ (Vill.- Parikota, 4.7km to ENE)	29.3	34.6	34.4	61.4	68.0	67.7	10.1	14.8	14.8	13.8	19.6	19.5
A ₆ (Vill.-Parsurampur, 0.8km to NW)	25.7	31.5	31.3	57.8	65.7	65.0	<4	9.4	9.4	11.0	15.1	15.1
A ₇ (Vill.- Mahadeipur , 1.5km to SE)	25.3	30.1	29.8	51.4	59.3	59.2	5.4	10.1	9.8	10.1	14.9	14.7
A ₈ (Vill.- Betagarha, 1.1km to S)	26.6	33.9	33.7	52.3	65.4	65.3	4.7	9.4	9.1	10.1	15.7	15.4
Standards as per NAAQS, CPCB, 2009	24 Hours	60		100			80			80		
	Annual average	40		60			50			40		

23. **Noise Level –**

LOCATION	Day Time in leq dB(A)		Night Time in leq dB(A)	
	Maximum	Minimum	Maximum	Minimum
N ₁ (Inside ML Area)	48.3	40.5	39.3	35.6
N ₂ (Vill.- Tulasi Padu, 1.6km to N)	53.0	43.4	41.1	38.2
N ₃ (Vill.- Anararha, 1.2km to NE)	52.6	42.2	40.6	36.6

N ₄ (Vill.- Podani road, 0.4km to NE)	52.2	43.6	42.1	37.3
N ₅ (Vill.- Parikota, 4.7km to ENE)	54.6	43.8	44.1	38.2
N ₆ (Vill.- Parsurampur, 0.8km to NW)	52.5	41.8	42.3	36.6
N ₇ (Vill.- Mahadeipur, 1.5km to SE)	52.2	41.2	40.2	35.8
N ₈ (Vill.- Betagurha, 1.1km to S)	51.6	42.2	42.3	37.6

24. Surface water Quality –

Parameters	Maximum Permissible Limits as per IS: 2296 – Class C	Results				
		SW1	SW2	SW3	SW4	SW5
pH	6.5 – 8.5	7.2	7.11	7.26	7.42	7.32
Colour	300 Hazen	10	15	10	5	15
Total Dissolved Solids	1500 mg / L	152.0	148.0	156.0	144.0	144.0
Chloride as Cl	600 mg / L	54.9	68.9	61.9	66.9	56.9
Sulphate as SO ₄	400 mg / L	5.9	6.8	7.2	7.9	7.9
BOD (3 days at 27° C)	3.0 mg / L	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Oxygen	4.0 mg / L	5.9	5.8	5.6	5.5	5.5
Iron as Fe	0.5 mg / L	0.24	0.26	0.24	0.22	0.2
Fluoride as F	1.5 mg / L	0.12	0.14	0.11	0.09	0.09
Chromium	0.05 mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Phenolic compound	0.005 mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Arsenic as As	0.2 mg / L	<0.001	<0.001	<0.001	<0.001	<0.001
Copper as Cu	1.5 mg / L	<0.03	<0.03	<0.03	<0.03	<0.03
Cadmium as Cd	0.01 mg / L	<0.01	<0.01	<0.01	<0.01	<0.01
Lead as Pb	0.1 mg / L	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc as Zn	15 mg / L	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate as NO ₃	50 mg / L	2.4	2.5	2.3	2.8	2.8

Total Coliforms	5000 MPN/100ml	470	410	450	500	520
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25. Ground water quality –

Parameters	Desirable Limits as per IS: 10500	Results				
		GW1	GW2	GW3	GW4	GW5
pH	6.5 – 8.5	7.42	7.44	7.35	7.41	7.47
Colour	5 Hazen	<5	<5	<5	<5	<5
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity	1 N.T.U, Max	<1	<1	<1	<1	<1
Total Dissolved Solids	500 mg / L	222	234	224	232	243
Total Hardness as CaCO ₃	200 mg / L	136.0	142.0	134.0	144.0	152.0
Chloride as Cl ⁻	250 mg / L	32.9	36.9	33.9	32.9	35.9
Sulphate as SO ₄ ²⁻	200 mg / L	22.4	26.2	24.8	23.6	25.2
Free Residual Chlorine	0.2 mg / L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Total Alkalinity	200 mg / L	114.0	118.0	115.0	120.0	122.0
Iron as Fe	0.3 mg / L	0.24	0.28	0.25	0.27	0.26
Fluoride as F ⁻	1.0 mg / L	0.18	0.16	0.2	0.22	0.19
Calcium as Ca	75 mg / L	35.30	36.50	34.10	37.30	42.64
Magnesium as Mg	30 mg/L	11.7	12.4	11.9	12.4	11.1
Manganese as Mn	0.1 mg / L	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium as Cd	0.003 mg / L	<0.001	<0.001	<0.001	<0.001	<0.001

