PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 19TH OCTOBER' 2024

The SEAC met on 19th October' 2024 at 04:00 PM in the Conference Hall of Odisha State Pollution Control Board, Bhubaneswar under the Chairmanship of Sri Shashi Paul. The following members were present in the meeting.

1.	Sri Shashi Paul	-	Chairman
2.	Dr. K. Murugesan	-	Member Secretary
3.	Dr. Rabi Narayan Patra	-	Member (through VC)
4.	Dr. Chittaranjan Panda	-	Member (through VC)
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 (through VC)
9.	Er. Kumuda Ranjan Acharya	-	Member (through VC)
10.	Shri Jayant Kumar Das	-	Member (through VC)
11.	Dr. Ashok Kumar Sahu	-	Member (through VC)
12.	Dr. K. C. S Panigrahi	-	Member (through VC)

CONSIDERATION OF OLD PROPOSALS (COMPLIANCE RECEIVED):

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

ITEM NO. 01

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR COMMON BIO-MEDICAL WASTE TREATMENT FACILITY PROJECT AT KHATA NO - 64, PLOT NO - 993, CITY - TENTOLA, TAHASIL - DHARMASALA, DISTRICT - JAJPUR OF SRI BIPIN SARANGI - TOR

1. 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 the EIA Notification, 2006 and amendment thereafter.
2. This proposal is for Terms of Reference (ToR) for obtaining Environmental Clearance for Common Bio-Medical Waste Treatment Facility Project at Khata No-64, Plot No-993, City-Tentola, Tahasil- Dharmasala, District- Jajpur of Sri Bipin Sarangi.
3. **Category**: This project falls under Category "B" of Project activity 7 (da) - Development of Common Bio Medical Waste Treatment Facility projects as per EIA Notification dated 14th Sept, 2006 as its amendments.
4. **Location and connectivity:** The proposed project is located at Khata No. -64, Plot No. -993, City-Tentol, Tahasil- Dharmasala, District-Jajpur, Odisha. The geographical co-ordinates of project site are 20°82'43.46"N and 85°98'80.39"E. The nearest road is NH-53 at 4.7 km in ENE

direction, Nearest Railway Station is Jenapur Railway Station at 8.5 km in ENE direction, nearest airport is Biju Patnaik International Airport at 65.7 km towards SSW direction, nearest Habitation is Tentola at 0.27 km in WSW direction, nearest Wildlife Sanctuary is - Chandaka Dampada Sanctuary at 47.3 Km in SSW Direction, Nearest Water Body is Brahmani River at 4 km in NW direction. There are no National Park/Wildlife Sanctuary/ Eco-sensitive zone are within 10 km radius of the Project Site.

5. Proposed Units & Total Capacity are as follows:

Name of equipment	Rated Capacity	Operational hr/day	Remarks
Incinerator	250 Kg/Hr x 2 = 500 Kg/Hr	16	Installed separately for process in Yellow Colour bag for BMW
Autoclaves	1000 Ltr	16	Installed separately for process in Red, White, Blue Colour bag for BMW
Shredders	200 kg/hr	10	For Shredding from autoclave/ disinfected wastes

6. **Land-use Area Breakup:**

S. No.	Facilities	Area (sqm)
a)	Plant Facilities (Waste storage rooms, autoclave, incinerator, shredder etc.)	1021.93
b)	Administrative and auxiliary facilities	167.22
c)	Rain Water Harvesting Pit	111.48
d)	ETP	111.48
e)	Vehicle Wash	111.48
f)	Green Belt area	2670.97
g)	Parking	102.19
h)	Internal roads	169.103
i)	Miscellaneous	46.45
j)	Open Area	3581.41
	Total Area	**8093.713**

7. **Baseline study conducted**- Baseline study is being conducted for the time period- December 2023- February 2024.

8. **Water requirement:** The total water requirement for the proposed project will be 25 KLD. Water will be sourced from Borewell and other supply (Supply water).

9. **Wastewater details:** Total effluent generation would be 25 KLD which will be treated in ETP of 15 KLD capacity.

10. **Power requirement:** Total power requirement for the proposed project would be approx. 100 kVA.

11. **Greenbelt development:** Green belt will be developed over 0.27 Ha. of land and 1600 saplings are provided as green belt cover.

12. **Total Employment**: Total 60 skilled & unskilled persons are proposed to hire for plant operations.

13. **Project cost**: The estimated project cost is 7.73 Crores.

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

15. The SEAC in its meeting held on dated **09-02-2024** recommended the following:

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

i) CPCB guidelines stipulates that no common biomedical facility to be allowed within 75 kms from existing Common Biomedical Facility. M/s RAMKEY, Jajpur has already obtained Environmental Clearance from MoEF&CC, Govt. of India for setting up of Common Biomedical Treatment Facility at Jajpur. A detailed note to be submitted by the proponent justifying as to why their case will be considered for grant of Environmental Clearance under the above circumstances.

ii) Land document with Kisam of land in the name of the company.

B. Following specific ToRs may be prescribed while issue of Terms of References.

i) A detailed process flow sheet including ETP.

ii) Mass balance for the proposed project.

iii) A report on rainwater/storm water management.

iv) Detailed layout earmarking the units.

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

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	CPCB guidelines stipulates that no common biomedical facility to be allowed within 75 kms from existing Common Biomedical Facility. M/s RAMKEY, Jajpur has already obtained Environmental Clearance from MoEF&CC, Govt. of India for setting up of Common Biomedical Treatment Facility at Jajpur. A detailed note to be submitted by the proponent justifying	Detailed note has not been furnished.	The proponent has not furnished any justification for grant of Environmental Clearance for the proposed project.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	as to why their case will be considered for grant of Environmental Clearance under the above circumstances.		
2.	Land document with Kisam of land in the name of the company.	Land Documents and agreement copy submitted. Toposheet map and KYA screen shot is submitted.	----

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

i) CPCB guidelines stipulates that no common biomedical facility to be allowed within 75 kms from existing Common Biomedical Facility. M/s RAMKEY, Jajpur has already obtained Environmental Clearance from MoEF&CC, Govt. of India for setting up of Common Biomedical Treatment Facility at Jajpur. A detailed note to be submitted by the proponent justifying as to why their case will be considered for grant of Environmental Clearance under the above circumstances.

ITEM NO. 02

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S KORP RESOURCES PRIVATE LIMITED FOR PROPOSED EXPANSION OF TANTRA IRON ORE MINE (ML AREA: 72.560 HA.) FOR ENHANCEMENT OF IRON ORE PRODUCTION FROM 0.12 MTPA TO 0.24 MTPA ALONG WITH ESTABLISHMENT OF 1.0 MTPA THROUGHPUT BENEFICIATION PLANT AT VILLAGE - TANTRA & TENSA, BLOCK - KOIRA, DISTRICT - SUNDARGARH, STATE - ODISHA. - EC.

1. This proposal is for Environmental Clearance of M/s. Korp Resources Private Limited for Tantra Iron Ore Mine (ML Area: 72.560 ha) for enhancement of Iron Ore production from 0.12 MTPA to 0.24 MTPA along with establishment of 1.0 MTPA throughput Beneficiation Plant at village- Tantra & Tensa, Block- Koira, District- Sundargarh, State- Odisha.

2. **Category**: This project falls under Category "B" under Schedule 1(a): Mining of Minerals as per EIA Notification dated 14th Sept, 2006 and its amendments.

3. **Chronological Events for the proposal as per the submission of PP**

   i) Mining Lease of Tantra Iron Ore Mine was granted in favor of M/s Korp Resources up to 21.11.2035 and EC granted on 04.06.2009 for the production of 0.12 MTPA Iron Ore.

   ii) KORP submitted proposal for enhancement of Tantra Iron Ore Mining project from 0.12 million ton to 0.24 million ton (800 TPD or 240000 TPA) and installation of 1 MTPA beneficiation plant on 30.06.2010. TOR issued by MoEF to KORP. Vide letter no 11015/236/2010-IA. II(M) on 25.10.2010.

   iii) TOR issued by MoEF to KORP. Vide letter no 11015/236/2010-IA. II(M) on 25.10.2010.

   iv) **Public hearing conducted by OSPCB on 12.10.2012.**

   v) During 17th EAC meeting, the matter of grant of EC was discussed on 25.02.214.

   vi) Minutes of 17th EAC meeting was released in which MoEF gave following two supplementary conditions on 15.04.2014.

   - Certified compliance report of RO shall be submitted.
   - A detailed study of Traffic density and road shell be submitted.

- Compliance on the same is submitted on 31.07.14

vii) As per direction of Govt. NEERI took up the traffic survey work in Odisha and the study continued from 2014 to 2017. During this period no project located in Joda, Koida, Barbil region was appraised for EC from MoEF on 29.10.2014.

viii) Ultimately KRPL had to file a case in HC Odisha seeking an order for EC. And notice was given on 17.10.17 by HC for clearing the project within 6 months.

ix) As no action was taken by MoEF, KRPL made appeal to HC and HC Odisha made 2nd notice to MoEF on for clearing the project within 6 months on 18.04.2018.

x) MoEF issued letter to KORP in response to court order and asked KORP to appear in 33rd meeting of EAC with further clarifications on 25.04.2018. Second list of documents and details requested by MoEF on 13.06.2018. EAC deferred the proposal requesting re-application by an accredited consultant on 22.06.2018. 3rd letter issued by MoEF requesting information and clarifications on 05.07.2018.

xi) Now, the details have been collected and application was discussed with MoEF&CC. As the earlier application was made in offline mode (hard copy), it was suggested by NIC that a fresh application must be made at the state level referring the previous application for grant of EC.

xii) **TOR details:** Terms of Reference (TOR) was issued by MoEF&CC to M/s. Korp Resources Private Limited for the proposed expansion vide letter no. 11015/236/2010 IA. II (M) dtd. 25.10.2010.

xiii) **Public hearing details:** Public hearing was conducted by OSPCB for the proposed expansion of Tantra Iron Mine from 0.12 to 0.24 MTPA on 12.10.2012.

4. **List of Statutory Clearances obtained earlier -**

a) Supplementary Lease Deed issued on dated 12.07.2016 and is extended upto 21.11.2035.

b) Mining plan is approved by IBM vide letter no. BBS/SNG/IRON/2177/RMP/2022-23 dtd. 31.08.2022

c) Forest Clearance (Stage II) obtained vide letter no. 8 108/2008 FC dtd.14.06.2010.

d) Ground Water Abstraction Permitted for 35m^3/day vide letter no. CGWA/NOC/MIN/ORIG/ 2023/18255 dtd.19.04.2023.

e) Environmental Clearance vide letter no. J-11015/1008/2007-IA. II (M) dtd. 04.06.2009 for Production of 0.12 MTPA of Iron ore obtained from MoEF&CC.

f) Consent to Establish vide letter no. 22542/Ind-II-NOC-5683 dtd. 04.12.2013 for production of 0.12MTPA of iron ore.

g) Consent to Operate vide letter no. 4965/IND-I-CON-5124 dtd. 28.03.2023 for production of 1,20,000 TPA iron ore.

5. **Location and Connectivity:** Tantra Iron Ore Mine along with its beneficiation plant over an area 72.56 hectares in Sundargarh district of Odisha belongs to M/s Korp Resources Private Limited. It is bounded by the latitude 21°52'40" E to 21°52'48" E and longitude 85°10'14" N to 85°11'03" N.

in topo-sheet no. 73G/1. The nearest town is Barbil Town - 90 km (NNE), nearest Highway is Panikoli - Rajamunda NH-215 1 km (N), nearest Railway Station is Barsuan - 17 km (SW), nearest Major Airport is Biju Patnaik International Airport, Bhubaneswar- 85.87 km (S). The ML exhibits undulating hilly topography varying from 620 m AMSL on the southern part to 840 m AMSL on the norther part of the ML area. Slope is very steep and the elevation difference is 220 m. Out of the total 72.560 ha, 69.041 ha is diverted forest land and balance 0.141 ha non-forest land. The topography of the study area (10 km around the ML boundary) exhibits plain as well as hilly topography. The general gradient of the area is towards north. Number of reserved forests falls within the study area i.e., Sarkanda RF, Kathamal RF, Karo RF, Torha RF and Mendhamaruni RF. The area falls within the Baitarini river Basin and watershed of the Karo nala which flows at a distance of 2 km on the eastern side of the ML area. There is no perennial streams/nalas flows across the ML area.

6. **Baseline Study Conducted:** Baseline study was conducted during October to December 2022.
7. **Ambient Air Monitoring:** The project is an expansion project, and the study area is scattered with rural area. The area has cluster of Iron mines. The monitored results show PM10 levels were in the range of 93.4 to 59.8 $\mu g/m^3$, PM2.5 levels were in the range of 53.8 to 31.3$\mu g/m^3$, SO2 levels were in the range of 19.8 to 4.4 $\mu g/m^3$, NOx levels were in the range of 29.6 to 8.2 $\mu g/m^3$ & CO remained below detection level range of 0.45 to 0.13 mg/m^3 which are well within the prescribed limit of Central Pollution Control Board.
8. **Ground Water quality monitoring:** The physico-chemical characteristics of ground water samples were analysed. The levels of total dissolve solids varied from 90.4 to 79.1 mg/l, total hardness from 144.2 to 95.4 mg/l.
9. **Surface Water quality monitoring:** The physico-chemical characteristics of surface water were analysed. In fresh water, the pH values of are varies from 8.3 to 7.5, total dissolved solids are 9 294 to 76 mg/l, BOD ranges from 4 to respectively. The MF technique involves direct plating for detection and estimation of total coliform densities. The total coliform density in fresh water are varies from 17 to 7.8 MPN/100, which are within the limit as per IS-2296, for surface water quality.
10. **Ambient Noise monitoring:** The noise levels were measured at eight stations in core and buffer zone located in residential areas. The noise levels observed during day time varies from 6 62.1 to 40.2 dB(A) and at night time varies from 45.2 to 28.5 dB(A). All the noise values observed are well within the limits prescribed by National Ambient Air Quality Standards for Noise.
11. **Soil monitoring:** Top soil samples were collected from core & buffer zone, from four locations. From the above analysis report, it is found that the bulk density ranges between 4.72 to 1.38 g/cc. The soil texture is almost clayey. The soil is very much fertile for agriculture purpose.
12. Life of Mines is estimated as 13 years.
13. **Water requirement**: About 146 KLD water will be required for dust suppression, plantation, workshop & wheel wash, drinking & domestic activities, etc. Mine pit water will be used for dust suppression and plantation activities. Ground water from borewell will be used for drinking and domestic use.

14. **Wastewater management:** Waste water & sanitary sewage from domestic use in the mine site is being discharged to septic tank and soak pit and in no circumstances discharged to any water body. There will not be any garage with washing facility within the leasehold area and hence the chance of generation of effluent from workshop does not arise.

15. **Mining Plan Details:**

a) **Mining method**: Mechanised opencast mining method with large HEMM will be carried out to increase the production from a level of 0.12 MTPA to 0.24 MTPA. Mine with the deployment of 100mm - 115mm dia. drills, 1.2m^3 capacity excavator, 10T & 20T capacity tipper / dumpers etc.

b) **Extent of development**: Existing Quarry will be developed leaving 7.5m wide safety zone / barrier all along the M.L boundary to obtain iron ore @240,000 t/annum. Year wise production and development plan & sections on 1:2000 scale have been prepared and coloured distinctly.

c) **Bench parameters**: Height and width of the benches will be kept at 6m each. The individual bench faces will be kept nearly vertical (80°) whereas the overall quarry slope angle (the angle between the line joining the toe of bottom bench and the crest of the top bench with the horizontal) is proposed to be maintained at around 45° with the horizontal.

d) **Blast hole drilling**: DTH drills of 100 mm-115 mm dia. with compatible size compressor will be used for blast hole drilling for loosening of hard and compact strata.

e) **Excavation**: Excavators of 1.2 m ^ 2 m bucket capacity will be deployed for excavation & loading of iron ore and OB/ waste into the dumpers.

16. **Year wise Production Details:**

Sl. No.	Year	Bench	Over Burden Volume (Length x width x height) (m3)	Over Burden Quantity (t)	ROM Quantity (t)	Mineral Rejects (t)	Production Main(t)	OB to Ore Ratio (ton/m3)
1	1st (2023-24)	760	51300	102600	240000	118500(+45-50%Fe)	121500	1:0.21
2	2nd (2024 -25)	760	29900	59800	240000	126000(+45-50%Fe)	114000	1:0.12
3	3rd (2025 -26)	760	117300	234600	240000	61500 (+45-50%Fe)	178500	1:0.49
4	4th (2026 -27)	760	59500	119000	240000	178800 (+45-50%Fe)	61200	1:0.25
5	5th (2027-28)	760	112800	225600	240000	194100 (+45-50%Fe)	45900	1:0.47
	Total		**370800**	**741600**	**1200000**	**678900 (+45-50%Fe)**	**521100**	**1:0.31**

17. **Waste Generation and Management:** Waste dump already reclaimed technically and biologically. This dump area is already proven barren by drilling. This dump has waste materials which are of grade below 45% Fe of laterite, shale, BHJ, BHQ, etc. This dump is already reclaimed by coir matting and subsequently plantation has been done surrounded by retaining

wall of 1.5m height & 1m width and garland drain. Any rain cut which may develop in dump slope is proposed to be checked by no. of small check dams. Garland drains at the toe of the dump is connected to settling tank. Retreating method is adopted for backfilling. During the futuristic mining activity, tentatively out of the total waste 40% of waste material shall be utilized for road maintenance purpose and balance 60% shall be used for backfilling till the conceptual period.

Waste Generation (Existing Dump Details)

Sl. No.	Year	Dump ID	Type of Dump	Proposed Area (Ha)	Height (m)	Total Dump Quantity (m3)	Existing Dump Location
1	As on date	Dump -1	OB	0.575	28	40250	2420728N-2420800N/ 311452E-311631E
2	As on date	Dump-2	OB	0.250	14	8750	2420815N-2420848N/ 311439E-311560E
Total	--	--	--	0.825	--	49,000	--

Waste Generation (Proposed Dump)

Sl. No.	Year	Dump ID	Type of Dump	Proposed Area (Ha)	Height (m)	Total Dump Quantity (m3)	New Dump Location
1	1st (2023-24)	Dump-1	OB	0.171	30	51,300	2420729N-2420806N/ 311418E-311553E
2	2nd (2024-25)	Dump-1	OB	0.100	30	29,900	2420806N-2420820N/ 311411E-311555E
3	3rd (2025-26)	Dump-1	OB	0.391	30	117,300	2420820N-2420835N/ 311410E-311557E
4	4th (2026-27)	Dump-1	OB	0.198	30	59,500	2420835N-2420847N/ 311415E-311555E
5	5th (2027-28)	Dump-1	OB	0.376	30	112,800	2420847N-2420878N/ 311420E-311550E
--	Total	--	--	1.236	--	370,800	--

18. **The land utilization plan details**: The mine lease area is spread over 72.56 ha. The land utilization plan is given below.

Sl. No.	Particular	Area at present	Area at end of plan period
1	Area under mining	9.009	12.46
2	Topsoil Stacking	0	0
3	OB/Waste Dumping	0.825	2.061
4	Mineral Storage	4.955	4.955
5	Infrastructure	1	1
6	Roads	4.148	4.148
7	Railways	0	0
8	Tailing Pond	0	0
9	ETP	0	0
10	Mineral Separation Plant	3.55	3.55
11	Township area	0	0
12	Parking	1.12	1.12
13	Sub-grade stack	3.158	3.158
	Total	**27.765**	**32.442**
	Undisturbed	44.795	40.108
	Grand Total	**72.56**	**72.56**

19. **Power Requirement & solar power details:** Electric power line passes through the M.L. area. Mines office, residential complex etc. are electrified. Total power requirement is 135 MW.

20. **Greenbelt Development:** Plantation will be undertaken over the life of mine in a phase wise manner. The plantation will start from the first year of mining and will be maintained in remaining years. Total proposed plantation area will be 14.123 ha, and 29, 068 tree will be planted over 5 year of plan period.

21. **Total Employment**: A total manpower requirement is 62 persons for opencast mining. Mostly locals will be employed for this project.

22. **Project Cost**: The expected cost of the project is Rs. 165.45 Crores.

23. **Environment Consultant**: The Environment consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee on 03.02.2024.