Nitrate as NO ₃ -	45 mg / L	2.6	2.8	2.5	2.3	3.1
Aluminium as Al	0.03 mg / L	<0.01	<0.01	<0.01	<0.01	<0.01
Arsenic as As	0.01 mg / L	<0.001	<0.001	<0.001		<0.001
Boron as B	0.3 mg / L	<0.2	<0.2	<0.2	<0.2	<0.2

26. **Project cost:** The project cost is estimated to be Rs 3.12 crores and there is a budgetary provision of Rs 35 lakhs as capital cost & Rs 15 lakhs as annual recurring cost towards environmental protection measures.

27. The proponent along with the consultant **M/s Centre for Envotech and Management Consultancy Pvt. Ltd., Bhubaneswar** made a detailed presentation before the SEAC.

Considering the information furnished and the presentation made by the consultant **M/s Centre for Envotech and Management Consultancy Pvt. Ltd., Bhubaneswar** along with the project proponent, the SEAC recommended for grant of Environmental Clearance with stipulated conditions as per **Annexure – A**.

ITEM NO. 03

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR GADA BEGUNIAPADA SAND QUARRY (DAYA RIVER), OVER AN AREA OF 12.50 ACRE OR 5.06 HA. AT MOUZA - GADA BEGUNIAPADA OF TAHASIL DELANGA IN DISTRICT OF PURI OF SRI TAPAN KUMAR RAY – EC

1. This proposal is for environmental clearance for Gada Beguniapada Sand Quarry on Daya River, over an area of 12.50 Acre or 5.06 ha. at Mouza - Gada Beguniapada of Tahasil - Delanga in district of Puri, Odisha of Sri Tapan Kumar Ray.
2. **Category:** As per EIA notification 2006 and subsequent amendments, the project is coming under B1 Category Schedule 1 (a) - Mining of Minerals.
3. The Terms of Reference (TOR) has been issued by SEIAA, Odisha vide File No.60755/93-MINB1/02-2021 dated 11.05.2021.
4. The Tahasildar of Delanga Tahasil issued Form F, vide letter no. 3705 on dated 12.10.2020 to the successful bidder of the sairat source, Sri Tapan Kumar Ray for the period of five years on acceptance of terms and conditions prescribed therein.
5. The Reference of Identified Source in DSR - Page No. 2 of Sl. 18 of Annexure II (DSR Puri).
6. There is no other sand mines exist within 500m radius of the present lease area.
7. The mining plan for the project has been approved by Authorised Officer/Deputy Director of Geology, Directorate of Geology, Bhu-Bigyan Bhawan, Bhubaneswar, Odisha vide memo no. 4307 on dated 25.06.2020.
8. **Public hearing details:** The Public Hearing in respect of Environment Impact Assessment for Gada Begunia Sand Quarry was conducted on 10.10.2022 at 11.00 A.M at Gada Begunia playground near market building of Delanga Tahasil of Puri District. The issues raised at the

public hearing meeting are: Tree plantation along river bank, overexploitation of sand, erosion of the river bank and eventual flooding, road widening and repair, road safety and traffic, Local Employment and road dust and sand pile up on the road. In compliance to public hearing, the Project proponent has prepared a time bound action plan and a total implementation cost of 5.35 Lakhs towards it.

9. **Location and connectivity:** The project Gada Beguniapada Sand Quarry on river Daya spread over an area of 5.06 Ha. or 12.50 Acre is in Khata no.319, Plot no-1, Kisam: Nadi located in village Gada Beguniapada, under Delanga Tahasil of Puri District, Odisha. The project is located in survey of India toposheet no. 73H/12 and bounded between the latitudes of 20°05'09.62" N to 20°05'23.88" N and longitudes of 85°40'17.40" E to 85°45'42.72" E. Nearest road is village road which is located at 100m from the lease area. The site is well connected to NH-5 at 10Km and SH-13 at a distance of 8kms. Nearest railway station is Kaipadar railway Station which is located at distance of 3.9 Km from the lease area. Nearest airport is Biju Patnaik International Airport, Bhubaneswar at a distance of 22.4Km from the mining lease area. Delanga Road is passing through lease area. The road bridge on Daya river of Delanga road is passing through the lease area. There is no human settlement within the lease area.
10. **Topography:** The Sand bed is on the river Daya. The Gada Beguniapada sand bed deposit represents a gently sloping to almost flat terrain. The highest mRL is of 8m. The general slope is towards south. Vegetation is scanty with small bushes existing in the auction hold area. There is no human settlement within the area.
11. The mining operation will be carried out in the upstream of the bridge within the lease area and there will be no mining activity in the downstream. As per sand guidelines 2020, the safety distance of mining lease area should be minimum 250m in the upstream and 500m in the downstream of the bridge/ public civil structure. So the safety zone has been increased based on the guideline.
12. After exclusion of safety zone for Bridge, the revised production is proposed as 4799 Cu.m against approved production of 5843 Cum per annum.
13. **Replenishment Study Report** - Replenishment survey for the sand quarry was conducted on Dtd.11.05.2021 to 12.05.2021 as pre-monsoon and on Dtd.9.11.2021 to 10.11.2021 as post-monsoon season. The ground survey of Gada Beguniapada quarry was undertaken by the Survey team of Geo Consultant Pvt. Ltd. Bhubaneswar. One base point was fixed with the help of hand-held GPS and the coordinates and the RL of the base point was assigned for future reference. Ground survey by Total Station on 10 numbers of cross sections for pre monsoon and 23 nos. of cross sections for post monsoon and 1 numbers of longitudinal sections.
14. It is observed that there is an average increase of river bed RL by 0.40 m due to sediment deposition during the monsoon season. So replenished quantity of sand available in the study period within the sand bed = $22500\text{m}^2 \times 0.40\text{m} = 9000\text{m}^3$. The lessee will extract 5843cu.m of sand at their peak level of extraction within 180 days of dry period which is very less than the annual replenished quantity of 9000cu.m.
15. So, the quantity of sand extraction is about 64.92% of the replenished sand in the lease area. The sand depth in the area is 1.10m and the mining operation in the area will go up to maximum depth of 1.00 m.

16. **Reserves:** The total geological reserve is 101172 Cum and the mineable reserve of the river bed sand is worked out to be 23995 Cum after excluding revised safety zone as mentioned in presentation.
17. **Mining method and production:** The method of excavation of sand from Gada Beguniapada Sand quarry will be manual open cast mining. The mode of the deposit, geomorphology of the area and its hydrological condition are some of the factors that favours the open cast method of mining. Mining will be done with manual excavation & loading into trucks/ tractors and transported from Daya River sand bed to the users/destination through trucks/tractors. The project intends for excavation maximum of 5843 cu.m per annum of sand from the lease area and total production is 29215cum as per Approved Mining Plan. Now the PP had revised the production after excluding the safety zone to 4799cum/annum and total production to 23995cum as mentioned in presentation.
18. **Water requirement:** Water requirement for the project will be 3 KLD. For drinking & domestic purpose, water requirement will be 1 KLD, water requirement for green belt development and dust suppression will be 2 KLD. Ground water will be used for drinking and domestic purpose whereas surface water will be used for green belt development and dust suppression.
19. **Land use of mining lease:** The mining lease area falls within the river bed of Daya River, below the high flood level. It therefore cannot be put to any other use. The kizam of land under the lease is Nadi. Before the lease was auctioned it was part of the river course. During plan period the probable mined out land will be 2.43 ha.
20. **Greenbelt/Plantation:** There is a proposal of plantation within 600 metre of SE side & 900 metre of SW side of the quarry with the gap of 3 metre, with total area of 4500 Sq.m to be planted with 1100 saplings as mentioned in presentation.
21. Baseline study was conducted during the period November 2021 to January 2022. Following observations were found w.r.t to air quality, water quality and soil quality monitoring.