24. The SEAC in its meeting held on **03-02-2024** decided to take decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	A write up about the development of the proposed project in chronological order with supporting documents.	Details are attached as **Annexure 1.**	Chronology of the project submitted
2.	Copy of Environmental Clearance, CTE, CTO for existing mining	The current EC, CTE and CTO is for opencast mining of 0.12	Copies submitted

Sl. No:	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	activities and present operational status.	MTPA iron ore through fully mechanized method. EC letter, CTE and CTO are attached as **Annexure 2.**	
3.	Photographs of concrete wall for settling tank.	Details are attached as **Annexure 3.**	-
4.	A note on air borne dust concentration during blasting and its control measures to be undertaken.	Air Quality Modeling for Blasting has been done and concentration has been calculated. Details of concentration and mitigation measures for the same are attached as **Annexure 4.**	-
5.	Total material balance with size/grade differentiation till the tailings stage.	Details are attached as **Annexure 5.**	-
6.	Mineralogical content of the tailings.	Fe content of tailings is expected to be around 41%. As per Indian Bureau of Mines F. No. C-248/3/CMG/2017 dated 24.03.2017, maximum Fe content in tailings will be <45%.	-
7.	The settling pond and tailings pond overflow should be re-utilized in the process.	The settling pond and tailings pond Over flow will be re-utilized in the process. Undertaking is attached as **Annexure 6.**	-
8.	Water balance for the proposed 1 MTPA beneficiation plant.	Details are attached as **Annexure 7.**	-
9.	The unit shall not operate the plant during monsoon period.	Undertaking is attached as **Annexure 6.**	As per Undertaking submitted, the unit shall operate for 200 days is mentioned. The plant will not operate during monsoon period has not mentioned in particular.
10.	A detailed note as to why a fresh public hearing shall not be conducted as public hearing which has been conducted for the	Details are attached as **Annexure 8.**	-

Sl No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	proposal is long back i.e. on 12.10.2012.		
11.	Copy of application submitted for Forest Clearance of safety zone and current status.	Details are attached as **Annexure 9**.	Application copy which has been submitted is Delisted By System (at: 20/03/2024) as per current status in Parivesh site.
12.	Material Balance 1.0 MPTA of the beneficiation plant with tailing management plan.	Details are attached as **Annexure 5.**	-
13.	Existing and proposed conservation measures to augment the water resources.	Details are attached as **Annexure 10.**	-

25. The SEAC in its meeting **29-04-2024** decided to take decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Detailed justification as to why a fresh public hearing shall not be conducted as the public hearing conducted for the proposal is long back on 12.10.2012.	Details are attached as **Annexure 1.** The proponent justified the non-requirement of fresh public hearing as follows: • Public Hearing was conducted by OSPCB on 12th October 2012. • Post-Public Hearing, EIA & EMP report was submitted to MoEF&CC on 31st July 2013 • As per MoEF&CC OM dated 8th June 2022 - "Standardizing the validity of baseline data and public consultation reports for submission of proposal within the validity period of Terms of Reference (ToR) under the provisions of EIA Notification, 2006-reg." In para 2: "Further, in the above-mentioned O.M, it is also stated that the baseline data used for preparation of EIA/EMP reports	Public hearing has already been conducted for the proposal earlier on 12.10.2012, a copy of which is also furnished with EIA/EMP. For this reason, conducting a fresh Public Hearing may be exempted. But CER issues raised as per MoM of public hearing will be put as physical as specific condition.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		may be collected at any stage, irrespective of the request for ToR or the issue thereof. However, such baseline data and the public consultation should not be older than three years, at the time of submission of the proposal, for grant of Environmental Clearance (EC), as per ToRs prescribed." Therefore, the Public Hearing was valid at the time of application of Environmental Clearance to MoEF&CC and fresh PH is not required	
2.	Copy of application submitted for Forest Clearance of safety zone and current status.	Details are attached as **Annexure 2.**	----

26. The Committee observed the following:

i) Mining Lease of Tantra Iron Ore Mine was granted in favor of M/s Korp Resources up to 21.11.2035 and EC granted on 04.06.2009 for the production of 0.12 MTPA Iron Ore.

ii) Proposal for enhancement of Tantra Iron Ore Mining project from 0.12 million ton to 0.24 million ton (800 TPD or 240000 TPA) and installation of 1 MTPA beneficiation plant submitted on 30.06.2010 to MoEF&CC, Govt. of India.

iii) TOR issued by MoEF&CC, Govt. of India to KORP. Vide letter no 11015/236/2010-IA. II(M) on 25.10.2010.

iv) **Public hearing conducted by OSPCB on 12.10.2012.**

v) During 17th EAC meeting, the matter of grant of EC was discussed on 25.02.214.

vi) Minutes of 17th EAC meeting was released in which MoEF&CC, Govt. of India gave following two supplementary conditions on 15.04.2014.

- Certified compliance report of RO shall be submitted.
- A detailed study of Traffic density and road shell be submitted.
- Compliance on the same is submitted on 31.07.14

vii) As per direction of Govt. NEERI took up the traffic survey work in Odisha and the study continued from 2014 to 2017. During this period no project located in Joda, Koida, Barbil region was appraised for EC from MoEF on 29.10.2014.

viii) Ultimately KRPL had to file a case in HC Odisha seeking an order for EC. And notice was given on 17.10.17 by HC for clearing the project within 6 months.

ix) As no action was taken by MoEF&CC, Govt. of India, KRPL made appeal to HC and HC Odisha made 2nd notice to MoEF&CC, Govt. of India on for clearing the project within 6 months on 18.04.2018.

x) MoEF&CC, Govt. of India issued letter to KORP in response to court order and asked KORP to appear in 33rd meeting of EAC with further clarifications on 25.04.2018. Second list of documents and details requested by MoEF&CC, Govt. of India on 13.06.2018. EAC deferred the proposal requesting re-application by an accredited consultant on 22.06.2018. 3rd letter issued by MoEF&CC, Govt. of India requesting information and clarifications on 05.07.2018.

xi) Now, the details have been collected and application was discussed with MoEF&CC, Govt. of India. As the earlier application was made in offline mode (hard copy), it was suggested by NIC that a fresh application must be made at the state level referring the previous application for grant of EC.

xii) This is an old case and EIA/EMP report has been prepared long back. Also, public hearing conducted long back on 12.10.2012. Fresh baseline study was conducted during October to December 2022 and accordingly, revised EIA report prepared as per standard ToR and submitted.

Considering the information furnished and the presentation made by the consultant **M/s Visiontek Consultancy Services Pvt. Ltd. Bhubaneswar** along with the project proponent, the SEAC recommended the following:

A. Public hearing has already been conducted for the proposal earlier on 12.10.2012, a copy of which is also furnished with EIA/EMP. For this reason, conducting a fresh Public Hearing may be exempted. But CER issues raised as per MoM of public hearing will be put as physical as specific condition.

B. Environmental Clearance may be granted for the proposal with stipulated conditions as per **Annexure – A** and following specific conditions.

i) The project proponent needs to preserve or utilize the ore and fine's containing Fe between 35-45%, following IBM guidelines.

ii) The project proponent shall maintain adequate greenbelt in the lease area.

iii) OB dump sites shall be managed properly as proposed.

iv) The additional fines generated due to proposed enhancement shall be managed properly.

v) Proper Air Pollution Control measures shall be provided to control dust emission and local dust generation.

vi) The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.

vii) Traffic management shall be done as per recommendation of Traffic Management Study Report duly vetted by institute of repute.

viii) As a part of six-monthly compliance, the PP shall submit the status of Tailing Pond and its annual make-up to ascertain its capacity to take care of expansion in production including mineralogical & chemical analysis of excavated ore, dump materials and rejects. Also, actual layout after expansion may be submitted as a part of six-monthly compliance to the SEIAA, Odisha and Regional Office, MoEF&CC, Govt. of India, Bhubaneswar.

ix) Adequate measures shall be adopted for management of noise, vibration and fly rocks.

x) Bench and dump slopes are to be designed and maintained so that their failure is avoided.

xi) The proponent shall not carryout any activity in the safety zone till they obtain Forest Clearance for the same.

ITEM NO. 03

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S JINDAL STAINLESS LIMITED FOR "KALIAPANI CHROMITE MINES" OVER AN THE MINING LEASE AREA OF 89.0 HA. IN VILLAGE - KALIAPANI, TAHASIL - SUKINDA, DISTRICT - JAJPUR OF SRI VANKA SHIVARAMAKRISHNA - EC

1. This proposal is for Environmental Clearance of M/s Jindal Stainless Limited for "Kaliapani Chromite Mines" over a mining lease area of 89.0 Ha. in Village - Kaliapani, Tahasil - Sukinda, District - Jajpur of Sri Vanka Shivaramakrishna.
2. **Category**: This project falls under Category "B" or Schedule 1(a) - Mining of Minerals as per EIA Notification dated 14th Sept, 2006 and its amendments.
3. **Details of Expansion unit or reason**: This project is applied for EC under 7(ii) (a) of EIA notification 2006 as per MoEF&CC, Govt. of India OM dated 11th April 2022 for introduction of underground mining along with opencast without change in the production capacity i.e. 0.215 million tonnes per annum as per EC granted vide letter no SIA/OR/MIN/37642/2000 dated April 4, 2022.
4. **TOR details**: The proposal is applied under 7(ii) (a) of EIA notification 2006 as per MoEF&CC, Govt. of India OM dated 11th April 2022, wherein, EIA has been prepared based on standard ToR.
5. **Location and connectivity**: The mine is located in Village - Kaliapani, Tehsil - Sukinda, District - Jajpur, Odisha, with following geo coordinates: Latitude: 21°01'04.39824"N to 21°02'03.53184"N and Longitude: 85°45'18.17352"E to 85°46'31.69701" E bearing Toposheet no: F45N16. Nearest distance of connecting roads is: approach road - 0.1 km in North direction; NH 53 - 10.60 Km South. Nearest Airport: Bhubaneswar International Airport - 132 Km SSE; Nearest Railway station – Tomka Railway Station – 29.0km. Nearest water body: Damsal Nala - 0.81 km NNW; Reserve Forest: Lease area falls in Mahagiri Protected Forest; Nearest Habitation: Bhimtangar Colony - 0.75 km SW.
6. Forest clearance has already been obtained in 2 phases. 1st phase forest clearance was obtained for 22.80 ha. vide letter no 8-68/2000-FC/2327 (f) on dated 05.07.2001 and Phase II

- Forest clearance was obtained for 66.20 ha. vide letter no 8-68/2000-FC (pt) dated 20.04.2023.

7. The mining lease was executed in favor of M/s Jindal Strips Ltd. on 04.01.2002. The supplementary lease deed was executed on 08.06.2023, for the period 04.01.2022 to 03.01.2052
8. The project site is not located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC and CRZ area.
9. The mine is captive to Stainless Steel Plant Kalinganagar in Odisha.
10. Earlier, EC was granted vide letter no SIA/OR/MIN/ 37642/2000 dated .04.04.2022.
11. **List of Statutory clearances obtained earlier**

S.no.	Approval Name	Approval and Validity Date
1	1st Phase Forest Clearance for 22.80 ha.	05.07.2001
2	2nd Phase Forest Clearance for 66.80 ha.	20.04.2023
3	Certified Compliance Report vide file no. 101-664/24/EPE	24.04.2024
	Action Taken Report on CCR Submitted to IRO vide letter no. JSL/Mines/2023-24/38	03.05.2024
4	Wildlife Conservation Plan vide letter no 570/CWLW-FDWC-FD-0142-2021	13.01.2023
5	Past production certified by Deputy Director Mine, Jajpur road circle, Jaipur vide memo no 1358/Mines	18.07.2017
6	NOC from CGWA was obtained for the extraction of 48 KLD of groundwater. vide letter no. CGWA/NOC/MIN/REN/1/2023/7562	Obtained date 28.03.2023 valid up to 22.02.2025.
7	The Modified mining plan IBM vide letter no. BBS/JJP/CR/2174/MPM/2022-23/450 dated.	Approved Date 17.08.2022 for the period 2022-23 to 2025-26.
8	CTO vide letter no. 4414/IND-I-CON-2562	Obtained Date 289.03.2024 valid up to 31.03.2025.
9	Six Monthly Compliance reports have been submitted from October 2022 to March 2024	30.05.2023

12. Product generation:

Summary of products generated by the project

Units	Products and by-products	Existing	Additional	After

				Expansion
MTPA	Product	0.215	00	0.215

13. **Method of Mining & Mining Plan Details:** Mining plan approved vide letter No. BBS/JJP/CR/2174/MPM/2022-23/450 dated 17.08.2022, for the period 2022-23 to 2025-26. Proposed method of mining is Opencast as well as underground. Dumper, Crusher, Backfilling Plant, Excavator, Loader Dozer, LPDT, LHD, Development drill rigs/ Drill Jumbo, Jack Hammer, Long hole Drilling Machine, Pneumatic DTH, etc. will be used and transportation will be by road. The height and width of the benches will be kept at 8.0 m. The maximum depth to water level in the core zone is 5.26 mbgl during pre-monsoon and 4.85 mbgl during post-monsoon. Deep hole drilling & blasting for open cast and Blast hole open stoping with post filling for underground.
14. **Dump details:**

Sl.	Description	Area in Ha	Maximum height in m	Remarks
1	External dump	0.00	0.00	0.00
2	Internal dump	12.54	60.0	Active Dump
3	Internal dump	15.54	41.2	Dead Dump
4	Topsoil dump/ storage	0.1	5	

15. **OB generation details:** The OB generation from Band-I (Quarry-1) includes Pit Optimization, Common Boundary Mining with M/s TSML & M/s BAL and Band-VI (Quarry-2). Pit Optimization development for the period 2022-2023 to 2025-2026 is estimated to be 42.47 lakh Cum (approx). Total OB shall be accommodated in the existing Dump-1, Dump-2, Quarry-2 backfilling, Land filling & Common Dumping with M/s Balasore Alloys Limited. It is proposed to increase the height of Dump -1 from existing 60 m to 80m so that the OB & Waste can be accommodated in Dump-1. CIMFR, Dhanbad has already carried out the study and the final report recommending 80 m height of the dump is expected shortly.
16. **Backfilling Plan:** The unit have engaged an agency to find out the feasibility of developing an underground mine to exploit the chrome ore (Band-I) in Quarry -I below the ultimate pit limit. Once the feasibility study is completed and decision to develop an underground mine is taken, further decision will be taken whether to fill the void or leave it as a water reservoir. However, the unit has decided to develop underground in the Band-VI (Lumpy Band) in Quarry-II. The unit has proposed to fill the stopped-out voids with suitable material to ensure optimum exploitation of mineral and safety of the Underground workings. Also, the mined out open pit is proposed to be filled with waste material up to (+/-) 160 mRL.
17. **Details of crushers:** A crusher has been proposed of capacity 120-150 TPH within the lease area. A backfilling plant having 100-150 cum/hr capacity is proposed within the lease area.
18. **Water Requirement:** The total fresh water requirement for the project is 450 KLD. About 48 KLD of ground water will be abstracted from the existing borewell which will be used for drinking and domestic purposes. The maximum water requirement for mine will be approx. 815 KLD, it will be mainly consumed for sprinkling, plantation, workshop, beneficiation plant, and domestic. Out of a total of 815 KLD, 48 KLD will be extracted from the borewell and the

remaining 767 KLD will be sourced from the mining pit and underground seepage.

19. **Plantation Details:**

Table: Existing plantation

Sl. No.	Description	Area in ha.	No of Saplings	Name of species
1	Quarry area backfilled	3	5000	Neem, Karanja, Krishnachura, Akassia
2	Mined out Benches	1.2	3000	Neem, Karanja, Krishnachura, Radhachura, Sishoo, Akassia
3	Dump	15.54	37000	Neem, Karanja, Krishnachura, Radhachura, Sishoo, Vertiver, Lemon grass, Bamboo
4	7.5 Boundary Green belt	5.04	7100	Chakunda, Neam, Karanja, Sunari, Arjuna, Ashoka
Total		**24.78**	**52100**	

Table: Proposed Plantation up to the conceptual period

S. No.	Description	2025-26	No. of saplings	2026-27	No. of saplings	2027-28	No. of saplings	2028-29	No. of saplings	2029-30	No. of saplings	2031-52	No. of saplings	Total
1	Quarry area backfilled	0.5	1250	0.5	1250	0.5	1250	0.5	1250	1	2500	4.64	11600	7.64
2	Mined out Benches	1	2500	1	2500	1	2500	1	2500	1	2500	25.968	64920	30.968
3	Dump	1	2500	1	2500	1	2500	1	2500	1	2500	14.753	36883	19.753
4	Utility service area	0	0	0	0	0	0	0	0	0	0	5.859	14725	5.859
Total		2.5	6250	2.5	6250	2.5	6250	2.50	6250	3	7500	51.22	128128	64.22

20. **Waste generation and management:** The generation of waste till the conceptual period is estimated to be around 53 lakhs Cum (42.47 lakh cum from opencast & 10.40 Lakh cum from underground mining. Part of the waste will be used for backfilling. The mining operation will utilize underground methods exclusively after 5-7 years, resulting in a significant reduction in waste generation compared to open-cast methods.

21. **Baseline study details: The** baseline study has already been collected in the post-monsoon season (October to December 2023).

a) **Air Quality Results:** The ambient air quality results are summarized in the above tables.

Core zone: The mean value of PM10 ranges from (69.40 - 73.56 µg/m3) & PM2.5 ranges from (22.61 - 23.96 µg/m3), SO2 ranges from (7.04 - 7.46 µg/m3), NO2 ranges from (19.51 - 20.69 µg/m3) & CO ranges from (0.34 - 0.36 mg/m3).

Buffer zone: The mean value of PM10 ranges from (65.93 - 79.81 µg/m3), PM2.5 ranges from (21.48 - 26.00 µg/m3), SO2 ranges from (6.69 - 8.10 µg/m3), NO2 ranges from (18.54 - 22.44 µg/m3) & CO ranges from (0.32 - 0.39 mg/m3) which are within the limits of National Ambient Air Quality Standards (NAAQS).

b) **Ground water quality-**The samples were collected from 13 locations (8 samples of groundwater and 5 samples of surface water):

- The **Total Dissolved Solids (TDS)** of the sampling locations W1, W2, W3, W4, W5, W6, W7, W8 ranges from 38 mg/l to 680 mg/l. The total dissolved solids of sampling location W6 are found higher than the desirable drinking water standard (IS:10500) i.e. 500 mg/l.
- The **Total Hardness** of the sampling locations ranges from 16 mg/l to 480 mg/l. Total Hardness of sampling locations W4, W5, W6, and W7 are found higher than the drinking water standards (IS:10500). The hardness contributed due to seepage and runoff from soil. Hardness is normally considered an aesthetic water quality factor because of the unpleasant taste that a high concentration of calcium and other ions gives to water. It reduces the ability of soap to produce lather and causes scale formation in pipes and plumbing fixtures.
- The **Alkalinity** of the sampling locations ranges from 9.49 mg/l to 414.77 mg/l. The alkalinity of all sampling locations except for W4, W5, W6 and W7 are within the drinking water standards (IS:10500) i.e. 200 mg/l. High levels of alkalinity lead to objectionable taste or precipitation of scale in pipes and containers. The chronic effect being necrosis of cells.
- The **Fluoride** content in the sampling locations ranges from <0.1 mg/l to 0.36 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 3 mg/l to 102 mg/l. Calcium levels of all sampling locations except W6 are within the drinking water standards (IS:10500) i.e. 75 mg/l.
- The **Magnesium** Concentration of sampling locations ranges from 1.94 mg/l to 54.43 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 6 mg/l to 138 mg/l. Chloride levels of all the sampling locations are within the drinking water standards (IS:10500) i.e. 250 mg/l.

c) **Surface water quality-** Analysis results revealed that pH values amongst all samples varied in the range of 7.40 to 7.82, Total Hardness concentration varied in the range of 26 mg/l to 80 mg/l &, TDS concentration varied in the range of 40 to 116 mg/l. Electrical Conductivity was found to be ranging in between 68 to 192 mS/cm.

d) **Soil Quality Result:** The samples collected from the core zone sites show that the soil texture in the core zone is Sandy Clay, Colour is 5/6 Dull Reddish Brown, 4/8 Reddish Brown, pH is between 6.06 - 6.52. The amount of primary nutrients like Organic matter is

0.72 - 1.04 %, the available nitrogen 72.4 - 78.2 mg/kg is low and available Potassium 16.6 - 36.1 mg/kg is low while the available Phosphorus 5.6 - 8.1 mg/kg is in the medium range. Thus, it can be concluded that soil is average fertile in the Core Zone. The samples collected from the buffer zone sites show that the soil texture in the buffer zone is Silty Clay, Colour is 5/4 Dull Reddish Brown, 5/6 Dull Reddish Brown, 6/6 Bright Yellow Brown, 4/8 Reddish Brown, 6/6 Bright Yellow Brown, pH ranges from 6.04 - 6.78. The amount of primary nutrients like Organic matter 0.52 - 1.42 %, the Available Nitrogen 76.2 mg/kg to 92.4 mg/kg is lower in range, the Available Phosphorus 15.4 mg/kg – 44.2 mg/kg is low in range, Available Potassium 6.2 mg/kg to 11.3 mg/kg is medium in range, Primary nutrient profile shows that soil is average fertile due to the availability of low amount of nitrogen, available potassium.

e) **Noise Quality results:** Core zone indicated that the ambient noise level during day time, at the project site varies from 54.6 dB (A) to 54.9 dB (A) which was within the standard limit of Industrial area ~ 75 dB (A). During the night, the noise level at the project site ranges from 43.9 dB (A) to 44.4 dB (A) which was within the standard limit of Industrial area 70.0 dB (A). Buffer Zone indicated that the ambient noise level in residential areas ranges from 53.8 dB (A) to 57.5 dB (A) during day daytime and from 43.1 dB (A) to 47.1 dB (A) during nighttime. The slightly higher noise level compared to the standard limit may be regarded to the residential and other local activities occurring within the village. The ambient noise level in commercial areas i.e. Approach Road is 68.2 dB (A) during daytime and 62.4 dB (A) during nighttime, which was slightly higher than the standard limits. The slightly higher noise level compared to standard limit may be due to the vehicle movement and other local activities within the village.

22. **Total water requirement and wastewater management:** The average water requirement is 450 KLD. The maximum water requirement for mine will be approx. 815 KLD and the same will be mainly consumed for sprinkling, plantation, workshop, beneficiation plant, and domestic. Wastewater will be treated in ETP/STP and reused.

23. **Power Requirement and Solar power details:** The total electricity requirement is 1.5 MW, which will be sourced from TPCODL Odisha.

24. **Rainwater Harvesting Details** - Roof water harvesting and rainwater harvesting structures are provided for the conservation of rainwater.

25. **Green belt Development: Plantation in** 5.04 Ha is proposed for the project.

26. **Total Employment:** 583 (Existing 142 + Proposed 441) manpower is proposed for the project.

27. **Project cost and EMP, CSR Cost:** Estimated cost of the project is 191.89 crore INR (Existing cost 41.09 + Proposed cost 150.80 Cr). EMP Capital cost is Rs. 312.45 Lakh (Existing + additional) and proposed annual recurring cost is 69.20 lakhs (Existing + additional). CSR Cost incurs a Capital cost Rs. 150.9 lakhs and Recurring cost Rs. 57.2 lakhs

28. **Environment Consultant**: The Environment consultant **M/s. Perfact Enviro Solutions Pvt Ltd., Delhi** along with the proponent made a presentation on the proposal before the Committee.

29. The SEAC in its meeting held on dated **18-05-2024** decided to take decision on the proposal

after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Justification as to why this case will be considered **under 7(ii) (a) of EIA notification 2006 as per MoEF&CC, Govt. of India OM dated 11th April 2022** and whether this case comes under expansion or modification.	At the outset, we would like to reproduce the para no. 4 from the OM No. IA3-22/10/2022-IA.III [E 177258) dated 11th April 2022 **(Annexure-I).** Within this para, the ministry has indicated the scope of modernization as given below: *"4. The aforesaid matters have been further examined in the Ministry with the objective of bringing about uniformity and consistency in consideration of projects under Para 7(ii)(a) by concerned Expert Appraisal Committee (EAC)/State-level EACs across all states. Accordingly, the Ministry deems it necessary to issue a guideline to deal with expansion proposals which are received under para 7(ii)(a) of EIA Notification, 2006 in respect of the developmental projects listed in the Schedule to the said notification seeking prior-EC involving expansion with increase in production capacity within the existing premises/ mine lease area; or expansion due to **modernization of an existing unit through change in process and or technology** or involving a change in the product-mix; or enhancement of cargo handling capacity in ports & harbors, widening of roads; or enhancement in built-up area, subject to the fulfillment of the following criteria"* **The bold letters indicate the word "modernization" which includes change in process and or technology. In our case, we are changing the process/technology of winning the ore by introducing underground mining and substituting opencast mining, gradually.** Now, we wish to reproduce the relevant portion of para no. 5 of the OM mentioned above, which we presented to SEAC on 18th May 2024 as below: *"5. Projects which involve modernization/change of product mix without increase in production capacity but with increase in pollution load."* In above para 5 of the OM No. IA3-22/10/2022-IA.III [E 177258) dated 11th April 2022, it has already been indicated that in the present proposal, the change in process is on account of introduction of the underground mining technology/method along with existing opencast technology. It may be noted that we are opting for underground mining, owing to the boundary limits of the lease hold area which restricts further deepening of opencast workings. Also, the expansion of quarry will call for breaking more surface area which could be saved because of underground mining. It may also be mentioned here that the underground mining operation will be a round the clock operation, as against the opencast operation which is based on two shift workings. This will provide opportunity for engagement of more man power. The scarce resource of chromite ore which otherwise will be left unexploited, could be mined by underground technology. The existing and proposed list of the machineries are given below: **TABLE** OC: Open Cast, UG: Under Ground	----

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC

Due to the introduction of the underground method there will be addition in pollution load for the water component. The areas where the pollution load will increase significantly is given in the table below:

Increase in pollution load of water component

Particular	Existing	Proposed
Mine Seepage Water	126 KLD	1413 KLD
Pollution load (Chromium)	0.378 Kg/day	4.239 Kg/day

Other factors increasing the pollution load:

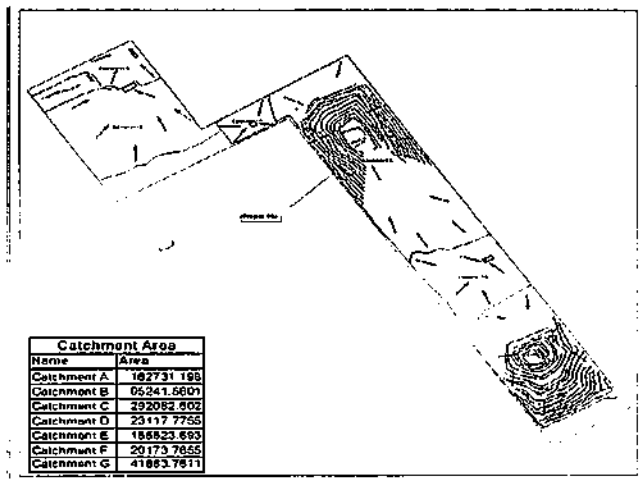
Sl No.	Particular	Existing	Proposed	Percentage increase (%)
1.	DG set	200 KVA	750 KVA	275
2.	Power	650 KVA	1500 KVA	131
3.	Manpower	142	441	211
4.	Solid Waste	21.3 Kg/day	66.15 Kg/day	211

In summary, the table indicates significant increases in the capacity of the DG set, power usage, manpower, solid waste generation, and water seepage in the proposed future scenario, compared to the current existing scenario.

We are enclosing copies of amendments granted by MoEF&CC under provision 7(ii) (a) of EIA notification 2006 and OM dated 11.04.2022 for your kind reference. Annexure- II.

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td>2.</td><td>Point wise compliance to conditions of MoEF&CC, Govt. of India OM dated 11th April 2022.</td><td>
<table>
<tr><th>S. No.</th><th>Conditions</th><th>Compliance</th></tr>
<tr><td>i.</td><td>The project should have gone through the public hearing process, at least once, for its existing EC capacity on which expansion is being sought, except those category of projects which have been exempted as per para 7 III (i) of EIA Notification 2006 and its amendments.</td><td>Previously, public Hearing was conducted on 31.08.2010 and project proponent have looked after the demands of the public raised during discussion.</td></tr>
<tr><td>ii.</td><td>There should not be change in Category of the project from 'B2' to 'B1' or 'A' due to proposed modernization or expansion.</td><td>Project category remains the same as the B1 category.</td></tr>
<tr><td>iii.</td><td>There is no additional land acquisition or forest land diversion involved for the proposed expansion or there is no increase in lease area with regard to mining vis-a-vis the area mentioned in the EC, based on which public hearing has been held earlier.</td><td>There is no additional land acquisition or forest land diversion involved and no increase in the Lease area (89Ha) based on which PH was held on 31.08.2010.
The total land is forest land of 89.00 ha.
Forest Clearance has been obtained in two phases for the entire area.</td></tr>
<tr><td>iv.</td><td>The proposed expansion shall not be more than 50% of production capacity as mentioned in the prior EC, issued on the basis of public hearing held and the same shall be allowed in minimum three phases.</td><td>Project is not for expansion. It is under condition I of paragraph 5 of said OM.
Project is for changing the process /technology of winning the ore by introducing underground mining and substituting opencast mining gradually with no increase in production but increase in pollution load.</td></tr>
<tr><td>v.</td><td>Predicted environmental quality parameters arising out of proposed expansion/modernization shall be within the prescribed norms and the same shall be maintained as per prescribed norms.</td><td>There will be a positive impact on quality of air, water, noise, soil, and land-use due to change in the technology from opencast to underground.</td></tr>
</table>
</td><td>Complied.</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent			Views of SEAC
		vi.	The proposed expansion should not result in reduction in the greenbelt area as stipulated in the earlier EC, or if the existing ratio of greenbelt is more than 33%, after expansion it should not reduce below 33%.	Underground mining will help in reduction of land degradation and deterioration. The entire area of 89 ha will ultimately be reclaimed and rehabilitated with suitable plantation. Thus, 100% area will come within the green belt in the conceptual stage.	
		vii.	The project proponent should have satisfactorily complied the conditions stipulated in the existing EC(s) and satisfactorily fulfilled all the commitments made during the earlier public hearing/consultation proceedings and also the commitments given while granting previous expansion, as may be applicable. This shall be duly recorded in the certified compliance report issued by the IRO/CPCB/SPCB, which should not be more than one year old at the time of submission of application.	Certified compliance has been obtained from the Regional Office of Ministry of Environment, Forest and Climate Change Vide letter no. 101-664/24/EPE dated 24.04.2024. There were certain non-compliances, for which actions have been taken to address it. The Closure report of the Certified compliance report is attached as **annexure - III.**	
		viii.	Public Consultation shall be undertaken [if applicable as per table below] by obtaining response in writing, as per para 7 III (ii) (b) of EIA Notification 2006, except those category of projects which have been exempted as per para 7 III (i) of EIA Notification 2006 and its amendments.	Public Consultation is not applicable as given on serial no I of paragraph 5 of OM dated 11.04.2022.	
		ix.	Effluent monitoring including air quality monitoring systems as specified in the existing EC, if stipulated, should have been installed.	Effluent monitoring has been installed and air quality monitoring systems will be installed by FY 2024-25.	
3.	The project proponent shall not disturb the nearby Damsala Nallah and mitigation measures	In order to prevent the external drainage proper runoff management plan has been prepared. The entire lease area is divided into 7 catchment areas labeled A, B, C, D, E, F, and G based on surface topography. Each catchment area is equipped with an existing or proposed sump to			-

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	shall be adopted for safety of the Nallah.	efficiently store runoff from the mine. **Runoff Management:** **TABLE**  By analyzing the table, we can gain insights into the unique characteristics of each catchment area, as well as the infrastructure required to effectively manage runoff. The proposed dimensions for sumps or quarries, along with the expected volume of collected runoff in each area, offer valuable information for planning and decision-making. The runoff collected in the sump will undergo treatment in the ETP with a capacity of 250 cubic meters per hour. Out of total treated water 550 KLD will be used by beneficiation plants, further it will also be utilized for plantation, sprinkling, and other purposes. Only the excess treated water will be discharged to natural drainage.	
4.	The project proponent shall not reduce the greenbelt during any proposed activity in the site. However, if any greenbelt needs to be cleared out, then the PP shall compensate the same.	The green belt area shall not be disturbed, as additional area has already been provided.	
5.	The PP shall ensure proper ventilation unit during underground mining for the safety of the workers.	The design of ventilation systems is prepared, based on the standards of ventilation prescribed by Director General of Mines Safety, GoI, Dhanbad. Primarily, parameters like ie; the number of persons engaged in a shift, the diesel-run equipment working in a shift & the cross sections of the ventilating circuits, blasting requirements etc. are considered while designing the ventilation system. Over and above the requirement 15 % extra capacity is added to take care of leakages, recirculation etc. All these factors are considered while designing the fan and ducting. Further, as a statutory requirement, ventilation survey of the mine is required to be made periodically. All the recommendations of the DGMS shall be followed. The calculation for deciding the capacity of the fan is produced below.	

Catchment Area

Name	Area
Catchment A	182731.198
Catchment B	65241.5601
Catchment C	292082.602
Catchment D	23117.7755
Catchment E	155823.693
Catchment F	20173.7655
Catchment G	41883.7611

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td></td><td></td><td>The requirement of ventilation is calculated based on production quantity/Man power engaged in a shift/ the machinery deployed.

<u>As per Production</u>

Considering 2.15 LTPA, the avg. production per day comes to 716 tons. As per the Metalliferous Mines Regulation, 1961, for every ton of ore produced daily, the recommended quantity of air required is 2.5 CuM/min. So, for 716 tons of production the requirement of air shall be 716 x 2.5 = 1790 CuM/Min; say 1800CuM

<u>As per Man Power</u>

The quantity of air required per person employed in the largest shift is 6 CuM/Min. Assuming overall O.M.S of 1 Ton per man shift, the requirement of maximum manpower shall be 300. So, quantity of air required for ventilation purpose shall be 300x6 = 1800 CuM/min

<u>Permissible concentration of noxious gases from Machineries</u>

For achieving required production and development targets, following machineries shall be deployed in the shift. It has been observed that approx. 4.2 cum/min of air per KW is required for good ventilation in underground.

Total Horsepower of equipment to be deployed is:

TABLE

So, a quantity of approx. 4400 cum/minute is required to dilute the noxious gases. Accounting for leakages, resistances of pathways etc. the main mechanical ventilator of 5000 cum / minute capacity has been proposed to be installed underground to cater to the ventilation requirement. Rigid/ flexible ducts of 400mm dia size will be used for coursing the air to working faces.</td><td></td></tr>
<tr><td>6.</td><td>Calculation sheet of the Pollution load as additional 750 KVA DG set is proposed for the project.</td><td><table><tr><th>Pollutants</th><th>Unit</th><th>Existing 200 kVA DG set</th><th>Proposed 750 kVA DG set</th><th>Total 200 kVA+750 kVA</th></tr><tr><td>NO_x</td><td>g/s</td><td>0.011</td><td>0.042</td><td>0.053</td></tr><tr><td>PM</td><td>g/s</td><td>0.001</td><td>0.002</td><td>0.003</td></tr><tr><td>CO</td><td>g/s</td><td>0.097</td><td>0.365</td><td>0.462</td></tr><tr><td>SO_2</td><td>g/s</td><td>0.06</td><td>0.01</td><td>0.07</td></tr></table>Calculation sheet attached as Annexure IV</td><td>Complied.</td></tr>
<tr><td>7.</td><td>Detailed quantity of domestic sewerage and solid waste that will be generated during the project.</td><td><table><tr><td>Particular</td><td>Proposed</td><td>Remark</td></tr><tr><td>Domestic sewerage</td><td>38 KLD</td><td>80% of total domestic water</td></tr><tr><td>Domestic solid waste</td><td>87.45 Kg/day</td><td>0.15 Kg/person/day</td></tr></table></td><td>Complied.</td></tr>
</table>

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td>8.</td><td>Submission of Satisfactory certified compliance report along with the summary of all the non-compliances like details of renewable energy and rain water harvesting system proposed.</td><td>The certified compliance report against action taken by us has been received from Regional office Ministry of Environment, Forest & Climate Change, Bhubaneswar vide letter no 101-664/24/EPE dated 04.07.2024. The same has been attached as annexure III.
The summary of the non-compliances conditions is given below:
<table>
<tr><th>Non compliances</th><th>Action taken</th><th>Timeline for completion</th></tr>
<tr><td>1. Installation of solar power of 10 KW</td><td>Purchase order already placed and material arrived at site.</td><td>August 2024</td></tr>
<tr><td>2. Construction of another 460 m retaining wall and 3 nos of settling pond.</td><td>Contractor engaged for Construction of retaining wall and work is under progress.</td><td rowspan="3">December 2024</td></tr>
<tr><td>3. Installation of sensor-based sprinklers</td><td>Material already procured and installation will be started by September-24.</td></tr>
<tr><td>4. Installation of STP</td><td>Order placement in progress and work will start by October-24.</td></tr>
<tr><td>5. Installation of mist cannon and dry fog system</td><td>Material procurement in progress and installation start by October-24.</td><td rowspan="3">FY 24-25</td></tr>
<tr><td>6. Online ambient air quality monitoring station.</td><td>Procurement action initiated and installation will start in October-24</td></tr>
<tr><td>7. Rooftop rainwater harvesting structures</td><td>Procurement process is on and construction to start by December-24</td></tr>
<tr><td>8. Construction of road (in compliance of PH condition)</td><td>Work order released, material arrived at site-construction to start by Aug-24.</td><td>FY 25-26</td></tr>
<tr><td>9. De-siltation of garland drain</td><td></td><td>Already completed</td></tr>
</table></td><td>Complied.</td></tr>
<tr><td>9.</td><td>Explore the recent technologies for underground mining and nanotechnology for treatment of hexavalent</td><td>a) <u>Recent technologies for underground mining:</u>
It is a well-known fact that underground mining is a costlier proposition as compared to opencast mining. The higher the volume of the production, the lower is the cost. Higher volume of production can't be envisaged in a small deposit of ours. This is because of the narrow and varying width of</td><td>To be decided by SEAC.</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	chromium.	the ore bodies, the poor geo-technical environment in which the work will be carried out, calling for extra measures to deal with poor ground conditions. However, it has been decided to develop the mine with fully mechanized means using trackless equipment, instead of conventional methods where compressed air operated loaders for loading the mine cars are deployed and battery-operated locomotive are used for hauling the material to the unloading point. Instead of conventional communication systems using wire and fixed telephones, Optical Fiber Cable (OFC) with wireless sets are planned to be used in the underground for effective communication. Optimum extraction from stope is an essential requirement for better recovery of ore as a part of mineral conservation effort. To ascertain this, we will deploy laser assisted void measurement system without exposing human beings beneath the voids. To avoid any possibility of injury to the persons deployed near the draw points of stope, the loaders will be operated with remote from a distance. b) **Nano-technology for treatment of hexavalent chromium:** To explore the suitability of using the nano-technology in reducing hexavalent chromium in mine water, we have written to various institutions/Agencies (**copies of communication enclosed as annexure V**). In this connection, NIT Rourkela communicated that this technology is yet to be developed to a stage to be used in treatment of industrial effluent. Furthermore, we have been in communication with Eesavyasa Technologies Private Limited in Hyderabad regarding the treatment of hexavalent chromium. They have conducted a site visit to our mine and water samples have been sent to them for analysis. Once the study is completed successfully, we will take action for its implementation.	
10.	Note on additional safety measures for the development of underground mining.	The current underground development and workings are planned, based on the Regulations, Rules, Guide lines, Circulars & Recommendations of Safety Conferences on Mines, published, time to time by the Directorate General of Mines Safety (DGMS), GoI, Dhanbad. Additionally, Disaster Management Plan based on the severity of the likely incidents have also been prepared for. Moreover, Hazard Identification & Risk Assessment (HIRA) is also a part of our HSE (Health, Safety & Environment) practices. Standard Operating Procedures (SOPs) for all regular jobs shall be prepared and followed. These SOPs shall be subjected to review periodically. Any non-regular unplanned job to be carried out shall be based on a critical analysis by the experts and the personnel involved in executing it. A SOP shall be prepared for that. Introduction of *tool-box* talks as a precursor to the beginning of the shift work shall be introduced, wherein the workers and supervisors shall discuss safety related issues in their workings/ or elsewhere or even incidents not related to mine to increase the level of awareness towards safety. Specialized training to mine personnel and operating and maintenance	Complied.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		staff shall be provided from time to time, in addition to the training prescribed by Mines Vocational Training Rules and monitored by DGMS. It may be noted that DGMS is the nodal agency of GoI, which not only formulates the safety rules and regulations that the Mines follow, but also inspects the mines regularly to ensure its implementation. As we enter underground and encounter new challenges in safety front, all possible risks with their mitigation measures shall be discussed and dealt with Standard Operating Procedures (SOPs).	
11.	Chemical analysis of OB with regard to Ni, Co and other Critical Minerals if any. Also, OB management in context of presence of Ni and Co, if found potential.	We are attaching the copies of the analysis reports (last four quarters) of OB soil for your kind reference. As can be seen from the reports, the presence of Ni, Co is negligible. **Annexure-VI** Since, Ni & Co present in the OB are found to be Below Detection Level, separate OB management is not envisaged.	Complied.
12.	Compliances to the conditions stipulated in the EC issued vide letter no SIA/OR/MIN/37642/2000 dated April 4, 2022. The document needs to be certified by the designated officer of the Regional Office of MoEF&CC, Bhubaneswar.	Certified Compliance report by IRO-MoEF&CC is enclosed as **Annexure III.** We submit that the mine was closed from 2018-2023 wherein no activity was possible. The mine was opened after obtaining all clearances and observing all formalities in the month of April 2023. The preparatory works for starting the COBPs were completed in October'23 and operation started phase wise. The mining operation, including excavation started in the month of June 2024. Thus, we did not get sufficient time to comply the stipulated conditions in totality. However, actions for compliances of the conditions have already been taken, as can be seen from the Summary of compliances at point (h).	Complied.