PERIOD	November 2021 to January 2022	Applicable Standards
AAQ PARAMETERS AT 6 LOCATIONS	PM _{2.5} – 19.2 to 28.0 µg/cu.m	60 µg/cu.m
	PM ₁₀ – 41.8 to 56.9 µg/cu.m	100 µg/cu.m
	SO ₂ – 5.7 to 9.9 µg/cu.m	80 µg/cu.m
	Nox – 14.7 to 19.3 µg/cu.m	80 µg/cu.m
	CO – 0.346 to 0.540 mg/cu.m	4 mg/cu.m
Ground water Quality at 5 Locations	pH – 7.0 to 8.2	6.5 to 8.5
	Total Hardness – 44 to 192 mg/l	600 mg/l
	Chloride - 11.5 to 36.4 mg/l	250 mg/l
	Fluorides – <0.05 to 0.80 mg/l	1.5 mg/l
	TDS – 68 to 300 mg/l	1000 mg/l
	Heavy metals : BDL (Cd <0.001, As <0.01, Hg<0.0001) mg/l Detection limits of analysis method	Heavy metals: (Cd <0.003, As <0.01, Hg<0.001) mg/l
Surface water at 5	pH – 6.6 to 8.	

PERIOD	November 2021 to January 2022	Applicable Standards
locations	Dissolved Oxygen – 6.2 to 6.9 mg/l	
	Biochemical Oxygen Demand – 1.1 to 2.3 mg/l	
	Chemical Oxygen demand – 5 to 15 mg/l	
Noise at 5 locations	Day (dBA Leq) 31 to 48	55
	Night (dBA Leq) - 26 to 35	45
Soil Quality at 6 locations	pH –5.1 to 6.4, Potassium –81 to 390 mg/ kg, Phosphorous –24.9 to 46.3 mg/ kg, Total Organic Carbon % –0.35 to 0.81, Electrical Conductivity- 41 to 302 µmho/Cm	

22. **Manpower:** Total manpower requirement for the project is 09 nos.

23. **Project cost:** Total cost of the project will be Rs. 10,00,000. The EMP cost proposed for the project will be 3.0 lakhs per annum.

24. **Environment Consultant:** The proponent along with the consultant **M/s Kalyani Laboratories Pvt.Ltd**, Bhubaneswar, made a detailed presentation before the SEAC.

Considering the information furnished and the presentation made by the consultant **M/s Kalyani Laboratories Pvt. Ltd., Bhubaneswar** along with the project proponent, the SEAC decided to take decision on the proposal after receipt of the following from the proponent:

- Revised checklist indicating distance from bridge. Whether the location of the mines is confirming to distance criteria from the Bridge as per Enforcement Monitoring Guideline for Sand Mining (EMGSM)- 2020.
- Grid layout of replenishment points taken with dimension and direction.
- Details of Plantation cost and involvement of villagers for protection of plantation in riverbank.
- A Revised EMP budget, production capacity and greenbelt were noticed during presentation which doesn't match with submitted EIA report. This shall be clarified.

ITEM NO. 04

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR KESHAPUR A & B STONE QUARRIES CLUSTER OVER AN AREA OF 21.855 ACRES OR 8.8443 HECTARES BEARING KHATA NO. 119 PLOT NO. 863 & 864, 866 IN VILLAGE KESHAPUR,TAHASIL SANAKHEMUNDI, DISTRICT - GANJAM STATE ODISHA (SUBMITTED UNDER CLUSTER APPROACH WITH TOTAL CLUSTER AREA 8.8443 HECTARES WITH CONSISTING OF 2 STONE QUARRIES) OF SRI SANTOSH PARIDA – TOR

The project proponent did not attend the meeting. The SEAC decided to defer the proposal to next meeting.

ITEM NO. 05

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR MARJITAPUR SAND QUARRY OVER AN AREA OF 12.50 ACRE OR 5.058 HA. IS LOCATED IN VILLAGE - MARJITAPUR, TAHASIL - DHARMASALA IN JAJPUR DISTRICT OF SRI JAYANTA KUMAR JENA - EC

1. This proposal is for environmental clearance of Marjitapur Sand Quarry over an area of 12.50 Acre or 5.058 Ha. is located in village - Marjitapur, Tahasil - Dharmasala in Jajpur District of Sri Jayanta Kumar Jena.
2. **Category:** As per EIA notification 2006 and subsequent amendments, this project is coming under Category B1 schedule 1(a) - Mining of minerals.
3. The Terms of Reference (TOR) has been issued by SEIAA, Odisha vide Letter No. 4978/SEIAA on dated 29.07.2022.
4. The Tahasildar of Dharmasala Tahasil issued Form F vide letter no. 574 on dated 13-02-2022 to Successful Bidder Sri Jayanta Kumar Jena to operate the sairat source for the period of five years.
5. The Reference of Identified Source in DSR - Page No. 33 of Sl. 81 of Annexure II (DSR Jajpur Dist.).
6. There is no other sand mines exists within 500m radius of the present lease area.
7. The mining plan has been approved by Authorised Officer/Deputy Director of Geology, Directorate of Geology, Bhu-Bigyan Bhawan, Bhubaneswar, Odisha vide memo no. 2577/DG on dated 25.04.2022.
8. **Public Hearing details:** The Public Hearing in respect of Environment Impact Assessment for Marjitapur Sand Quarry was conducted on 26.10.2022 at 11.00 A.M at Kalyana Mandap Marjitpur village in Jajpur District. The issues raised at the public hearing meeting are tree plantation along river bank, over exploitation of sand, erosion of the river bank and eventual flooding, road widening and repair, road safety and traffic, local employment, dust emission and sand pile up on the road due to transportation. In compliance to public hearing, the project proponent had submitted a time bound action plan and budget allocated is 4.55 Lakhs.
9. **Location and connectivity:** Marjitapur Sand Quarry on river Brahmani spreads over an area of 5.058 Ha. or 12.50 Acre on Khata No. 640, plot no – 1(p) at Marjitapur village, Dharmasala Tahasil of Jajpur District, Odisha. The project is located in survey of India toposheet no. F45U1 & geo coordinates are latitudes: 20°52'37.77"N to 20°52'45.21"N and longitudes: 86°02'58.22"E to 86°03'07.77"E. Nearest village road is at distance of 0.75m from the lease area. The site is well connected to NH-53 at 4Km and SH 20 at 13.85Km and kalinganagar road at 2.9km. E Co Railway line at 0.33km from the lease area. Nearest railway station is Jenapur Railway Station at 3.3 Km from the lease area. Road bridge at 4km and railway bridge at 0.33km. Nearest airport is Biju Patnaik International Airport, Bhubaneswar at 73Km from the mining lease area. Nearest sanctuary is Kapilash Wildlife sanctuary at 22km. Electric transmission line at 0.75km. The study area within 10 Km of the project site is devoid of any national parks, sanctuaries, Biosphere reserves, wild life corridors, tiger/elephant reserves etc.
10. **Topography:** The land is the government land leased for excavation of river sand. There will be no change in land use pattern after the end of plan period as the land will remain as the part of Bramhani river bed and the quarry area will be replenished during the rainy season. The Marjitapur sand bed deposit represents a gently sloping to almost flat terrain with highest altitude of 19 mRL. The general slope is towards Northwest. There is no human settlement within the area.

11. The rail bridge is located at a distance of 330m from the lease boundary. As per sand guidelines 2020, the safety distance of mining lease area should be minimum 250m in the up stream and 500m in the down stream of the bridge/ public civil structure. In this regard, as the rail bridge is located at a distance of 330m from the lease area in the down stream, the Project proponent has suggested to carryout mining operation in the lease area leaving another 170m from P3& P4 boundary pillar.
12. Replenishment Study Report - This is a new mines and the mining plan has been prepared based on the existing depth of sand reserve in the lease area. A proper replenishment study as per Sand guideline, 2020 has not been carried out. A survey for the sand quarry was conducted by volumetric survey method during month of May'2022 for pre-monsoon and during month of November'2022 as post-monsoon season. The reserve has been calculated based on volumetric method. While calculating the level of mine lease 100m up stream and 100m downstream level has been taken into consideration for finding initial level. The estimations were done with digging 4 numbers of trenches of 5m x 5m x 1m at the proposed zones of mining during pre monsoon season (as if the mining has happened for the last season) to see depth is filled up with sand after monsoon season, which was measured during last week of November. So it can be concluded the replenishment in the lease area is 100% with 1m of sand deposit. The Project Proponent has assured to carry out proper replenishment study as per guideline during the 1st year of mining operation.
13. **Reserves:** The total geological reserve is 36065 Cum and the mineable reserve of the river bed sand is worked out to be 18974 Cum.
14. **Mining method and production:** The mining operation at Marjitapur Sand bed has been started earlier and as a result of which pits have been developed. The mode of the deposits, geomorphology of the area and its hydrological condition are some of the factors that favour the open cast manual method of mining. In this deposit, the mining is done by manual dry-pit mining method. The sands are extracted, loaded and transferred from pits to the users through trucks. The mining is done on single shift basis. The local man power has been engaged in the mine to supervise loading of vehicles. As per the approved mine plan the proposed targeted production of Marjitapur Sand Quarry was 18974 Cum per annum and total production is 94870cum.
15. **Water requirement:** Water requirement for the project will be 3.5 KLD. For drinking & domestic purpose, water requirement will be 1.5 KLD, water requirement for Green belt development 1 KLD and dust suppression will be 1 KLD. Ground water will be used for drinking and domestic purpose whereas surface water will be used for green belt development and dust suppression.
16. Baseline study was conducted during the period November 2021 to January 2022. Following observations were found w.r.t to air quality, water quality and soil quality monitoring.