Considering the information furnished and the presentation made by the consultant **M/s. Perfact Enviro Solutions Pvt Ltd., Delhi** along with the project proponent, the SEAC recommended for grant of Environmental Clearance only for introduction of underground mining along with opencast without change in the production capacity i.e. 0.215 million tonnes per annum as per EC granted vide letter no SIA/OR/MIN/37642/2000 dated April 4, 2022.under 7(ii) (a) of EIA notification 2006 as per MoEF&CC, Govt. of India OM dated 11th April 2022 with stipulated conditions as per **Annexure – B** and following specific conditions.

i) The project proponent shall monitor analysis of hexavalent chromium in nearby soil and water body periodically and follow mitigation measures if necessary.

ii) The project proponent shall maintain adequate greenbelt in the lease area.

iii) OB dump sites shall be managed properly as proposed.

iv) The PP to explore implementation of new technology for removal of hexavalent Cr.

v) Proper Air Pollution Control measures shall be provided to control dust emission and local dust generation.

vi) Traffic management shall be done as per recommendation of Traffic Management Study Report duly vetted by institute of repute.

vii) As a part of six-monthly compliance, the PP shall submit the status of Tailing Pond and its annual make-up to ascertain its capacity to take care of expansion in production including mineralogical & chemical analysis of excavated ore, dump materials and rejects. Also, actual layout after expansion may be submitted as a part of six-monthly compliance to the SEIAA, Odisha and Regional Office, MoEF&CC, Govt. of India, Bhubaneswar.

viii) Adequate measures shall be adopted for management of noise, vibration and fly rocks.

ix) Bench and dump slopes are to be designed and maintained so that their failure is avoided.

x) PP shall implement Nano Technology for removal of Hexavalent Cr once trials are successful.

ITEM NO. 04

PROPOSAL OF AMENDMENT ENVIRONMENTAL CLEARANCE OF M/S TATA STEEL LIMITED FOR INSTALLATION OF 7 MTPA UPSTREAM FACILITY OF SLURRY PIPELINE PROJECT WITHOUT ANY INCREASE IN THE ROM CAPACITY FOR KALAMANG WEST (NORTHERN PART) IRON MINE (MINE PRODUCTION CAPACITY - 2.95 MTPA ROM) LOCATED AT VILLAGE - KALAMANG & GHODABUDANI IN DISTRICT - SUNDERGARH & VILLAGE - GANDALPADA IN DISTRICT - KEONJHAR OF SRI VIJAYENDRA DEVASAMUDRA - MOD EC

1. This proposal is for amendment Environmental Clearance of M/s Tata Steel Limited for installation of 7 MTPA Upstream facility of Slurry Pipeline Project without any increase in the ROM capacity for Kalamang West (Northern Part) Iron Mine (mine production capacity - 2.95 MTPA ROM) located at Village - Kalamang & Ghodabudani in District - Sundergarh & Village - Gandalpada in District - Keonjhar of Sri Vijayendra Devasamudra.

2. **Category**: As per EIA Notification,2006 and its subsequent amendments, the proposed project falls under Category B1 under Item 1(a) - Mining of Minerals.

3. TSL proposes for amendment in existing EC granted by SEAC vide File No. 55807/89-MINB1/06-2022 dated 18.10.2022 for installation of 7MTPA upstream facility for slurry preparation and dispatch from Kalamang West Northern Part Iron Ore Block.

Background Of the Project:

4. **Terms of Reference (TOR)** was granted to Kalamang Mines vide letter no.22/SEIAA dated 15.01.2021 for production of 2.95 MTPA ROM Iron Ore.

5. **Public hearing** (PH) conducted in 2 parts as ML area is situated in 2 districts. PH for Sundargarh district conducted on 10.11.2021 & PH for Keonjhar district conducted on 09.03.2022.

6. **Environment Clearance** granted by State Environment Impact Assessment Authority (SEIAA), Odisha vide File No- 55807/89- MINB1/06-2022 dated 18.10.2022.

Reason for EC Amendment:

7. To de-risk its supply chain and lower logistics costs, Tata Steel Limited (TSL) needs to invest in alternate modes of transport which are cheaper, safer, environment -friendly and more reliable, such as an underground Slurry Pipeline (SLP).

8. TSL is considering the development of a 7.0 MTPA capacity Slurry Pipeline to transport iron ore slurry from Kalamang to Tata Steel Kalinganagar (TSK) plant, thereby eliminating road transport

of the 2.95 MTPA of Iron Ore from Kalamang mine & 4.0 MTPA Iron Ore from Gandhalpada mine.

9. This will reduce the environmental impact due to road and rail transport. This proposal also complies with Suggested Ore Transport Mode (SOTM) under CSIR-NEERI recommendations of 2018 announced by Govt. of Odisha and MoEF&CC for all new mining projects.

AMENDMENT IN EC

Sr. No	Description	Existing EC	Proposed EC Amendment	Remarks
1	Project profile	• Production capacity of mine - 2.95 MTPA (RoM) • ML Area-92.875 ha.	• Production capacity of mine - 2.95 MTPA (RoM) • ML Area-92.875 ha. • Installation of upstream facility for slurry transportation and dispatch of 7.0 MTPA of products from Kalamang mine.	No change in production capacity and ML area.
2	Transportation of Product	• Transportation of ore proposed through road to railway sidings as well as directly to the end users as per SOTM-3.	• Dispatch of Iron ore Slurry-7.0 MTPA through slurry pipeline. (Kalamang-2.95 MTPA & Gandhalpada- 4.0 MTPA)	Product from Kalamang & Gandhalpada mines will be used for formation of slurry. Zero road transportation from Kalamang mine after commissioning of Slurry pipeline
3	Major facilities	• Open cast mechanized mining. • Crushing & Screening Plant. • Office area	• Open cast mechanized mining. • Crushing & Screening Plant, • Office area. • Pumping system for conveying 7.0 MTPA iron ore slurry • Grinding Unit • Hydro-cyclone & Thickener.	All facilities within ML area.
4.	Water consumption	Total Water requirement (for mining & allied activities)– 235 KLD Surface Water– 170 KLD Ground water – 65 KLD	Total Water requirement (for mining & allied activities) - 480 KLD Surface Water-380KLD Ground Water-100KLD	Increase in water requirement is due to increased manpower & for dust suppression, plantation.
5.	Power requirement	• 1800-2000 KW • 3 DG Sets of 850 KVA	• 32 MW • 2 DG Sets of 500 KVA for Mining Operations • 600 KVA (For Upstream) • 11.24 MVA DG set (For PD* pump)	Upstream Facilty-29 MW. Mining- 3 MW

6.	**Employment**	428	797	Increase due to inclusion of Man power required for upstream plant.
7.	**Capital Cost**	Rs.216.20 Crores	Rs. 808.88 Crores	• Cost for upstream plant –Rs. 448 Cores • Increase in land rates • Increase in lease deed execution cost
8.	**Safety Zone**	4.17 Ha	3.259 Ha	• Reduction of safety zone is due to common boundary working with Gandhalpada Iron OreMines (M/s Tata Steel Limited), Ghoraburhani-Sagasahi Iron Ore Mine (M/s AM/NS) & Nuagaon Iron Ore mines (M/s JSW Steel Limited). • At the Conceptual Stage safety zone area is 3.855 Ha. Safety Zone includes undisturbed safety zone area (1.351 ha) and the safety zone area restored within Ultimate Pit Level (UPL) (2.504 ha) after working along common boundary with adjacent mines.
9.	**Life of Mine**	25 Years	28 Years	Increase in the mineable reserve from 71.88 MT to 82.58 MT.

Note:

1. The existing public road, which passes through the lease, is being proposed to be diverted towards the southern lease boundary.
2. Change in land use pattern-
   a) The previous proposal was for backfilling of the mined-out area from year 2 onwards, however in view of working along the common boundary, backfilling in the proposed area cannot be done in year 2.
   b) More infrastructure related to upstream facilities for slurry project, additional electrical power and other resources will be required.

10. **Location and connectivity:** The lease area comprises of 92.875 hectares (42.608 ha. of forest land and 50.267 ha. of non-forest land) is situated in three villages namely Kalamang & Ghodabudani of Sundargarh District & village Gandalpada of Keonjhar Districts, of State Odisha. The site is featured in the Survey of India Toposheet no. F45H4, F45H8, F45N1 & F45N5. The geo coordinates of the lease area are 21°56'47.757"N to 21°57'32.347"N to 85°17'06.658" E to 85°17'57.531"E. The Lease area is accessible by NH - 215 which is at 1.80 Km NW. The nearest railway station is Barbil Railway Station at 17.86 km, NE from the lease area. Nearest Airport are Rourkela Airport (59 Km, NW), Jharsuguda Airport (128 km, W) and Biju Patnaik International Airport, Bhubaneswar (196 km, SE). Nearest water bodies - Suna Nadi (1.9 km, E), Karo Nadi (3.1 km, NW), Teherai Nala (4.1 Km, SSE), Topadihi Nala (3.9 Km, N), Kaksipani Nala (5.1 km, E). Nearest forests are DLC Forest (Partly within ML), Mandhamaruni R.F (1.3 km, W), Kathamala R.F (5 km SW), Karo R.F (3.5 km NW), Uliburu R.F (6 km North), Siddhamath R.F (4.6 km East). Nearest Habitation are Ghorabudhani (within ML), Kalamang (1.2 Km, E), Sagasahi (1.0 Km, NW), Gandhalpada (1.0 Km, NW)

Status of Statutory Clearances obtained:

11. **Mining Plan** - Approved by IBM Bhubaneshwar vide letter no. No. MCDR-MiFL0FE/20/2022-BBS-IBM_RO_BBS, dated 29.11.2023. ML Area: 92.875 ha; Capacity: 2.95 MTPA (ROM)

    Upstream Plant facility included in the modified mining plan.

12. **Forest Clearance** - In-Principle Approval (Stage-I) under Sec 2(ii) of Forest (Conservation) Act, 1980 granted vide letter No.8-32/2022-FC dated 22.12.2023 over 42.608 ha of forest land.

    Submission of Stage-I compliance to State Govt is in advance stage. Amendment to land use change will be applied post submission of Stage-I compliance.

13. **Consent to Establish** - CTE has been granted by State Pollution Control Board, Odisha vide letter No-20953/IND-II-CTE- 6743 dated 11.11.2022.

    The amendment to CTE will be applied post grant of EC amendment.

14. **Site-Specific Wild-Life Conservation Plan** - Approval obtained form O/o PCCF(Wildlife) & Chief Wildlife Warden, Odisha vide letter no. 11356/CWLW-FDWC-FD-0170-2021 dated 30.10.2023.
15. **Water Drawl Permissions** - Surface water drawl: Approval obtained from Department of Water Resource; Odisha vide letter No. 8349 dated 16.03.2024 for withdrawal of 380 KLD water from Suna Nadi. Ground water drawl: CGWA NOC for drawl of ground water (6 KLD) vide NOC No- CGWA/NOC/MIN/ORIG/2022/16214 dated 01.09.2022.

    CGWA NOC for expanded quantity (100 KLD) will be applied post grant of EC amendment.

16. **Certified Compliance Report-** Application for obtaining certified compliance report submitted to Deputy Director General of Forest (C), IRO, Bhubaneswar, Odisha on 21.09.2023.

    Inspection by O/o DDG, Forest(C), IRO Bhubaneswar was conducted on 19.04.2023.

17. **Reserves and Production**: As estimated, total geological reserve 92.97 million Tonnes and total mineable reserve is 71.88 million Tonnes. There is will be no change in production i.e. 2.95 MTPA even after amendment of EC.

18. **Mining Method:** Mechanized Opencast Method. Machineries used are: DTH drilling machine, Shovel, Dumper and Crusher / Screener. Bench - The top RL of the bench will be at 690 m and the bottom RL of the bench will be at 570 m. Ground water depth: The ultimate working depth of mine is 565 m AMSL. The water table varies from 493.8 m AMSL to 560.32 m AMSL with average of 537.67 m AMSL during pre-monsoon period and from 498.52 m AMSL to 563.9 m AMSL with average of 542.11 m AMSL during post-monsoon period. There will be 1 Top Soil dump, Waste Dump: 1 Nos. of Area: 8.55 Ha. (at Plan Period) Conceptual Stage-0 Ha. Capacity of dumps: 3,24,000 m^3. There will be no backfilling in plan period.

19. **Waste Generation and Management:** A total volume of 12,43,600 m^3 insitu waste is to be generated from the lease area. Part of the waste generated each year (8-50%) will be used within the mines for making safety berm, access roads and ramps and levelling of ground wherever required. Other waste will be stacked in the designated waste dump area. Solid waste generated in mining activity will be OB. The OB generated will be backfilled and stacked at the

designated dump site followed with reclamation. Provision for storage of Hazardous waste will be made as per the Hazardous waste rules,2016.

20. Baseline study conducted: 1st December to 31st December 2023) representing winter season.

21. **Water Requirement**: For Proposed Amendment: Total Water requirement (for mining & allied activities) - 480 KLD (Surface Water-380KLD & Ground Water-100KLD). Water for domestic consumption will be processed through STP (65 KLD) and will be used for plantation/afforestation purpose. ETP (15 KLD) will also be installed to process and reuse water from workshop. Domestic Waste water will be disposed through septic tank and will be cleaned periodically.

22. **Power Requirement**: For Proposed Amendment: 32 MW will be met from the nearest OPTCL 132/32 kV substation located at Barbil. 2 DG Sets of 500 KVA for Mining Operations 600 KVA (DG at Upstream.11.24 MVA DG set (DG for PD pump).

23. **Greenbelt Development**: 4.78 ha. greenbelt development will be done along the safety zone with 11,950 plants.

24. **Rain Water Harvesting** potential for project area is 302471 m^3 or 0.30 MCM. Annually harvested rain water to the tune of 0.30 MCM can be recharged to the ground water.

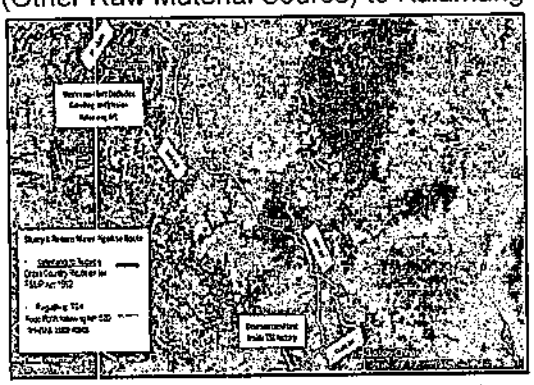
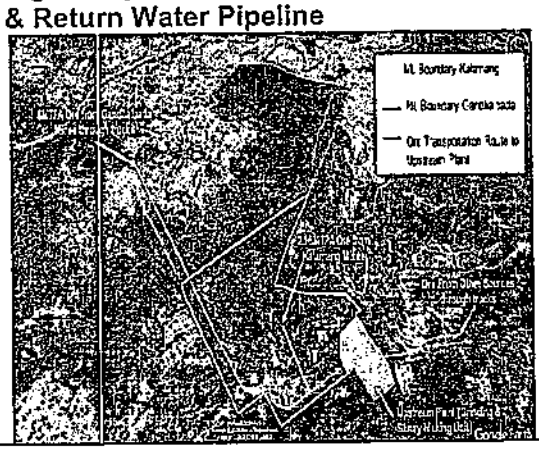
25. **Manpower Requirement**: For Proposed Amendment - 797 no. of persons.

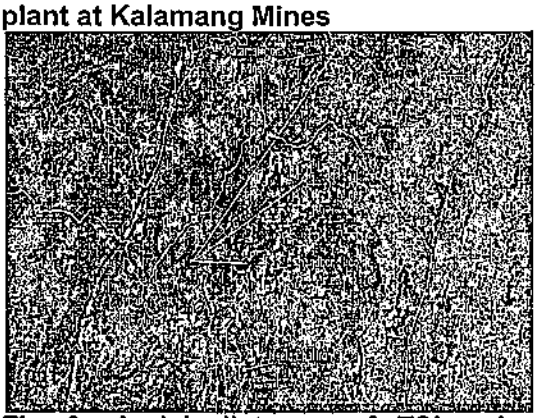
26. **Project Cost**: For Existing EC: Rs.216.20 Crores. For Proposed Amendment: Rs. 808.88 Crores. Budget of EMP: Capital cost Rs. 996 lakhs and Recurring cost Rs. 31.5 lakhs. Additional capital cost: Rs. 400 lakhs. Corporate Environment Responsibility (CER): Rs.550.34 lakhs.

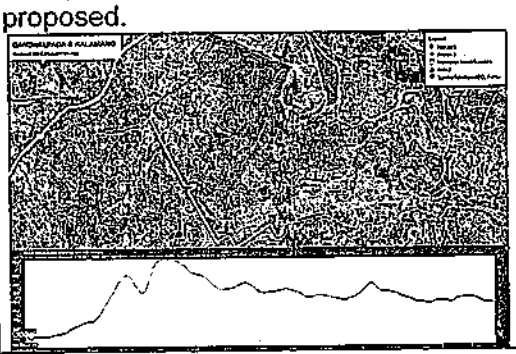
27. **Environment Consultant**: The Environment consultant **M/s Vimta Labs Limited, Hyderabad, 142, IDA Phase-II, Cherlapally Hyderabad-500051** along with the proponent made a presentation on the proposal before the Committee on 09.05.2024.

28. The SEAC in its meeting held on dated **09-05-2024** decided to take decision after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Comprehensive layout showing grinding unit, slurry pipeline route for obtaining raw materials from suppliers and return of slurry pipeline.	The feed to the upstream plant will be iron ore fines principally be supplied from Kalamang West (Northern Part) Iron Ore mines (2.95 MTPA) and Gandhalpada mines (4MTPA) (adjacent lease to Kalamang mines of M/s Tata Steel Limited (TSL). Should an unforeseen postponement in the Gandhalpada mines' operations be noted, a number of other sources could serve as feasible substitutes. These include the Joda East Iron Ore Mine, Khondbond Iron Ore Mines, and Katamati Iron Ore Mines of TSL, all of which are situated between 10 and 30 kilometres away from the Kalamang mine. Additional sources comprise the Neelanchal Iron	-----

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		Mines of M/s NINL, situated around 15 km away from Kalamang, and several additional merchant miners situated between 10 and 20 kilometres from the Kalamang mine. All other alternate sources of iron ore feed will only be used temporarily, and it will end once the Gandhalpada iron ore mines begin to operate. The Gandhalpada Iron Ore Mine is expected to start operation in FY'27. The Slurry Pipeline and Return Water Pipeline will run alongside each other from Kalamang Mines to TSK (Tata Steel, Kalinganagar) and TSK to Kalamang respectively along the National Highway no.520 & 20. Filtrate Water will be pumped back to Kalamang Mines via Return Water Pipeline. The figures appended below i.e Fig-1 is showing the Layout of Upstream Plant, Slurry Pipeline & Return Water Pipeline, Fig-2 is showing the proposed iron ore movement from Gandhalpada to the Upstream plant at Kalamang Mines and Fig-3 shows the Aerial distance of TSL mines (Other Raw Material Source) to Kalamang Upstream plant  **Fig 1- Layout Showing Upstream Plant, Slurry Pipeline & Return Water Pipeline** 	

S. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		Fig 2- Proposed Raw material Routes for Upstream plant at Kalamang Mines  **Fig 3- Aerial distance of TSL mines (Other Raw Material Source) to Kalamang Upstream plant**	
2.	Total input and output water balance with permission from concerned authorities.	Addition of makeup water will be done at the downstream Steel plant at Kalinganagar. Tata Steel, Kalinganagar has approval for use of 50 Cusec of industrial water from Brahmani River from 01.04.2024 onwards as per letter No. 5550/WR, dated 26.02.2024 of DoWR, Department of Water Resource. Make up water requirement for the project (200 m^3/hr or 1.96 Cusec) is included in the same approval. Apart from make-up water other water gets reused in the system. The make-up water required at Upstream facilities, will be pumped from TSK along with filtrate water via Return Water Pipeline. No additional water from the Kalamang Mines side is required for use in the Upstream Plant processing. The details use of water along with the Water Balance is shown the Fig-4 & Table-1 given below. **Table 1: Use of Water along with Water Balance for Slurry Pipeline Project**	Complied. However, the proponent has not submitted the approval letter for water usage.
3.	Justification why PP chose for road transportion from Gandhalpada to Kalamanga and reason for non-viability of slurry transport.	As Kalamang & Gandhalpada mines are adjacent to each other hence the facility for slurry transportation has been proposed at Kalamang mine only. Also, the entire mining lease of Gandhalpada is mineralized & hence to propose any permanent structure is not possible. The proposed upstream facility (which includes grinding unit, pumps etc.) at Kalamang mines has already been designed for 7 MTPA and hence installing a 4 MTPA additional grinding facility for transportation of ore to pumping units at Gandhalpada lease will duplicate the facilities. To transport the output from grinding unit of Gandhalpada to Upstream plant facility in Kalamang mines dumpers shall be used with all air pollution control measures in place. The terrain from Gandhalpada Iron mines to upstream facility in Kalamang Mines is highly undulating (Fig-5). The reduced level along the route for slurry pipeline ranges from 568m to	----

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td></td><td></td><td>658m. The maximum slope along the conceptualized route goes as high as high as 46.6%. Laying a pipeline on such an undulating terrain is not feasible. Hence considering the aforementioned conditions the proposal of road transportation from Kalamang & Gandhalpada has been proposed.
  </td><td></td></tr>
<tr><td>4.</td><td>Submit specific measures to be taken for prevention of air pollution.</td><td>Tata steel is committed to control and mitigate the air pollution generated due to mining and facilities provided in the upstream plant for making iron ore slurry.