PERIOD	November 2021 to January 2022	Applicable Standards
AAQ PARAMETERS AT 5 LOCATIONS	PM _{2.5} –22.6 to 36.7 µg/cu.m	60 µg/cu.m
	PM ₁₀ – 41.1 to 66.7 µg/cu.m	100 µg/cu.m
	SO ₂ – 5.1 to 9.8 µg/cu.m	80 µg/cu.m

PERIOD	November 2021 to January 2022	Applicable Standards
	Nox – 9.1 to 19.1 µg/cu.m	80 µg/cu.m
Ground water Quality at 4 Locations	pH – 6.5 to 6.9	6.5 to 8.5
	Total Hardness – 104 to 180 mg/l	600 mg/l
	Chloride - 14 to 66 mg/l	250 mg/l
	Fluorides – <0.05 to 0.05 mg/l	1.5 mg/l
	TDS – 140 to 300 mg/l	1000 mg/l
	Heavy metals: BDL (Cd <0.001, As <0.01, Hg<0.0001) mg/l Detection limits of analysis method	Heavy metals: (Cd <0.003, As <0.01, Hg<0.001) mg/l
Surface water at 2 locations	pH – 7.8 to 7.9	
	Dissolved Oxygen – 4.5 to 4.9 mg/l	
	Biochemical Oxygen Demand – 2.5 to 2.8 mg/l	
	Chemical Oxygen demand – 18 to 22 mg/l	
Noise at 5 locations	Day (dBA Leq) 32.4 to 52.4	55
	Night (dBA Leq) - 25.7 to 48.6	45
Soil Quality at 4 locations	pH –4.8 to 6.05, Potassium –109 to 172 mg/ kg, Phosphorous –192 to 505 mg/ kg, Total Organic Carbon % –0.72 to 1.12, Electrical Conductivity- 50 to 106 µmho/Cm	

17. **Greenbelt/Plantation:** There is proposal for plantation along the river bank in both sides of lease area. The riverbank plantation will be carried out in the 1st year of mining operation. 500 nos. of saplings will be planted over an area of 250m from each side of the lease area with 3 m width.

18. **Manpower:** Total 31 Nos. (Out of which 1 no. is skilled, 2 nos. are semi-skilled and 27 nos are unskilled and 1 supervisor) of persons are required for the project.

19. **Project cost:** Total cost of the project will be Rs. 15,00,000/- approximately.

20. The proponent along with the consultant **M/s Kalyani Laboratories PVT.LTD**, Bhubaneswar, made a detailed presentation before the SEAC.

Considering the information furnished and the presentation made by the consultant **M/s Kalyani Laboratories Pvt. Ltd., Bhubaneswar**, along with the project proponent, the SEAC decided to take decision on the proposal after receipt of the following from the proponent:

- a) Revised checklist indicating distance from bridge. Whether the location of the mines is confirming to distance criteria from the Bridge as per Enforcement Monitoring Guideline for Sand Mining (EMGSM)- 2020.
- b) Details of span of Bridge as per records of Railway Authorities in upstream of the river for no-mining zone.
- c) Grid layout of replenishment points taken with dimension and direction.
- d) KML file of revised lease area.
- e) Compliance to public hearing issues raised by the public and cost estimation with timeline for implementation.
- f) The project proponent shall ensure to maintain the road used for transportation and accordingly detailed proposal with cost estimation for maintenance of transportation road is to be submitted.

ITEM NO. 06

PROPOSAL FOR AMENDMENT OF ENVIRONMENTAL CLEARANCE OF M/S SWAMI RESORTS PVT. LTD FOR PROPOSED MULTISTORIED HOTEL BUILDING 2B+G+7 WITHIN A PLOT AREA OF 12140.55 SQM AND BUILT-UP AREA OF 22999.81 SQM AT MOUZA – JAYDEV VIHAR BHUBANESWAR, KHORDA OF SRI SHIVAM ASTHANA - MOD EC

1. This proposal is for Amendment of Environmental clearance of M/s Swami Resorts Pvt. Ltd. of M/s Swami Resorts Pvt. Ltd. for proposed Multistoried Hotel building 2B+G+7 within a plot area of 12140.55 sqm and built-up area of 22999.81 sqm at Mouza - Jaydev Vihar, Bhubaneswar, Khorda of Sri Shivam Asthana.
2. **Category:** This project falls under Category B of Schedule 8(a) - Building and Construction projects as per EIA Notification, 2006 and its subsequent amendments.
3. **Project details:** M/s Swami Resorts Pvt. Ltd. had earlier applied for Environmental Clearance (Letter No.- SRPL/ EC/02/13-14 dated 27.07.2013) for the proposed hotel building with 2B+G+11 storied with built up area of 55909.46 sqm. Environmental Clearance had been granted by SEIAA to the proposed hotel building through Ref No.- 623/ SEIAA on dated 19.04.2014 for a period of 5 (five) years. But due to financial constraints of the project proponent and Covid Pandemic situation, the project could not be started on time. Now, the built up area of the hotel building has been revised from 55909.46 sqm to 22999.81 sqm and the configuration of the proposed building has been changed from 2B+G+11 to 2B+G+7 storied.
4. Approval of the revised built up area and building plan has been approved by Bhubaneswar Development Authority through letter no. 25537/ BDA dated 30.06.2022.
5. As the built up area and the configuration of the proposed hotel building has been changed and the validity of previous EC was for a period of 5 (five) years, the proposal requires Amendment in EC from the State Impact Assessment Authority (SEIAA).
6. **Location and connectivity:** The proposed hotel project site is located at Plot No- 55/4085, 56/4086, 57/4087, 63/4088, Khata No- 1426/1488 in Mouza- Jayadev Vihar of Khordha district, Odisha. The proposed project site covered in the Survey of India Topo sheet no. 74 H/11, 74

H/12, 74 H/15, 74 H/16. The geographical co-ordinates of project site are Latitude 20° 18' 15.32" N to 20° 18' 21.68" N and Longitude 85° 49' 11.73" N to 85° 49' 17.92" E. The proposed site located in Mouza- Jayadev vihar is well connected with public roads and is at a prime location in the city of Bhubaneswar. The entry and exit gates of the proposed project will be connected with the 200 ft. wide Nandankanan - Jayadev Vihar road. An external 100 ft. wide pwd road is proposed on the North west side of the project site. Nearest NH is NH – 16 at 1.20km. Bhubaneswar Railway station is at 7.4km. Nearest airport is Biju Patnaik International Airport at 6.8km. Nearest reserve forest is Chandaka RF at 17km. Nearest river is Kuakhai river at 6km. The site is plain without any major vegetation or trees.

7. **Area Statement:** The proposed project is a multistoried hotel building comprising of 2B+G+7 floors. The total area of project site is 12140.55 m².

Parameters	Area details
Plot Area	12140.55 sqm
Ground Coverage	3183.0 sqm (26.21 %)
Total Built up Area	22999.81 sqm
Total FAR Area	11810.03 sqm
FAR	0.973
Maximum Height	31.80 mtr
Paved Area	4488.55 sqm
Parking Area	8611.65 sqm
Green Belt Area	4469.0 sqm (36.81%)
Estimated Population-Commercial	806nos.

Comparative area details of Previous EC granted and Proposed Amendment of EC

Sl.No.	Details of Hotel Building	Previous Configuration (EC granted by SEIAA)	Proposed Configuration
i)	No. of Floors	2B+G+11	2B+G+7
ii)	Built up Area	55909.46 sqm	22999.81 sqm
iii)	Built up Area (Excluding Basement)	33352.50 sqm	14388.16 sqm
iv)	Building Height	50.0 m	31.80 m
v)	Water Requirement	320.0 KLD	227.0 KLD
vi)	Fresh Water Requirement	250 KLD (PHED Supply)	117.0 KLD (Ground Water)

vii)	STP Capacity	285 KLD	150 KLD
viii)	STP Technology	FAB/FMR	SBR
ix)	Treated Waste water	243 KLD	105 KLD
x)	Total Green Belt Area	2621.26 sqm (21.6%)	4469.0 sqm (36.81%)
xi)	Total Parking Area	20020 sqm	8611.65 sqm
xii)	Recharge pit dimension	6m x 3m x 3m	1.53m x 3.05m x 1.22m