Provisions to control air pollution are mentioned below:

a) Provision of mobile and fixed water sprinkling network.
b) Dry fog system for Mobile Crushing & Screening Plants & transfer points in grinding units in the upstream facility.
c) Installation of mist canons at all dust generating locations.
d) Provision of wheel washing facility for transportation trucks.
e) Vacuum cleaner in plant area.
f) Permanent roads with proper drainage system.
g) All the conveyors will be covered with hoods to avoid any emission of dust.
h) Plantation to develop Greenbelt in available areas around the upstream plant.
Table-2: Expenditure on Air Pollution Control Measures
Aside to this fugitive emission will be monitored in all areas sensitive to generation of air pollutants. Upkeeping of all the facilities will be ensured on regular basis.</td><td>Complied.</td></tr>
<tr><td>5.</td><td>Details of Additional EMP Budget for proposed proposal.</td><td>The details of the EMP budget proposed for the proposal is shown in Table-3.
Table-3: EMP Budget for Upstream Facility
<table>
<tr><th rowspan="2">Sr.No.</th><th rowspan="2">Description</th><th>Capital Budget</th><th>Recurring Budget</th></tr>
<tr><th>(Lakhs)</th><th>(Lakhs/ Annum)</th></tr>
<tr><td>1</td><td>ETP & STP</td><td>120</td><td rowspan="2">30</td></tr>
<tr><td>2</td><td>Dry Fog Dust Suppression</td><td>80</td></tr>
</table></td><td>Complied.</td></tr>
</table>

<table>
<tr><th>SN No.</th><th>Information Sought by SEAC</th><th colspan="4">Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td></td><td></td><td colspan="4"><table>
<tr><td></td><td>system (1 Nos.)</td><td></td><td></td></tr>
<tr><td>3</td><td>Provision of Mist canons (4 Nos.)</td><td>20</td><td></td></tr>
<tr><td>4</td><td>Personal Dust Analysers (1 Nos.)</td><td>15</td><td></td></tr>
<tr><td>5</td><td>Green area/ Plantation</td><td>25</td><td></td></tr>
<tr><td>6</td><td>Fixed water sprinkler at stock yard & permanent roads (500 m)</td><td>80</td><td></td></tr>
<tr><td>7</td><td>Provision of noise and dust barriers</td><td>50</td><td></td></tr>
<tr><td>8</td><td>Occupational health & Safety</td><td>10</td><td></td></tr>
<tr><td colspan="2">Total Amount (Rs Lakh)</td><td>400</td><td>30</td></tr>
</table></td><td></td></tr>
<tr><td>6.</td><td>Road to be reoriented for slurry transport. Submit R & R plan, if any.</td><td colspan="4">The status of different sections of road and their approval status to be reoriented for slurry transport is provided in the Table-04 given in below.
Table-4: Pipeline route & Status of Approvals<table>
<tr><th>Section Type</th><th>Length</th><th>Status</th></tr>
<tr><td>Cross Country</td><td>~6.9 km</td><td>Gazette Notification released for appointment of Competent Authority under P&MP Act (1962)</td></tr>
<tr><td>Road RoW</td><td>~214 km</td><td>Approval obtained</td></tr>
<tr><td>IDCO</td><td>~0.115 km</td><td>Approval obtained</td></tr>
<tr><td colspan="3">+4.75 km Inside TSK Factory boundary to reach upto the Downstream plant location</td></tr>
</table>The pipeline will be laid 1.2 m below the ground level. In road re-orientation for slurry transportation, no displacement is involved. Hence, R&R is not applicable.</td><td>Complied.</td></tr>
<tr><td>7.</td><td>Mitigation measures taken to combat</td><td colspan="4">Pipeline stretch of ~221 km is proposed from Kalamang to TSK for slurry transport. Emphasizing the long run of</td><td>Complied</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	accidents during iron ore transport through slurry pipelines.	pipeline, protection of pipeline, surrounding ecosystem and media flow within the pipeline is vital. Accordingly, leakage detection system is being considered. **Implementation Scheme:** Pressure monitoring stations (5 nos.) will be installed for this stretch of ~221 km. Pressure transmitters will be installed in interim pressure monitoring stations which communicate with DCS over Fibre Optic network, via which the leakage detection is implemented. Software based algorithm will run on a system for evaluation of any leakage in pipeline. **Configuration of Leak Detection:** Leak detection system operates based on Pressure Wave. **Pressure Wave Leak Detection:** When a sudden leak occurs in a pipeline due to shock load, a pressure wave is generated that propagates upstream and downstream of the leak location. This is detected through PMS pressure transmitter and PLC system present in pipeline. Intelligent algorithm does the further analysis for leakage detection. **Other Design features to cater accidents or any failure in proposed pipeline:** 1. The top of pipe normally will be buried a minimum of 1.2 m below grade. 2. Pipeline Design Factor is 0.80 of Specified Minimum Yield Stress (SMYS). 3. The mainline pipe will be installed with an external three-layer polyethylene coating for external corrosion protection. 4. A cathodic protection system will be provided along the pipeline. Cathodic protection for the pipeline will be achieved using different techniques for various stages of the project. The pipeline will use sacrificial anodes for temporary cathodic protection until the construction of the pipeline is completed. Once the pipeline construction is complete, an impressed-current cathodic protection system will be installed and commissioned. 5. Rupture disk will be installed at TSK as a means of overpressure protection on the pipeline. 6. A pig launcher will be provided at pump station for introducing pigs into the pipeline.	
8.	Compliance with regard to previous EC conditions with special references to waste and	We will adhere to the approved mining plan cum Progressive Mine Closure Plan submitted with EC proposal. The overburden generated shall be stacked & governed as per the approved Mine Plan in the temporary dump.	Complied.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	dump management.	Adequate measures to prevent soil erosion like grass plantation/ coir matting on dump slopes will be practiced. Further plantation with native species will be done on all dump slopes. Dumps will be protected by retaining walls and garland drain to manage runoff. The Dump proposed in the first 5 years of mine will be 43 m high and is quite stable as per the Slope Stability Study conducted by CIMFR, Dhanbad. In the conceptual period the overburden dump will be rehandled to backfill in the mined-out area. The backfilled area shall be afforested, aiming to restore the normal ground level. Monitoring and management of rehabilitated areas shall continue till the vegetation is established and becomes self-generating. Land use at the conceptual stage is given below in Table-5: **Table-5: Land use at the Conceptual Stage** In the plan period, plantation will be carried in the safety zone along the mine boundary. The schedule of plantation in the plan period is tabulated in Table-06 given below. **Table-6: Year wise Plantation Program During the Plan Period** Certified EC compliance has been attached as **Annexure-1.**	
9.	Measure to control additional water consumption as there is a need to do that. PP may confirm whether the approach could be towards ZLD?	To minimize the water consumption, Tata Steel Limited has proposed to install a return water pipeline alongside with the slurry pipeline. Slurry via slurry pipeline will be received in slurry storage tanks at Terminal Station facilities at Tata Steel Kalinganagar (TSK). From these tanks, slurry will be pumped to Filter Presses and the cake generated will be transported to Pellet plant. The filtrate water will be passed through Thickener and Thickener overflow will be stored in return water tank. From return water tank, water will be pumped to Upstream facilities through return water pipeline. At Upstream Plant, a High-Rate Thickener (HRT) is used to recover water (reused in process) from slurry concentrate as overflow of HRT, while the underflow is pumped through a slurry pipeline to TSK. Make up Water will be required only to be added at the downstream at Kalinganagar in order to compensate the losses occurred in the process and as evaporation loss at the downstream plant at TSK. ETP and STP have been considered for upstream water recovery from plant effluents, with the recovered water will be reused in green belt development. All the above measures are planned to make the facility ZLD.	----

Considering the information furnished and the presentation made by the consultant **M/s Vimta Labs Limited, Hyderabad, 142, IDA Phase-II, Cherlapally Hyderabad-500051** along with the project proponent, the SEAC recommended for amendment of Environmental Clearance of

M/s Tata Steel Limited for installation of 7 MTPA Upstream facility of Slurry Pipeline Project without any increase in the ROM capacity for Kalamang West (Northern Part) Iron Mine (mine production capacity - 2.95 MTPA ROM) located at Village - Kalamang & Ghodabudani in District - Sundargarh & Village - Gandalpada in District - Keonjhar of Sri Vijayendra Devasamudra with following conditions:

i) **The proponent shall provide leakage detection facility in the slurry pipeline, so that leakage shall be detected and be stopped immediately.**

ii) The proponent shall obtain forest clearance for the forest land if involved in the project.

iii) The project authorities shall patrol and inspect the pipeline regularly for detection of faults and continuous monitoring of pipeline operation by adopting non-destructive method(s) of testing.

iv) The trees necessarily to be cut for laying the pipeline should be re-afforested along the pipeline route.

v) A First Aid Room shall be provided in the project both during construction and operation of the project.

vi) Safety and risk assessment studies shall be conducted and action plan and mitigation measures shall be properly implemented.

vii) Arrangement of mobile inspecting team shall be made to monitor the entire length of pipe line.

viii) 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.

ix) A comprehensive Pipeline Integrity Management Plan shall be implemented to ensure safe operation of the pipe line.

x) The industry shall install SCADA system with dedicated optical fiber based telecommunication link for safe operation of pipeline and Leak Detection System. Intelligent pigging facility shall be provided for the entire pipeline system for internal corrosion monitoring. Coating and impressed current Cathodic protection system shall be provided to prevent external corrosion.

xi) The company shall also comply with all the conditions and safeguards prescribed in the EIA / Risk Assessment Reports.

xii) The proponent shall ensure that there shall not be change in soil quality for laying of pipeline.

xiii) Borrow pits and other scars created during the laying of pipe shall be properly leveled and treated.

xiv) No process waste water generation takes place in the pipeline system as it is a closed circuit. However, little amount of waste water would be generated due to washing of equipment / station floors which shall be adequately treated prior to discharged to outside.

xv) The unit shall obtain NOC from CGWA if the unit will use ground water as prerequisite for getting Consent to Operate of State Pollution Control Board, Odisha.

xvi) The proponent shall obtain permission from Department of Water Resources, Govt. of Odisha for drawl of ground / surface water.

xvii) The proponent shall ensure that due to the project, there shall be no adverse impact on the drainage of the area and recharge of ground water. No groundwater shall be tapped in the project area.

xviii) Domestic effluent shall be discharge to soak pit via septic tank constructed as per BIS specification.

xix) Necessary preventive measures shall be taken during construction phase so that the ambient air quality including noise shall conform to National Ambient Air Quality standards and standards for noise in industrial area. (As per Annexure-I).

xx) The transportation of raw material during construction and operation shall be carried out in covered trucks/ vehicles.

xxi) The noise standard shall be 85dB (A) leq. for 8 hours exposure in operation / working zone.

xxii) The Diesel Generator sets to be used during construction phase should be low Sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards.

xxiii) The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.

xxiv) Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards.

xxv) Care shall be taken to prevent flow of excavated materials/ silt to the nearby water bodies during construction phase. The trench refilling should be carried out to match with the surrounding topography.

xxvi) The unit shall obtain authorization from the Board for handling and disposal of hazardous waste if any as per the provisions of Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and amended thereafter.

xxvii) The proponent shall ensure that bottom soil and top soil excavated during laying of pipeline shall be stored separately with separate earmarked area. While back filling the bottom soil shall be filled first after that top soil shall be filled.

ITEM NO. 05

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S PENGUIN TRADING AND AGENCIES LTD. FOR DANGARAPADA - 1 DECORATIVE STONE DEPOSIT (16.389 HA.), DANGARAPADA - 2 DECORATIVE STONE DEPOSIT (6.24 HA.) & DANGARAPADA - 3 DECORATIVE STONE DEPOSIT (14.921 HA.) OVER TOTAL AREA OF 37.55 HA. LOCATED AT VILLAGE DANGARAPADA, TITILAGARH TAHASIL OF BALANGIR DISTRICT OF SRI RAMAN RASHMI NAYAK - EC

1. This proposal is for Environmental Clearance of M/s. Penguin Trading and Agencies Ltd for Dangarapada-1 Decorative Stone Deposit (16.389 Ha.), Dangarapada-2 Decorative Stone Deposit (6.24 Ha.) & Dangarapada-3 Decorative Stone Deposit (14.921 Ha.) over total area of 37.55 ha. located at village Dangarapada, Titilagarh Tehsil of Balangir District of Sri Raman Rashmi Nayak.
2. **Category:** As per the EIA Notification S.O. 1533, dated 14th September 2006 and subsequent amendments, this proposed project falls under Category B (B1 >5.0 Ha) in Schedule in item 1(a) - Mining of Minerals.
3. DSR for the proposed mining was earlier approved by district collector vide letter no. 820/mines, dated 28.12.2022 & forwarded to SEIAA, Odisha. The same was returned to prepare as per the new guidelines. Letter from Collector office, Balangir vide letter no. 495, dated. 30.12.2023 has been received regarding the preparation of DSR.
4. The Terms of Reference (TOR) was granted for the proposed project vide letter no. SIA/OR/IND1/413852/2023 on dated 28.07.2023.
5. Public Hearing for the proposed project was held on dtd. 07.02.2024 at Dangarapada village. Issues raised were mitigation measures to control air, water and noise pollution, maintenance of village road, to implement appropriate measures to ensure proper storage of rain water and conservation for use in irrigation. The proposed project should prioritize providing employment opportunities for residents of Dangarpada village. Additionally, the project proponent should actively contribute to the well-being of the Dangarpada community and the Dangarpada temple. Reject rocks and stone generated during operation of the project will be made available to local residents. A Budget of 57 lakhs has been assigned for public hearing issues and 1,80,000lakhs for occupational health and safety of the workers.
6. **Statutory Clearances:**
    - The mining plan of the project has been approved under mineral Concession Rule,2016 and granite Conservation& Development Rule,1999 vide letter no-MXXII-(b)-06/2022 8097/DM Dt.21/09/2023 for Dangarapada 1, vide letter no-MXXII-(b)-06/2022 8357/DM Dt.29/09/2023 for Dangarapada 2, vide letter no-MXXII-(b)-06/2022 8361/DM Dt.29/09/2023 for Dangarapada 3.
    - There is no Forest and DLC land in the lease area, which is approved by DFO, Bolangir Forest Division Letter No.-2166/4F-Misc, and Dated 15.03.2023.
    - LOI was granted for Dangarapada 1 by Steel & Mines Dept, GOD vide letter no. 5947/SM-MC2-MC-0054-2021/SM Bhubaneswar, dated 05.08.2021.

- LOI was granted for Dangarapada 2 by Steel & Mines Dept, GOD vide letter no. 5939/SM-MC2-MC-0052-2021/SM Bhubaneswar, dated 05.08.2021.
- LOI was granted for Dangarapada 3 by Steel & Mines Dept, GOD vide letter no. 5943/SM-MC2-MC-0053-2021/SM Bhubaneswar, dated 05.08.2021.
- Ground water approval for withdrawal of 9.8 KLD has been received vide letter no. CGWA/NOC/MIN/ORIG/2023/19643 on dated 06.12.2023.

7. The mining plan of the project has been approved under mineral Concession Rule, 2016 and granite Conservation& Development Rule, 1999 vide letter no-MXXII-(b)-06/2022 8097/DM Dt.21/09/2023 for Dangarapada 1, vide letter no-MXXII-(b)-06/2022 8357/DM Dt.29/09/2023 for Dangarapada 2, vide letter no-MXXII-(b)-06/2022 8361/DM Dt.29/09/2023 for Dangarapada 3.

8. **Location and connectivity**: The cluster area consisting of 3 decorative stone mines i.e. Dangarpada-1 Decorative Stone over 16.389 hectares, Dangarpada-2 Decorative Stone over 6.240 hectares & Dangarpada-3 Decorative Stone over 14.921 hectares in village Dangarapada No. 39 under Titilagarh Tahasil of Balangir District, Odisha. The nearest railway is Titilagarh Railway Station (8 km) (SE) & Dangarapada village at 2.5 Km (E) from the project site. The nearest national highway is NH 59 (7.4km) (W). The proposed mine is situated over an area of 37.55 ha in village-Dangarapada, Titilagarh Tehsil, in the district of Bolangir of Odisha state. The area featured in Toposheet no. - F 44 X 3(64P/3). The Dangarapada 1 is bounded by the latitude N 20 °21'18.7 to N 20°21'30.0" & longitude E 83°09'08.0" to E 83°09'34.1". The Dangarapada 2 is bounded by the latitude N 20°21'18.7" to N 20°21'26.9" and longitude E 83°09'46.8" to E 83°09'34.1". The Dangarapada 3 is bounded by the latitude N20°21'17.00" to N 20°21'32.10" and longitude E 83° 09'46.20" to E 8309'07.10". The Barnai reserve forest (0.65km) NE from the project site. There is No wildlife sanctuary in the 10 km radius from the project site. Kankarha Jor SW (8.7 km), Dumberbahal Reservoir (3.2km) N, Mathan Pala Reservoir 6.1 km SE, lakhmi Jor 5.4 km (SW), Jamuna Jor 3.2 km (S), Lant river (7.8 km) NE.

9. The applied M.L. area is located towards North-Western side of village Dangarapada of lease area. Some portions near the northern boundary are covered by soil & alluvium. The highest and lowest elevations of the area above 385.5 mRL (centre- east side) and 303.0 (south direction) mRL respectively in Dangarapada 1. The highest and lowest elevations of the area are above 322mRL and 309.5mRL respectively in Dangarapada 2. The slope of the area is from centre towards lease boundary. The highest and lowest elevations of the area above 329mRL and 306mRL respectively in Dangarapada 3. Overall slope of the area is due south.

10. **Total reserves and production**:
    - Dangarapada-1: Proponent intends to produce decorative stone @ 7530 cuM/Annum (Maximum). Total Geological reserve is estimated as 6, 97,545 m^3 and total Mineable reserve is estimated as 5,79,588 m^3 and the life of the mine will be about 77 years. Out of 131040 m^3 waste generated in 5 years, 52416 m^3 of waste will be utilized for construction and maintenance of roads and remaining 78624m^3 of waste will be dumped in the proposed temporary waste dump in the earmarked site.
    - Dangarapada-2: Proponent intends to produce decorative stone @ 3000 cuM/Annum (Maximum). Total Geological reserve is estimated as 108151 m^3 and total Mineable reserve

is estimated as 71656m³ and the life of the mine will be about 24years. Out of 47600 m³ waste generated in 5 years, 19040 m³ of waste will be utilized for construction and maintenance of roads and remaining 28560m³ of waste will be dumped in the proposed temporary waste dump in the earmarked site.

- Dangarapada 3: Proponent intends to produce decorative stone @ 6000 cuM/Annum (Maximum). Total Geological reserve is estimated as 490626 m³ and total Mineable reserve is estimated as 349743 m³ and the life of the mine will be about 59 years. Out of 105000m³ waste generated in 5 years, 42000 m³ of waste will be utilized for construction and maintenance of roads and remaining 63000m³ of waste will be dumped in the proposed temporary waste dump in the earmarked site.
- During the 5 years of the proposed plan period 3.937 hectares will be utilised in Dangarpada-1, 3.697 hectares will be utilized in Dangarpada-2, period 3.482 hectares will be utilised in Dangarpada-3 due to proposed mining and allied activities.