8. **Water requirement:** The total water requirement is approx. 227 KLD, out of which total domestic water requirement is 139.0 KLD. The fresh water requirement is approx. 117.0 KLD. The hot water requirement proposed in the hotel building will be around 15.0 KLD. NOC from CGWB is obtained vide application no. CGWA/NOC/INF/ORIG/2022/16363 for 100KLD valid till 19.09.2027.
9. **Waste water generation and management:** It is expected that the project will generate approx. 117 KLD of wastewater. The wastewater will be treated in onsite STP of 150 KLD capacity. The treated effluent will be reused for flushing, greenbelt, fire fighting, HVAC and miscellaneous uses like car washing, road washing. Surplus treated effluent during rainy season will be discharged to external sewer.
10. **Rain water harvesting:** Rain water harvesting has been catered to and designed as per the guideline of CGWA. Peak hourly rainfall has been considered as 140 mm/hr. The de silting pits of dimensions 1.5mx3.05mx1.22m and the recharge pit of diameter 1.20 m and depth of 3.0 m is constructed for recharging the water. 33nos. of rainwater harvesting pits at selected locations is proposed, which will catch the maximum run-off from the site and volume of rainwater to be harvested will be 230.69 Cum.
11. **Solid waste generation:** During the operation phase, estimated quantity of the waste shall be approx. 340.0 kg per day (@ 0.5 kg per capita per day for total occupancy and landscape waste @ 0.2 kg/acre/day) which will be segregated into biodegradable and non-biodegradable dustbins. Proper waste management practices will be adopted during collection, storage and disposal of the generated solid waste, construction and demolition waste
12. **Fire Fighting:** Fire fighting system will be installed as per recommendation of Odisha Fire Service Department and as per the guideline of NBC (part-4). The height of the building is upto 31.80 mts. Internal roads of 7.5 mt width has been demarcated for movement of fire vehicle.
13. **Power requirements:** Electricity requirement for the hotel building will be 1096.37 KW which will be supplied from State Electricity Board, Bhubaneswar, Odisha. Out of the total electricity requirement, 240.64 KW will be required for common area and street lighting. There will be electrical distribution transformers within the project site. DG Set rating of 2 no. 500 KVA and 1 no. 380 KVA has been proposed for the hotel building to provide supply considering the critical loads for each application.

14. **Solar power:** The solar power provided is for 33.66 KW of the total demand load which comes around 3.0% of the total demand. The required number of solar panels is 157 nos. The solar load will be augmented as per demand during the operational phase of the project.
15. **Parking details:** The hotel building has proposed ample provision for car/ vehicle parking at the proposed project site and as approved by Bhubaneswar Development Authority. Provisions for scooter parking is also taken into account in addition to covered parking & open parking. Total Parking area proposed is 8611.65 sqm/270 ECS i.e. 40% of Proposed F.A.R.
16. **Greenbelt:** Total green area measures 4469.0 m² which is 36.81 % of the total plot area. Total no. of trees proposed in the project is 152 nos. Evergreen tall and ornamental trees have been proposed to be planted of the local species like Cadamba, Cassia, Jacranda, Bauhina, inside the premises.
17. **Project cost:** Total cost estimate for the proposed project is Rs. 121 crores and Environmental management cost will be 82 Lakhs.
18. **Environment Consultant:** The proponent along with the consultant **M/s P and M Solution, Noida**, made a detailed presentation before the SEAC.

Considering the information furnished and the presentation made by the consultant **P and M Solution, Noida** along with the project proponent, the SEAC decided to take decision on the proposal after receipt of the following from the proponent followed by site visit by the sub-committee of SEAC:

- a) Certificate from concerned DFO that project land does not fall within Eco-Sensitive Zone of Chandaka - Dampara and Nandankanan Sanctuary.
- b) Copy of letter of GA Department about clarification that no involvement of forest land in the project area.
- c) Traffic study report vetted by a reputed institution.
- d) Copy of lease deed/land ownership.
- e) Detailed calculation for parking area.
- f) Status of amendment of all statutory clearances from concerned departments, as per the revised built-up area.
- g) Justification with supporting documents that EC granted earlier is valid now.
- h) Status of permission from BMC for discharge of treated water to drain.


MEMBER SECRETARY, SEAC


CHAIRMAN, SEAC

**CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR
DECORATIVE STONE MINES**

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

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

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 to prevent 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

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.