11. **Baseline data monitoring:** The baseline data has been collected for the period December 2022 to February 2023.

AAQ parameters at 10 locations (min. & Max.)	PM_{10}= 39.5 to 65.4 µg/m³ $PM_{2.5}$= 20.2 to 35.5 µg/m³ SO_2= <4 µg/m³ to 11.2 µg/m³ NOx= 0 µg/m³ to 12.6 µg/m³ CO= 0.11 mg/m³ to 0.34 mg/m³
Ground Water quality at 8 locations	pH: 6.14 to 7.56 Total Hardness: 75 to 158 mg/l, Chlorides: 26.4 to 38.5 mg/l, Fluoride: 0.13 to 0.31 mg/l. Ground water quality including Heavy metals concentration are within the permissible limits of IS 10500:2012 and its amendments. Alkalinity ranges from 51 mg/l (GW-6) to 64.0 mg/l (GW-1).
Surface water quality at 8 locations	pH, 7.22 to 7.56 DO: 6.1 to 6.6 mg/l and BOD:2.1 to 2.9 mg/l. COD from < 4 to 32 mg/l & Total Coliform ranges from 7.8 to 26 MPN/100ml. Surface water quality at all the locations are within IS 2296:1992.
Soil quality at 8 locations	pH varies between 6.33 to 9.32, Porosity varies between 43.21 to 71.97, Nitrogen varies between 21.0 to 84.0 mg/Kg, Phosphorous varies between 11.2 to 47.2 mg/Kg and Potassium varies between 0.048 to 0.32 mg/Kg. Organic Carbon Content varies between 0.39 to 3.27 mg/Kg.
Noise levels Leq (Day & Night) at 8 locations	Ambient noise reaches 41 to 71.9 dB (A) during daytime and 36.3 to 66.4 dB(A) during night time.

12. **Product & Waste Generation:**

Dangarpada-1

Year	Volume of Rock Zone (m³)	Volume of Blocks (20%) (m³)	Volume of non-saleable (10%) (m³)	Volume of waste (70%) (m³)
1st Year	37245	7449	3725	26072
2nd Year	37390	7478	3739	26173

3rd Year	37415	7483	3742	26191
4th Year	37500	7500	3750	26250
5th Year	37650	**7530**	3765	26355
Total	**187200**	**37440**	**18720**	**131040**

Dangarpada-2

Year	Volume of Rock Zone (m^3)	Volume of Blocks (20%) (m^3)	Volume of non-saleable (10%) (m^3)	Volume of waste (70%) (m^3)
1st Year	12500	2500	1250	8750
2nd Year	13000	2600	1300	9100
3rd Year	13500	2700	1350	9450
4th Year	14000	2800	1400	9800
5th Year	15000	**3000**	1500	10500
Total	**68000**	**13600**	**6800**	**47600**

Dangarpada-3

Year	Volume of Rock Zone (m^3)	Volume of Blocks (20%) (m^3)	Volume of non-saleable (10%) (m^3)	Volume of waste (70%) (m^3)
1st Year	30000	6000	3000	21000
2nd Year	30000	6000	3000	21000
3rd Year	30000	6000	3000	21000
4th Year	30000	6000	3000	21000
5th Year	30000	6000	3000	21000
Total	**150000**	**30000**	**15000**	**105000**

13. **Method of Mining**: Opencast semi-mechanized method will be adopted using machineries such as Excavator, Wire saw cutter, compressor, jack-hammer, drill rod etc. Mining operation is proposed to be in single shift (8 hours).

14. **Transportation**: Transportation of marketable decorative stone blocks will be done by trailers/lorries/trucks to the respective destinations.

15. **Water requirement**: Total water requirement for the project will be 6.8 KLD for Dangarapada 1, 5.7 KLD for Dangarapada 2 & 7.7 KLD for Dangarapada 3. Ground water approval for withdrawal of 9.8 KLD has been received vide letter no. CGWA/NOC/MIN/ORIG/2023/19643 on dated 06.12.2023

16. **Wastewater management:** Slurry/muddy water will be generated from wire saw cutting machine will be collected in settling pit & further it will be reused in process after settlement. Septic tanks and soak pits will be provided for the disposal of domestic / washrooms effluents.

17. **Rain water harvesting:** Rain Water will be collected through garland drains and stored in settling pond. After 4 hours of retention, suspended solids will be settled and clear water will be reused / discharged. Settling tanks will be constructed to arrest the wash-off water.

18. **Power requirement**: There will be Power load requirement of 370KW for operations of mine. Minimal power required for office shall be taken by using D.G set (250 KVA).

19. **Greenbelt**: It is proposed to develop a green belt over an area of 0.621Ha. in the safety zone of Dangarapada-1, 0.46 Ha. in the safety zone of Dangarapada-2 mine, 0.650Ha. in the safety zone of Dangarapada-3 during the plan period. Plantation will be carried out in undisturbed area.

20. **Solid Waste Management:** During 5 Years proposed plan period, total of 131040 m^3 of waste are generated. About 40% (total of 53416 m^3) of the generated waste will be utilized for maintenance and construction of the haul road, approach and existing roads in the surrounding areas periodically. Remaining (78624 m^3) waste will be dumped in the proposed temporary waste dump in the earmarked site. The generated waste will be dumped in one terrace having of 5 m height. The proposed dump slope should be maintained at 80°. Since the dump constitutes of rocky mass, no plantation of saplings on the dump slope is envisaged. Settling tank will be constructed to arrest the wash-off water. No top soil will be generated from proposed mining.

21. **Manpower requirement**: Total number of employees in the proposed mine will be around 20 in each of the mine.

22. **Project cost**: Total estimated project cost of the Dangarapada cluster is Rs.11.4 crore. For the Environmental management Rs.25.8 Lakhs/year will be spent.

    - Estimated cost of the Dangarapada 1 project is Rs.4.8Crore, including Rs. 2 Lakhs towards provision for expenditure during mine closure.
    - Estimated cost of the Dangarapada 2 project is Rs.2.2 Crore, including Rs. 2 Lakhs towards provision for expenditure during mine closure.
    - Estimated cost of the Dangarapada 3 project is Rs.4.3 Crore, including Rs. 2 Lakhs towards provision for expenditure during mine closure.

23. **Environment Consultant**: The Environment consultant **M/s Visiontek Consultant Services Private Limited, Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee.

24. The SEAC in its meeting held on dated **17-05-2024** decided to take decision on the proposal after receipt of the following information / documents from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Submit the RL of the approach road, bottom RL of the mine before start of mining and after post mining and RL of the nearby surrounding areas close to	• RL of the approach road is 276m. • The RL of mining before start of mining is 303-385mRL at Dangarapada-1, 309.5-	Complied.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	mine.	322mRL at Dangarapada-2 & 306-329mRL at Dangarapada-3. • The bottom RL after post mining will be 318 mRL, 311mRL and 303mRL in Dangarapada 1,2 and 3 respectively. • RL of nearby surrounding areas are; West direction- 272+320mRL East direction -268-275mRL North direction -270-280mRL South direction -278-289mRL	
2.	Submit the source of water to be utilized for the project.	The total fresh water requirement for the project is about 9.8 KLD which will be sourced from Ground water. The ground water NOC from CGWA has been received vide letter no. CGWA/NOC/MIN/ORIG/2023/19643 valid upto 05.12.2025. Copy enclosed as **Annexure-1**.	Complied.
3.	Detail cost of EMP individually for each mine.	EMP cost for Dangarapada 1=37.3 lakhs (Capital) and 11.73 lakhs (Recurring), Dangarapada 2=29.8 lakhs (capital), 4.69 lakhs (Recurring), Dangarapada 3=14.9 lakhs (capital), 9.38 lakhs (Recurring).	Complied.
4.	Submit report on traffic study vetted by Institute of repute.	Vetted traffic study is enclosed as Annexure-2.	The traffic study report has been vetted by CET, Bhubaneswar.
5.	The proponent shall mine the quarry with lowest mRL first and use it as water sump after mining before proceeding to next quarry.	As advised the Hon'ble SEAC Members during final presentation, we shall mine the quarry with lowest mRL first and will use it as water sump after mining before processing to next quarry.	Complied.
6.	Certificate from Mining Officer that there is no other mines located within 500m from the periphery of the proposed cluster lease area. Tahasildar has given certificate but its decorative stone hence certificate from Mining Officer is required.	Certificate from concerned Mining officer is Enclosed as **Annexure-3**.	Complied.
7.	DSR is under process. Inclusion of sairat sources in approved DSR.	DSR approval is in Process. Sairat sources will be included in DSR as per the statutory guidelines.	----

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Visiontek Consultant Services Private Limited, Bhubaneswar,** on behalf of the proponent, the SEAC approved the EIA/EMP report in cluster approach and recommended the following:

a) The SEIAA, Odisha may consider to grant Environmental Clearance to individual lease for **Dangarapada Decorative stone mines under cluster approach** without referring to SEAC with specific conditions as per **Annexure – C** after receipt of individual applications from the lessee in cluster along with following documents.

   i) Filled in form-I of individual lease

   ii) Prefeasibility report of individual lease

   iii) EMP of individual lease.

   iv) Approved Mining Plan of individual lease.

   v) DLC status of the lease area from concerned DFO.

   vi) PP shall obtain the permission from Gram Panchayat for usage of water from nearby villages.

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

   viii) Specific condition to be stipulated in EC of individual lease that "the project proponent shall maintain periodic health check-up records of their employees and ensure use of face mask by workers in crushing and handling sections of the decorative stone quarry for ensuring that working personnel are not affected by silicosis".

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

b) **However, SEIAA may consider to grant EC for individual lease after inclusion of sairat sources in approved DSR.**

ITEM NO. 06

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S BEEKAY UTKAL STEEL PRIVATE LIMITED FOR GREENFIELD PROJECT FOR PRODUCTION OF 500,000 TPA ROLLED PRODUCTS AT KALINGANAGAR INDUSTRIAL COMPLEX, VILLAGE - JAKHAPURA, TAHASIL - DANAGADI, DISTRICT - JAJPUR OF SRI VIKAS BANSAL - EC

1. This proposal is for Environmental Clearance of M/s. Beekay Utkal Steel Private Limited for Greenfield project for Production of 500,000 TPA Rolled Products at Kalinganagar Industrial complex, Village - Jakhapura, Tehsil - Danagadi, District - Jajpur of Sri Vikas Bansal.
2. **Category:** As per the EIA Notification S.O. 1533, dated 14th September 2006 and subsequent amendments, this proposed project falls under Category B1 in Schedule in Item 3(a) - Metallurgical Industries (ferrous & nonferrous).

3. The **Terms of Reference (TOR)** was granted for the proposed project vide letter no. SIA/OR/IND1/424154/2023 Dated 07.07.2023.

4. **Public Hearing** for the proposed project was held on dtd. 04.10.23, at Danagadi Bhawan, Trijanga. As per guidelines by MoEF&CC, a budget of Rs. 285 lakhs (i.e., 1.5% of the project cost- Rs.190 crores) has been proposed towards issues raised during Public Hearing. The issues were mainly – Employment, Air & water pollution control, Local environment & periphery development, Plantation etc.

5. **Statutory Clearances:**

   - Land Document granted by IDCO vide letter no. 041/ALO/JRD dtd. 21.01.2023 for total land (64.86 Acres/ 26.248 Ha.) acquired from Odisha Industrial Infrastructure Development Corporation (IDCO).
   - Water Withdrawal of 216 KLD granted by IDCO Water Supply vide File no- HO: P&C/EST/E-5122/01/2015 dtd. 18/04/2023.
   - Approval for Electricity from TPNODL vide Ref no- 3314092300337 for 12.5 MVA through 33 KV feeder.
   - No Forest Land certificate from DFO, Cuttack Forest Division vide letter no. 1356/6F dtd. 17/02/2023. The land has been diverted for purpose of Iron Ore based industries.

6. Total land (64.86 Acres) acquired from Odisha Industrial Infrastructure Development Corporation (IDCO) vide Letter no. 041/ALO/JRD, Date - 21.01.2023.

7. **Location and connectivity**: The project site is located at Khata No.-130/1, 130/2, 130/3, 130/26 & Plot no. 169/938, 169/944,169/966/1, 169/966/2, Khata No. - 419 & Plot No. - 860 (P), 865 (P), Khata No. - 206 & Plot No. - 864 (P), Khata No. - 419/34 & Plot No. - 865/3383 (P), Khata No. - 419/33 & Plot No. - 865/3377 (P), Village - Kalinganagar Industrial Complex (Jakhapura), Tehsil - Danagadi, District-Jajpur. Kisam - Patita. It is bounded by geographical co-ordinates of latitude - 20°55'28.25"N to 20°55'47.96"N & longitude - 86° 3'11.01"E to 86° 3'18.41"E bearing toposheet no. F45N16, F4504, F45T13 & F45U1. The Nearest Railway Station is Jakhapura Junction at 1.46 km, SE. Nearest Highway - Industrial Corridor Road of Kalinga Nagar Industrial Complex (0.03 km, E), NH 200 (4.02 km, WSW), Nearest Airport-Bhubaneswar International Airport (79, SSW), Nearest Town - Danagadi (3.6 km, NE). No national parks, Wildlife Sanctuaries, Biosphere Reserves are present within 10 km radius. The nearest protected forest is Danagadi PF - 4.88 km, (NE). Nearest Water Body - Seasonal Nala (0.14 km, West), Brahmani River (4.09 km, South) & Ganda Nala (3.43 km, East)

8. **Land use as per project site at the end of plan period and at conceptual stage:**

Sl. No.	Particulars	Total Area after Expansion		
		Acres	Hectares	%
1	Security Room	0.0099	0.0040	0.0153
2	DG Room	0.0037	0.0015	0.0057
3	Weigh Bridge & Scale Room	0.1038	0.0420	0.1600
4	Administrative Building	0.2471	0.1000	0.3809
5	Car Parking	0.1557	0.0630	0.2400
6	Canteen	0.2471	0.1000	0.3809
7	Electrical Store – 1	0.32	0.1295	0.4933

8	Work Shop – 1	0.5362	0.2170	0.8266
9	Work Shop – 2	0.5362	0.2170	0.8266
10	Guide Store	0.147	0.0595	0.2266
11	Electrical Store – 2	0.2768	0.1120	0.4267
12	Roll Store	0.2768	0.1120	0.4267
13	Rolling Mill Store - 1	0.2768	0.1120	0.4267
14	Rolling Mill Store - 2	0.3632	0.1470	0.5599
15	Mill Area	13.7119	5.5490	21.138
16	Truck Parking	1.7843	0.7221	2.7507
17	Internal Road	8.939	3.6175	13.78
18	Under Ground Water tank - 1	0.5968	0.2415	0.9200
19	Under Ground Water tank - 2	0.5968	0.2415	0.9200
20	Electrical Substation	1.6062	0.6500	2.4761
21	Rain water Harvesting Pit	0.0474	0.0192	0.0731
22	Hazardous Room	0.0049	0.0020	0.0076
23	Electrical Maintenance & Fire Fighting Room	0.0148	0.0060	0.0228
24	Effluent Treatment Plan	0.0148	0.0060	0.0228

9. **Baseline data monitoring:** The baseline data has been collected for the period December 2022 to February 2023. Following are the observations as mentioned in table.

AAQ parameters	PM_{10}= 51.9 to 84.4µg/m^3 $PM_{2.5}$= 26.3 to 43.3 µg/m^3 SO_2= 6.5 to 20.3µg/m^3 NOx= 10.1 to 26.5µg/m^3 CO= 0.21 to 0.68mg/m^3
Ground Water quality	Colour- Less than 1 hazen, pH – 7.44 to 7.72, Alkalinity – 30 to 65 mg/l, Chloride – 20 to 35 mg/l, Total Hardness – 89 to 122 mg/l, TDS – 125 to 166 mg/l.
Surface water quality	Colour - 5-15 Hazen, pH – 6.98 to 7.4, DO – 4.9 to 6 mg/l, BOD – 0.7 to 1.2 mg/l, COD – BDL.
Soil quality	pH varies between 5.8 to 6.63, Conductivity - 55 to 308 µs/cm, Moisture% - 6.9 to 8.8%, Potassium – 678 to 813 mg/kg.
Noise levels Leq (Day & Night)	Ambient noise reaches 44.4 to 71.7 dB (A) during daytime and 35.5 to 63.6 dB(A) during night time.

10. **Product Generation:** As it is a rolling mill project, Capacity of 500000 TPA, the main raw material is billet and the final product is TMT bar. The production will be Rolling products (TMT bar). The rolling operation takes a solid piece of metal and breaks it down successively in several steps into different shapes such as flats, rounds, and sections etc. prior to which the billet pass through Reheating furnace capacity of 90TPH (2 x 45 TPH). During rolling, metal is subjected to high compressive stresses as a result of the friction between the roll and the metal surface. The Billets charging will pass through mechanical pusher type and be pushed into the rolling mill to produce rolled products such as TMT Bar.

Input	Specific consumption T/T of product	Quantity in TPA	Output	Specific consumption T/T of product	Quantity in TPA
Billet	1	515465	Rolled Products	0.97	500000
-	-		Scrap & End cuttings	0.02	10457
			Mill scale	0.01	5008
Total	1	515465	Total	1	515465

11. **Water requirement:** Total makeup water requirement for the project will be 216 KLD which will be sourced from IDCO.

12. **Wastewater management:**

Process Unit	Wastewater Qty. (KLD)	Source	Wastewater Management
Industrial Wastewater	34	Cooling Tower Blow Down	Used in Road Sprinkling for suppression of dust
Domestic Wastewater	23.5	Domestic use for the plant (Toilet, Washing)	After treatment in STP, will be used in Greenbelt.

13. **Rain water harvesting:** Rainwater harvesting would be carried out & 60 KLD harvested water will be reused for plant purpose.

14. **Power requirement**:

Sl No	Facilities	Proposed	Proposed Power consumption in MW	Total Power consumption in MW
1	ROLLING MILL	500,000 TPA	11.5	11.5
2	Miscellaneous		1	1
		TOTAL	12.5 MW	12.5 MW
1	Supply from Captive Power Plant in MW		-	-
2	Grid Load in MW (Source- TPNODL)		12.5 MW	12.5 MW

15. **Greenbelt:**

Sl no.	Year wise plantation program	Area covered (Ha.)	No. of saplings to be planted	Budget proposed for plantation of greenbelt with maintenance cost in ₹.
1.	1st Year	2.865	7600	2432000
2.	2nd Year	3	10000	3200000
3.	3rd Year	3	10000	3200000
	Total	8.865	27600	8832000

16. **Solid Waste Management:**

Solid Waste			
Facility	Waste	Quantity (TPA)	Management

Rolling Mill	Scrap (End-Cuts)	10,457	Will be disposed through trucks & sold to SMS Plant.
	Mill Scale	5008	Will be disposed through trucks & sold to Sinter Plant.
Hazardous Waste			
Waste	**Category as per HWM Rules, 2016 and its amendments**	**Quantity (TPA)**	**Management**
Used/Spent oil	Cat. 5.1	7.5	Storage in impervious containers under cover shed followed by disposal through actual users having valid authorization from SPCB, Odisha.
Oil Residue	Cat. 5.2	2.5	Storage in containers over impervious floor under well-ventilated covered shed followed by disposal through actual users having valid authorization from SPCB, Odisha.

17. **Manpower requirement**:

Particulars	Total
Managerial	14
Supervisory	20
Skilled	83
Semiskilled	45
Unskilled	71
Total(direct)	233
Indirect	500

18. **Project cost**: Total estimated project cost is Rs. 190 crores with EMP cost- 9.18 crore & CER cost- 2.85 crore.

19. **Environment Consultant**: The Environment consultant **M/s Visiontek Consultant Services Private Limited, Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee on 10.06.2024.

20. The SEAC in its meeting held on dated **10-06-2024** recommended the following:

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

a) Submit the KML file of the proposed lease site.

b) Certificate from the concerned DFO that the project doesn't have any forest / DLC land.

c) Brief note on the waste management plan for the end cuttings and mill scales generated during the manufacturing process.

d) Quality check of ETP sludge for SO_2 values should be done, and it should be within safe limit before disposal.

e) Details of solar energy to be installed in project site. It should be upgraded to a minimum of

5%.

f) Submit the details of parking area with a layout.

g) Brief note on the handling of fuel i.e., LSHS and its sludge disposal practice to be followed as it is hazardous.

h) Details of the rainwater harvesting pits to be provided.

i) Submit the dimensions of the day tank size and amount of fuel can be stored. Details of providing dykes of adequate volume around the day tank for storing LSHS needs to be provided for ensuring complete containment of stored LSHS in the dyke in the event of any unforeseen circumstances. The details of draining the day tank for cleaning the accumulated sludge at periodic intervals along with their handling and disposal methodologies in subsequent stages also needs to be furnished.

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

a) Environmental settings of the project site.

b) Extent of construction activity and operational status of all the units.

c) Road connectivity to the project site.

d) Drainage network at the site.

e) Greenbelt development in the existing plant.

f) Solid waste management practice of the existing plant.

g) Vacant land available.

h) Any other issues including local issues.

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

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Submit the KML file of the proposed lease site.	KML file of the Beekay steel is attached as Annexure-1	Complied.
2.	Certificate from the concerned DFO that the project doesn't have any forest / DLC land.	A letter is submitted to the DFO, Cuttack Forest division, requesting certificate of 'No Forest Land' for the proposed industrial area. The letter is attached as Annexure-2.	PP has applied for the certificate.
3.	Brief note on the waste management plan for the end cuttings and mill scales generated during the manufacturing process.	The Scrap (End-cuts) will be disposed through trucks and sold to outside Steel Melting shop (SMS). The mill scale will be disposed through trucks & sold to outside Sinter plant.	Complied.
4.	Quality check of ETP sludge for SO_2 values should be done, and it should be within safe limit before disposal.	Since this is a rolling mill ETP, ETP sludge will not contain any contaminants and water is used for cooling of Rolled metals. (Oil and grease present in the waste water to be removed by oil separator system)	To be added as specific condition

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
5.	Details of solar energy to be installed in project site. It should be upgraded to a minimum of 5%.	Plant internal streetlights & office lighting will be used from solar energy of 0.7 MW (5.6%) of total power requirement.	The PP has only mentioned that 0.7MW of solar power will be generated.
6.	Submit the details of parking area with a layout.	• Car and truck parking area – 1.94 Acre / 0.7851 Ha. • Approximately 50-60 trucks (Capacity -20 Ton) can be parked at a time shown in the layout which is attached as **Annexure-3.**	Complied.
7.	Brief note on the handling of fuel i.e., LSHS and its sludge disposal practice to be followed as it is hazardous.	Mentioned in Sl. No - 9	Complied.
8.	Details of the rainwater harvesting pits to be provided.	• Available rainwater from Rooftop area will be 71 KLD (approx.) out of which 60 KLD water will be reused and remaining will be recharged for ground water table. • Dimension of Rainwater harvesting pit with Depth =4 m approx and Aea – 191.82m^2	Complied.
9.	Submit the dimensions of the day tank size and amount of fuel can be stored. Details of providing dykes of adequate volume around the day tank for storing LSHS needs to be provided for ensuring complete containment of stored LSHS in the dyke in the event of any unforeseen circumstances. The details of draining the day tank for cleaning the accumulated sludge at periodic intervals along with their handling and disposal methodologies in subsequent stages also needs to be furnished.	• LSHS required for the Plant = 48400 TPA • No of Tanks = 2 nos. • Dimension of each cylindrical tank; Dia = 10m, Length =11m • Dimension of Two Dykes containing one tank each = 24m x 12m x 4.5m (considering freeboard of 1 m; this has been designed for complete containment of stored LSHS in the dyke in the event of any unforeseen circumstance) • Sludge generation quantity = 48TPA • There will be two LSHS tanks for operation. • During maintenance one will be working and other will be standby. • Sludge from Oil tank will be drained out of the bottom though drain nozzle. • The nozzle can be opened to drain sludge once in a year. • Sludge will be removed and	Complied.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		stored in closed container under covered shed, which will be supplied to authorized agencies for further treatment and disposal as per CPCB guidelines.	

22. The proposed site was visited by the sub-committee of SEAC on **19.06.2024**. Following are the observations of the sub-committee:

a) The site is allotted by IDCO and is adjacent to the road. No construction activities.
b) The PP informed that they will be constructing only rolling plant with two parallel lines.
c) The PP explained the layout and informed that IDCO will construct the road side drain. As such they will have no industrial effluent.
d) PP was asked to submit the following if not submitted:
    i) Milling waste and scrap disposal plan
    ii) Waste oil disposal plan
    iii) Plantation to be initiated to comply green belt requirement.
    iv) RWH, internal drain plan with ZLD approach.
    v) All other compliances etc. asked during presentation to be submitted including land documents.

After detailed discussion, the SEAC decided to take the decision on the proposal after receipt of the following from the proponent as raised during site visit.

i) Milling waste and scrap disposal plan.
ii) Waste oil disposal plan.
iii) Internal drain plan with ZLD approach.
iv) Certificate from the concerned DFO that the project doesn't have any forest / DLC land.

ITEM NO. 07

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR BAITARANI RIVER SAND BED, BUDHIKUD, OVER AN AREA OF 12.50 ACRES OR 5.058 HECTARES IN VILLAGE BUDHIKUD UNDER ANANDAPUR TAHASIL OF KEONJHAR DISTRICT OF SRI JOGENDRA BEHERA - EC

1. This proposal is for Environmental Clearance for Baitarani River Sand Bed, Budhikud, over an area of 12.50 acres or 5.058 hectares in village Budhikud under Anandapur Tahasil of Keonjhar District of Sri Jogendra Behera.
2. **Category:** This is a Category – B project which falls under schedule 1(a) - Mining of Minerals as per the EIA Notification 2006 and amendments thereafter.

3. **Mining lease details:** The mining lease of the proposed quarry has been granted to Sri Jogendra Behera, S/o-Shri Gouranga Behera for five financial Years via letter no. 5421 dated 31/05/2021.

4. The mining plan was approved by O/o Joint Director Geology, Keonjhar, Odisha vide letter no.-945.Dt dated 28/06/2021.

5. This is a new mine and mining lease is an identified sairat source in the DSR page No.2, Sl.no.10, Annexure - I.

6. **TOR details**: Terms of Reference (TOR) was issued by SEIAA, Odisha, vide proposal Letter No. 3681/SEIAA, on dated 27/12/2021.

7. **Public Hearing Details:** Public hearing for the proposed project was conducted on 29.10.2022 at 11.00 AM at Village Budhikuda. Issues raised during public hearing are provisions of livelihood for local villagers in sand mining, repair & maintenance of village road during transportation of sand and support to villagers for development of education & contributions for functions and cultural activities. Budget for CER activities is Rs. 30000.

8. **Location and Connectivity**: The proposed project is located at Khata no-112, Plot No-183 in Village - Budhikuda under Anandapur Tahasil of Keonjhar district; Kisam - Nadi featured in Survey of India Toposheet no. F45O3 bounded by geo coordinates Latitude: N21°20'55.8"to N21°21'6.1" N and Longitude: E86°03'16.1" to E86°03'23.9" E. The Nearest Railway Station is Sagadapata Railway Station 19 Km, SW and Nearest Airport is Biju Patnaik International Airport, Bhubaneswar about 124 km, SW. The Nearest Highway is SH- 53 is 6.0 km SE; NH- 20 is 2.0 km, SW; Nearest distance of Approach Road is 0.2km E; Nearest road Bridge / Railway Bridge is Anandapur Barrage- 18 km; River embankment is 4 km and Electric transmission Pole is 0.6 km Kolimati Village SW. Hadagarh Wildlife Sanctuary is about 26 km ESE.

9. **Total Reserves and Proposed Production** - The proposed production is 17,502cum/Year.

As per Approved Mining Plan		As per Approved Mining Plan
Geological Reserve	**Mineable Reserve**	**Production**
1,01,180	87,510	17,502cum/Year

Type of land use	Area in Ha.	
	At present (Existing)	During Plan period
Area under excavation	Nil	4.33
River water	Nil	Nil
Quarry Safety Zone Area	Nil	0.728
Total	5.058	5.058

10. **Replenishment study report details**: Replenishment Study Report has prepared by Drone method. Date of Pre-monsoon Survey is 23.06.2023. Date of Post Monsoon Survey is

18.11.2023. Total 539 nos. of grid points were analysed during Pre-monsoon and post-monsoon period to know the average thickness of sand replenished inside the quarry area.

11. Average thickness during Pre-monsoon period measured from contour value of 539 numbers of grid points - 47.10612245m & average thickness during post-monsoon period is 47.60638219m. Deposit of sand thickness is 47.60638219m - 47.10612245m = 0.50025974 or say 0.5m and 14415.6663 cum of sand has been replenished.

12. **Mining Method**: Open cast manual mining method is proposed for the project with maximum of 17,502 cum/year of production.

Mining Lease	Year	Surface Area in m^2	Thickness in m	Production (m^3)
	A	B	C	D=B*C
Baitarani River Sand Bed, Budhikuda	1st Year	8751	2.0	17502
	2nd Year	8751	2.0	17502
	3rd Year	8751	2.0	17502
	4th Year	8751	2.0	17502
	5th Year	8751	2.0	17502
Total				87,510 **cum**

13. **Water requirement**: Total water requirement is 5KLD [1KLD - Dust Suppression (on haul roads etc), 2.0KLD - Green Belt Development/ Plantation and 2.0KLD - Drinking/Domestic & Sanitation] for the proposed project. Water requirement will be met from nearby available water resource and drinking water will be sourced from tanker.

14. **Baseline study details**: Baseline study of the study area was conducted during winter season from 1st October 2021 to 31 December 2021 for Baitarani River Sand Quarry, Budhikuda.

    a. **Air:** PM10 levels were ranging from 61.2 to 84.9µg/m3. PM2.5 levels were ranging from 18.5 to 27.2µg/m3. SO2 levels were ranging from 6.5 to 10.4µg/m3. NOx levels were found ranging from 9.8 to 15.6µg/m3.

    b. **Noise:** The noise levels varied in the study area during day time from 48.3 dB (A) Leq to 65.7 Leq dB (A). The night time noise level in the study area is in the range of 36.2 dB (A) Leq to 63.1 Leq dB (A).

    c. **Ground water monitoring results:** The ground water analysis for all the 7 sampling stations shows that pH varied from 7.02 to7.28, total hardness varied from 132 mg/l to 249 mg/l & total dissolved solids varied from 125mg/l to 237 mg/l. The water samples contain chloride 12.26 mg/l to 25.06 mg/l, Ca from 22.14mg/l to 37.61mg/l, Magnesium varies from 2.66 mg/l to 6.20 mg/l.

    d. **Surface water monitoring results:** All samples were colourless meeting desirable norms (<5 Hazen). All samples meet the desirable standards pH ranges from 7.34-7.61. TDS in samples ranges from 35 mg/l to 83 mg/l. all the samples meet the permissible limit of 2000 mg/l. Total hardness in the water ranges from 14 mg/l to 62 mg/l. All the samples meet the permissible limit of 600mg/l. Calcium content in the water ranges from 8.1 mg/l to 29.5 mg/l,

all the samples meet the permissible limit of 200 mg/l. Magnesium content in the water ranges from 2.4 mg/l to 11.9 mg/l, all the samples meet the permissible limit of 100 mg/l.

e. **Soil monitoring results:** All soil samples indicate pH value ranging from 6.89 - 7.72, Organic Matter ranges found BDL in the soil samples. Nitrogen is found BDL and Phosphorous from 183 mg/kg- 254 mg/kg, whereas the Potassium is found to be ranging from 183 mg/kg -254 mg/kg.

15. **Greenbelt Development:** 50 trees per year is proposed for the greenbelt development of the project.

16. **Manpower:** 29 persons is required as manpower for the proposed project.

17. **Project Cost & EMP cost**: Total estimated cost of the proposed project is Rs. 0.5 crore, EMP incurs Capital Cost of Rs. 2, 55,000 and Recurring Cost of Rs.1,50,000.

18. **Environment Consultant**: The Environment consultant **M/s Green Circle Inc., Vadodara, Gujarat** along with the proponent made a presentation on the proposal before the Committee.

19. The SEAC in its meeting held on dated **10-07-2024** decided to take decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
1.	Measurement Error in X, Y, Z axis of Camera location and GCP points in both Pre-monsoon and Post-monsoon.	Submitted at page no. 53-65.
2.	Reduced level of the surface sand, water level and river level.	The proponent has submitted the digital terrain map, ortho map, contour map and surface geological map for pre & post-monsoon season survey at page no. 67-76

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Green Circle Inc., Vadodara,** the SEAC observed the following:

i) The pdf file submitted in the ADS contains the replenishment study report RSR). Page 19 of RSR (Pdf file page 24) under para "Common safe workable area" states that most of the lease area was waterlogged during pre-monsoon survey compared to post monsoon survey. Drone survey could not be processed in waterlogged area. Safe workable area is stated to be 48027.2718 m^2 based on post-monsoon survey result. This area is same as that mentioned in the surface geological map of the ML area based on the post monsoon survey (Refer page 76 of the pdf file). Surface geological map of the ML area based on pre-monsoon survey (Refer page 71 of the pdf file) mentions the sand area to be 48986.58 m^2 and does not mention presence of any water body. This is in contradiction of the above-mentioned statement of page 19 of the RSR.

ii) Table No.07 of the RSR mentions 539 grid points Easting, Northing and Elevations, the readings of which are stated to be based on the pre and post monsoon drone surveys. The basis of pre-monsoon drone survey grid points data is not understood as the same report mentions the pre-monsoon drone survey could not be processed as most of the ML areas were waterlogged.

iii) The reported elevations of the riverbed sand in the ML area in the Table No.07 of the RSR are noted to vary in the range of 42 m to 51 m which cannot be considered as a true surface feature of the ML area. Riverbed sand surfaces are flat with very small gradient.

iv) The RSR states two sets of ground control points (GCP) totalling to 09 numbers and none of these GCPs have been fixed as per the procedure mentioned under para "Ground control point establishment and monumentation" of the SOP submitted by ORSAC vide letter No. ORSAC/PR/0951/21/2588 dated 02nd June 2023.

After detailed discussion, the SEAC opined that the Replenishment Study Report (RSR) submitted by the proponent is not considered proper and decided to take decision on the proposal after receipt of the detailed clarification from the proponent along with modified RSR as observed by the Committee at para i) to iv) above.

ITEM NO. 08

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF M/S. EASTERN ESTATES CONSTRUCTION AND DEVELOPERS PVT LTD FOR EXPANSION OF "DIAMOND CITY, CUTTACK" IS A RESIDENTIAL APARTMENT WITH COMMERCIAL BUILDING ON A LAND MEASURING 2.86 ACRES (11556.61 SQ.M) WHICH IS LOCATED AT VILLAGE: PRATAPNAGARI, NUAGADA, DISTRICT: CUTTACK OF SRI SANJEEV KUMAR - EC

1. This proposal is for Environmental Clearance of M/s. Eastern Estates Construction and Developers Pvt Ltd for Expansion of "Diamond City, Cuttack" is a Residential Apartment with Commercial Building on a land measuring 2.86 acres (11556.61 sq.m) which is located at Village: Pratapnagari, Nuagada, District: Cuttack of Sri Sanjeev Kumar.
2. **Category**: This project falls under Category "B" under 8(a) - Building and Construction projects as per EIA Notification dated 14th Sept, 2006 and its amendments.
3. **Location and connectivity**: The project site is located at Khata No. 96, 985/664, 985/927, 985/928, 985/941, 985/1305, 985/1294, 985/1296, 985/1288, 985/1287, 985/1026, 985/1026, 985/1970, 985/1970 and Plot No. 2340, 2340/3563, 2343, 2333/5410, 2343/5411, 2344, 2334/6142, 2346/5962, 2347, 2347/5956, 2348, 2248/5496, 2248/5497, 2353/6397, 2353/6403 at Village- Pratapnagari, Nuagada, Cuttack, Odisha. The geographical co-ordinates of project site are 20°23'28.19"N & 85°53'6.89"E. The Toposheet no. F45T15. The nearest Airport is Biju Patnaik International Airport which is 17.284 KM away from the project site in SW direction. The nearest railway station is Bhubaneswar New Junction which is 5.337 KM away from the project site in W direction. The nearest ring road is 1.95 KM, SH-16 is 7.36 KM and NH-16 is 0.06 KM away from the project site in ENE, N & SW direction respectively. 5. The Chandaka Reserved Forest is about 11.33 km in SW direction, Nandan Kanan Zoo is about 6.20 km in W direction & Churhanga Reserve Forest is about 7.19km in WNW direction.
4. The site is coming under Cuttack Development Authority.
5. The total plot area is 11556.61 sq.mt. /2.86 Acre with total built-up area is 65660.35 sq.mt.
6. Statutory Clearances obtained so far for the project are;
    a. The project was earlier granted EC by SEIAA, Odisha vide letter no 441322/121-INFRA2/09-2023 dated 30.10.2023 for a total plot area of 2.48 acre or 10039.85 m² and total built-up area of 54,514.323 m².

b. CGWA NOC has been obtained vide letter no. CGWA/NOC/INF/ORIG/2023/19261 valid from 18/09/2023 to 17/09/2028.

c. The NOC for Water Supply and Sewerage connection has been obtained from Office of the General Manager, WATCO Division, Cuttack vide letter no. 10468 dated 19/09/2022.

7. **Comparative Area Statement -**

S. No.	Particulars	As per earlier EC granted	Expansion	Total
1	Total Plot Area (Acres)	2.48	0.38	2.86
2	Total Plot Area (Sq.m)	10039.85	1516.76	11556.61
3	Total FAR Area (Including Services) (sq.m)	40346.04	10624.52	50970.56
4	Ground Coverage (Permissible) 40% (sq.m)	4015.94	606.70	4622.64
5	Achieved Coverage 35.76% (sq.m)	3865.34	267.35	4132.69
6	Non-Far (Combined Stilt and Basement built-up area) (sq.m)	12168.26	2521.53	14689.79
7	Miscellaneous Area (Guard Room, STP, UGT etc.) (sq.m)	2000.00	-2000.00	0.00
8	**Total Built-up Area (3+8+9) (sq.m)**	**54514.30**	**11146.05**	**65660.35**
9	Green belt Area (sq.m) (25% of total plot area)	2514.85	374.30	2889.15
10	Paved Open Green & Avenue Green area (sq.m) (13% of total plot Area)	1305.18	197.18	1502.36
11	Surface Parking Area (sq.m)	880.00	275.66	1155.66
12	Road and Open Area (sq.m)	1857.38	19.37	1876.75
13	Parking (ECS)	396	157	553

8. **The total population** is 3163 Nos (as per earlier EC & Expansion).

9. **Power Requirement:** The power supply is supplied by (Odisha State Electricity Board). The connected load for Project is approx. 2500 KVA (As per earlier granted EC & Expansion). There is provision of 4 no. of DG sets of total capacity 1010 KVA (1*150 + 1*62.5 + 2*400 KVA each) for power back up in the Project. The DG sets is equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.

10. **Water requirement**: During operation phase, the total water requirement will be approx. 393 KLD (After Expansion) out of which fresh water demand will be 256 KLD.

11. **Wastewater details:** The project will generate approx. 334 KLD (After Expansion) of wastewater. The wastewater will be treated in onsite STP of 350 KLD capacity. The treated effluent will be reused for flushing and landscaping purpose. About 163 KLD surplus water in summer season and 166 KLD surplus water in monsoon season will be discharged in existing drain/external sewer.

S. No.	Particulars	As per earlier granted EC (KLD)	Expansion (KLD)	Total (As per earlier granted EC + Expansion) (KLD)
1	Total Water Requirement	280	113	393
2	Fresh Water Requirement	181	76	256
3	Treated Water	100	38	137
4	Flushing Water	91	38	129

S. No.	Particulars	As per earlier granted EC (KLD)	Expansion (KLD)	Total (As per earlier granted EC + Expansion) (KLD)
5	Wastewater Generated (80% of Fresh + 100% flushing)	235	99	334
6	STP Capacity (Approx. 10% higher than the wastewater generated)	280	70	350

12. **Rainwater harvesting details:** They have proposed for 10 no. of RWH pits of 9.81 cubic meter capacity each within the project site.

13. **Parking details:** Total parking area provided is 14689.79m^2. Total no. of 553 ECS parking is proposed.

14. **Solid waste generation**: During the operation phase, the solid waste will be generated as per the below table;

S. No.	Category	Kg per capita per day	Total Waste generated (kg/day)
1	Residents (Nos.)	2778 @ 0.5 kg/day	1389
2	Staff (Nos.)	150 @ 0.25 kg / day	37.5
3	Visitor (Nos.)	335 @ 0.15 kg /day	50.25
4	Landscape waste (2889.15 m^2)	0.71 @0.2 kg/acres	0.142
Total			1476.89

15. **Firefighting Installations:** Firefighting measures will be adopted as per the guidelines of NBC. External yard hydrants shall be installed around all buildings in the complex in galvanized steel fire house cabinet (weather proof).

16. **Greenbelt:** Green belt will be developed over an area of 2889.15 sqm which is 25% of the total plot area. Total no. of 150 plants to be planted and 3-meter spacing between plants in 2 tier plantations. There will be a provision of Paved Open Green & Avenue Green area over an area of 1502.36 sqm which is 13% of total plot Area.

17. **Project cost**: The estimated project cost is 87 Crores or 8700 Lakhs and cost for EMP is 1.74 Crores or 174 Lakhs i.e. 2 % of the total project cost.

18. **Environment Consultant**: The Environment consultant **M/s. Oceao-Enviro Management Solutions (India) Pvt. Ltd, Ghaziabad** along with the proponent made a presentation on the proposal before the Committee on 28.02.2024.

19. The SEAC in its meeting held on dated **28-02-2024** recommended the following:

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

i) Comparison table for previous and present status w.r.t. greenbelt, solar power utilization, parking requirement, water requirement and pollution load etc.

ii) NOC for water usage; separately for commercial unit and domestic purpose.

iii) Revised traffic study report incorporating the additional load in traffic due to revised plan.

iv) Mitigation measures to be followed during construction phase.

v) No. of labourers to be employed during the construction period.

vi) Explore possibility for solar power utilization by incorporation of rooftop panels.

vii) Lightening of the internal roads to be done by utilizing the solar power generated.

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

i) Environmental settings of the project site.

ii) Verify if the site is a flood prone area.

iii) Construction activity if any started at the site and extent of construction activity.

iv) Road connectivity to the project site.

v) Drainage network at the site.

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

vii) Any other issues including local issues.

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

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td>1.</td><td>Comparison table for previous and present status w.r.t. greenbelt, solar power utilization, parking requirement, water requirement and pollution load etc.</td><td>Comparison table for previous and present status w.r.t. greenbelt, solar power utilization, parking requirement, water requirement and pollution load etc. is enclosed as an Annexure I.</td><td>Copy submitted</td></tr>
<tr><td>2.</td><td>NOC for water usage; separately for commercial unit and domestic purpose.</td><td>There is no building, which is dedicated to commercial purpose. The Block A in the map is facilitating convenient shopping which will be mostly residents of society.
<table>
<tr><th>Particulars</th><th colspan="3">Fresh Water Requirement (KLD)</th></tr>
<tr><th></th><th>Residential</th><th>Commercial</th><th>Total</th></tr>
<tr><td>As per earlier granted EC</td><td>179</td><td>1.3</td><td>180</td></tr>
<tr><td>Expansion</td><td>75</td><td>0.03</td><td>76</td></tr>
<tr><td>Total</td><td>254</td><td>1.27</td><td>256</td></tr>
</table>
• NOC for ground water abstraction has been taken for both commercial and residential block cumulatively.
• For earlier EC, 180 KLD (179 KLD for residents & 1.3 KLD for commercials) as required against which NOC for 194 KLD has already been obtained vide NOC No.</td><td>• Fresh water consumption – 256KLD and excess treated water discharge to drain is 163KLD (non-monsoon) /166KLD(Monsoon).
• All required approval copies have been submitted.
• Here the PP has mentioned commercial unit will be used by residents only. Same to be added in specific</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		CGWA/NOC/INF/ORIG/ 2023/19261 dated ***18/09/2023***. (***Annexure II***) • Application for additional water requirement submitted to CGWA vide application No. ***21-4/4745/OR/INF/2023*** dated ***22/03/2024*** for fresh water demand of 256 KLD. (***Annexure III***) • Detailed water requirement of the unit is attached as an ***Annexure IV.***	conditions.
3.	Revised traffic study report incorporating the additional load in traffic due to revised plan.	Traffic study had been conducted, considering additional load due to expansion in the project and future 10 years incremental traffic load. Same is attached as an ***Annexure V.***	Traffic Study done by PP. LOS comes to "B" as estimated for expansion in the project and future 10 years incremental traffic load.
4.	Mitigation measures to be followed during construction phase.	Detailed mitigation measures to be followed during both construction phase and operational phase has been enclosed as ***Annexure VI***.	Copy submitted
5.	No. of labourers to be employed during the construction period.	The no. of labours employed during construction phase are: Permanent – 30 No's Temporary – 70 No's	-
6.	Explore possibility for solar power utilization by incorporation of rooftop panels.	Total Power requirement: **2500 kVA**. Total energy conservation proposed: 891.2 kVA (20.4%) Provision of Solar roof panels (grid supply) = 380 kVA (15.2%) • Provision of Solar water heater = 25 kVA (1%) • Provision of 40 No's of Solar Street lightning = 50 kVA (2%) Calculation of Energy Conservation is attached as an ***Annexure VII.***	Copy submitted
7.	Lightening of the internal roads to be done by utilizing the solar power generated.	40 No's of Solar Street Lights i.e. 2% of total power requirement (50 KVA) will do lightening of the internal roads. Refer ***Annexure VII.***	Copy submitted

21. The SEAC in its meeting held on dated 16-05-2024 decided to take decision on the proposal after a site visit of the Sub-Committee of SEAC.

22. The proposed site was visited by the sub-committee of SEAC on **08.06.2024**. Following are the observations of the sub-committee:

    a) Two blocks were constructed as per earlier EC. The site was adjacent to the highway and Canal. The PP has constructed about a 40 ft width bridge to connect his land.

    b) All other blocks are yet to be taken up for construction.

    The PP was asked to submit the following if not submitted for modified plan:

c) Latest situation of drain accessibility, permission from the appropriate authority along with approved plan/drawing for discharge of excess treated water and storm water as there is no existing drain near the land.

d) All statutory permission including NOC from airport authority, fire, structure and stability etc.

e) Since it is low lying area, PP to submit the revised water balance and increase RWH. Also inform rain water management plan to combat flooding.

f) An undertaking that the commercial block to be used only for the residents of that apartment.

g) Permission from the authority for constructing bridge over the Canal.

h) All other points asked during presentation to be complied.

23. The SEAC in its meeting held on dated **02-07-2024** decided to take the decision on the proposal after receipt of the following from the proponent as raised during site visit.

a) Latest situation of drain accessibility, permission from the appropriate authority along with approved plan/drawing for discharge of excess treated water and storm water as there is no existing drain near the land.

b) All statutory permission including NOC from airport authority, fire, structure and stability etc.

c) Since it is low lying area, PP to submit the revised water balance and increase RWH. Also inform rain water management plan to combat flooding.

d) An undertaking that the commercial block to be used only for the residents of that apartment.

e) Permission from the authority for constructing bridge over the Canal.

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

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
1.	Latest situation of drain accessibility, permission from the appropriate authority along with approved plan/drawing for discharge of excess treated water and storm water as there is no	<u>Accessibility of Drain and discharge provisions.</u> 1. At present, there is no public water supply and drainage facility of PHED in the vicinity of project site. 2. Permission from Office of the general manager WATCO Division, CUTTACK has been obtained as per letter no. 10468 dated 19/09/2022 NOC from WATCO division is attached as **Annexure-I.** 3. However, it is specified for the project vide above mentioned NOC from WATCO, that, whenever the public water supply & sewerage system of PHED will be available adjacent to the project site in future, unit can avail both facilities by making payments as the per Odisha Water Works (Urban local body) Rule 1980. 4. As per the NOC granted we can make own arrangements for water and sewerage connections till the time provisions are available. 5. In the meantime, the project will develop the internal & external drainage system at their own cost, utilizing the existing deep public drain through pumping systems alongside NH-16 (Slip road). 6. A Plan showing the internal drainage system & terminal discharge and its connection to the external public drain located at the ROW of the service road of NH-16 is attached as **Annexure-II.**

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th></tr>
<tr><td></td><td>existing drain near the land.</td><td></td></tr>
<tr><td>2.</td><td>All statutory permission including NOC from airport authority, fire, structure and stability etc.</td><td>All the STATUARY PERMISSIONS have already been uploaded in the online application however the same has been reattached as per the following table with this reply:
<table>
<tr><th>S. NO.</th><th>NOCS</th><th>LETTER NO.</th><th>DATE</th><th>DEPT.</th><th>REMARKS</th></tr>
<tr><td>1.</td><td>CMC Approval Letter and Approved Plan</td><td>Letter No. 956</td><td>16.12.2023</td><td>CMC</td><td>Annexure-III</td></tr>
<tr><td>2.</td><td>CGWA NOC for existing and application for expansion part</td><td>CGWA/NOC/INF/ORIG/2023/19261</td><td>18.09.2023</td><td>CGWA</td><td>Annexure-IV</td></tr>
<tr><td>3.</td><td>Water Supply and sewerage NOC</td><td>No. 10468</td><td>19.09.2022</td><td>Office of The General Manager, WATCO Division, Cuttack</td><td>Annexure-I</td></tr>
<tr><td>4.</td><td>Fire Safety Recommendation</td><td>RECOMM1101020042022000713</td><td>22.07.2022</td><td>Odisha Fire Service</td><td>Annexure-V</td></tr>
<tr><td>5.</td><td>Structure Stability Certificate</td><td>BITS/MAT/229-06-22/TM</td><td>29.06.2022</td><td>---</td><td>Annexure-VI</td></tr>
<tr><td>6.</td><td>AAI NOC</td><td>BHUB/EAST/B/041223/752034</td><td>26.04.2023</td><td>Airport Authority of India</td><td>Annexure-VII</td></tr>
<tr><td>7.</td><td>NOC from Prachi Division for Culvert Use for Public Access</td><td>Letter No. 6158</td><td>12.10.2023</td><td>Office of the Superintending Engineer, Prachi Division, Bhubneswar-12</td><td>Annexure-VIII</td></tr>
<tr><td>8.</td><td>Electricity Permission</td><td>Letter No. 149</td><td>24.06.2022</td><td>Central Electricity Supply Utility of Orissa</td><td>Annexure-IX</td></tr>
<tr><td>9.</td><td>Solid Waste Disposal Permission Application</td><td>--</td><td>30.12.2021</td><td>CMC</td><td>Annexure-X</td></tr>
</table></td></tr>
<tr><td>3.</td><td>Since it is low lying area, PP to submit the revised water balance and increase RWH. Also</td><td>Flooding And Rainwater Management Plan
1. The road level is at 25.2 AMSL, and the site level ranges from 22.3 to 24.9 AMSL, as shown in the contour plan (Annexure-IIa). To maintain a proper gradient, ground levels will be filled and levelled. The elevation of low-lying areas will be raised by adding layers of soil at the lower areas to ensure a gradient of 0.5-1%, facilitating the proper flow velocity of storm water during peak periods.
2. To control storm water flow, compaction and appropriate alignments of the closed storm water drainage system will be implemented throughout the project site.</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	inform rain water management plan to combat flooding.	3. Weep holes will be provided to allow water to escape from behind walls, basement walls, and other structures, preventing water accumulation. 4. For rainwater management at the project site, ➢ rainwater harvesting trenches with desilting chambers of dimensions 2.5m X 1.2 m X 2.5 m (10 units) have been enhanced with additional rainwater harvesting tanks measuring 3m X 3m X 2.5 m (2 units). ➢ To combat flooding at the site the overflow will be collected in a collection & storage tank of dimension 4m X 3m X 2.5 m attached with pumping provisions, which will be pumped to the nearest drain. ➢ The Rainwater Harvesting Calculations of the pits, tanks and Rainwater Harvesting Plan are attached as Annexure-XI. 5. The stored rainwater in the tanks will be slowly percolated by the pervious bottom or can be reused for landscaping, HVAC makeup, road washing, and etc.in case of requirement. The revised water balance diagram is attached as Annexure-XII. 6. Additionally, provisions for porous or pervious pavements will be made to allow water to infiltrate through the surface into the underlying layers, reducing surface runoff and promoting groundwater recharge.
4.	An undertaking that the commercial block to be used only for the residents of that apartment.	It is intimidated that, as per license condition and condition of approved layout by development authority, this commercial block will be used as convenient shopping center for internal habitation only. An undertaking stating that the commercial block will be used exclusively by the residents of the apartment is attached as **Annexure-XIII.**
5.	Permission from the authority for constructing bridge over the Canal.	A No Objection Certificate (NOC) from the Office of the Superintending Engineer, Prachi Division, Bhubneswar-12 for constructing a bridge over the canal vide Letter No. 6158 dated 12.10.2023 is attached as **Annexure-VIII**

Considering the information furnished and the presentation made by the consultant, **M/s Oceao-Enviro Management Solutions (India) Pvt. Ltd, Ghaziabad along** with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 10 years with stipulated conditions as per **Annexure – D** in addition to the following specific conditions.

i) The Proponent before implementation of the project shall convert the land to Gharabari and shall take the ownership of the land if not already taken.

ii) The Proponent shall obtain permission/NOC from Executive Engg. (PHD) and / or from the appropriate authority for disposal of excess STP treated water to the nearest drain without which the Proponent will not start construction work. Also, in case of the connecting drain

passing through others land (Govt. or Private land), the Proponent shall obtain the permission and possession as the case may be.

iii) The proponent shall use solar energy at least to the tune of 5% of total power requirement as proposed.

iv) The proponent shall obtain permission from concerned Fire Safety Authority.

v) The commercial block to be used only for the residents of that apartment as mentioned by PP.

vi) Trees located within the project area shall be transplanted to alongside the boundary green development area.

vii) The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.

viii) The project proponent shall maximise utilisation of treated water in flushing, plantations and ground washings etc. as per need to reduce water discharge to drain. This shall be verified in future compliance report.

ix) The PP will not commence construction unless the drain lay out is finalized and permission given for the same by the authority to discharge excess treated water & storm water.

x) Before starting the construction project physical properties as well as engineering properties of the soil along with its bearing capacity should be undertaken and the report should be submitted.

xi) All compliances submitted/ committed by PP(s) shall be strictly adhered to them in addition to all the conditions/ specific conditions of EC.

ITEM NO - 09

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR GIRISOLA STONE QUARRY WITH PROPOSED EXCAVATION OF 5600 CUM/YEAR OF STONE OF TAHASILDAR CHIKITI HAVING AN AREA OF 20.510 HA. LOCATED AT KHATA NO: 897, PLOT NO: 1, 2, 3, 4, AT - GIRISOLA, TAHASIL - CHIKITI, DISTRICT - GANJAM OF TAHASILDAR, CHIKITI - EC

1. The SEAC in its meeting held on 20-11-2023 observed that mining lease area is covered with forest growth as seen in KML file. The SEAC decided to consider this proposal for EC after joint verification from forest officials regarding the forest growth and mining activity in proposed lease area.

2. The project proponent has submitted joint verification report which states that:

   (i) There is no forest growth in the proposed lease area.
   (ii) There is no valuable tree growth in the proposed lease area.
   (iii) There are no mining activities in the proposed lease area.

3. The SEAC in its meeting held on **29-01-2024** decided to call for a detailed presentation for the proposal. The PP gave detailed presentation on dated **18-05-2024**.

4. This proposal is for Environmental Clearance of Girisola Stone Quarry with proposed excavation of 5600 CUM/year of stone of Tahasildar Chikiti having an area of 20.510 Ha.

Located at Khata No: 897, Plot No: 1, 2, 3, 4, At- Girisola, Tahasil - Chikiti, District- Ganjam of Tahasildar, Chikiti.

5. **Category**: This project falls under Category "B" or Schedule 1(a): Mining of Mineral as per EIA Notification dated 14th Sept, 2006 and its amendments.

6. The Mining Lease has been granted by Tahasildar, Chikiti & successful bidder is Tahasildar Chikiti, Ganjam.

7. Mining Plan was approved by Joint Directorate of Geology South Zone, Berhampur, letter No. 814/SZ, Dtd. 25.08.2021.

8. This is a new mine. Mining lease is an identified sairat source in the DSR page No.- 102, Para Serial No.- 234, Map location page No.- 156

9. **ToR details**: The ToR was issued by SEIAA, Odisha vide proposal letter No. 3673/SEIAA, Dtd. 27.12.2021.

10. **Public hearing details:** Public hearing was held on Dtd. 15.03.2023 over Govt. land having plot No.- 660 & 796 in Mouza Jagannathpur under Chikiti Tahasil, Ganjam District. Issues raised during the public hearing are environmental protection, air pollution, control blasting, local employment, plantation and availability of raw materials at cheaper price. A total of Rs. 3,50,000 is allotted for the action plan of public hearing.

11. **Location and connectivity** The mine lease area is located in Khata No- 897, Plot No- 1,2, 3 & 4, At- Girisola, under Chikiti Tahasil of Ganjam District with geographical coordinates bearing Latitude: 19° 10' 30.7"N To 19° 10' 46.6"N Longitude: 84° 42' 26.0" E To 84° 42' 49.9" E with Toposheet No: 74A/12, 74/A/16, Kisam-Parabat, From the proposed site, nearest SH29 is 7.8 km, NH16 is 1.7 km, Airport Bhubaneswar is 187 km, Water Body is Ghodahad Dam- 48.8 km, RF- Mahulia Reserve Forest- 134 km, Biju Patanaik Setu, Jagapur Road - 3.1 km, River Embankment- 9.2 km, Electric Transmission Pole- 1 km, Nearest village Girisola - 1.0 km.

12. The lease area doesn't come under DLC land and there are no other quarries within 500 metres of the site.

13. **Total reserves:** The total Geological Reserve is 83,05,258 cum and Mineable Reserve is 78,83,996 cum.

14. **Mining Method:** The proposed method is Opencast Semi Mechanised, Production capacity per annum is 5600 cum, Total production in 5 years is 28000 cum. Maximum mineable depth is 8.00 mRL as per the approved mining plan. Transportation will be through Dumper, Tipper & Tractor.

15. **Baseline study conducted:** Baseline Study conducted during 1st Dec 2021 to 28th Feb 2022

16. **Water requirement:** Total quantity of water requirement for the project is 20 KLD.

17. **Greenbelt Development:** A total of 250 saplings over an area 0.11 Ha. are proposed to be planted for the Proposed Site.

18. **Total Employment:** Total employment proposed is13 nos. of manpower for the project.

19. **Project Cost:** The estimated cost is ₹18 Lacs and Proposed EMP cost is 2 lakhs.

20. **Environment Consultant:** The Environment consultant **M/s Green Circle, INC, Vadodara, Gujrat.** with the proponent made a presentation on the proposal before the Committee.

21. The SEAC in its meeting **18-05-2024** decided to take decision on the proposal after receipt of the following from the proponent: The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Submit the satisfactory compliance report of the Specific ToR.	Specific ToR compliance report is enclosed herewith as **Annexure – A.**	Annexure – A is attached and complied.
2.	Detailed note on Magazine management, hiring agency, blasting frequency, and management of flying rocks.	Blasting will be carried out by third party explosive license holder on contractual basis but during the blasting the preventive measures taken for flying rocks enclosed herewith as **Annexure – B.**	Annexure – B is attached and complied.
3.	Layout of Garland drain, retaining wall, settling pit etc. and drainage map of that area.	There is no dump, so it is not applicable for the Garland drain, retaining wall, setting pit during the plan period. Drainage map of that area is given in Chapter-3, fig3-3 of EIA Report.	PP has not submitted and replied there is no dump in the lease area.
4.	Distance certificate of nearest habitation and water bodies/ Nallah.	Distance Certificate from Tahasildar is enclosed herewith as **Annexure – C.**	Annexure – C is attached and complied.
5.	Traffic study report vetted by reputed institute.	The road is connected to state high (SH-29) way at distance of 7.8 Km which is directly connected to quarry only, hence no traffic on the quarry road.	Traffic study report is not attached.

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

i) Traffic study report vetted by reputed institute.

ii) Layout of Garland drain, retaining wall, settling pit etc. and drainage map of that area.

ITEM NO. 10

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF BALAPADU QUARTZ & QUARTZITE MINES WITH PROPOSED EXCAVATION OF 54500 CUM/YEAR OF QUARTZ & QUARTZITE HAVING AN AREA OF 55.394 HA. LOCATED AT PLOT NO. 53/P&69/P OF KHATA NO.18, VILL-BALAPADU, TAHASIL- RAYAGADA, DISTRICT- RAYAGADA OF SRI BALAKRISHNA PADHY – TOR.

1. 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 the EIA Notification, 2006 and amendment thereafter.

2. This proposal is for Terms of Reference for Environmental Clearance of Balapadu Quartz & Quartzite Mines with proposed excavation of 54500 CUM/year of Quartz & Quartzite having an

area of 55.394 Ha. Located at Plot No. 53/P&69/P of Khata No.18, Vill- Balapadu, Tahasil- Rayagada, District- Rayagada of Sri Balakrishna Padhy.

3. **Category**: As per EIA notification 2006 and subsequent amendments, the project falls under item 1(a)-Mining of Minerals in the Schedule of EIA Notification, 2006 & Subsequent amendments thereof.

4. The Mining lease for Quartz & Quartzite Deposit over an extent of 55.394 ha of Village Balapadu Under Rayagada Tahasil of Rayagada District of Odisha, was originally granted to Tahasildar Rayagada for a period of 20 years Letter No 6451/SM/III(G)SM.15/06 dated 25.07.2007 The ML area period of concession from 2009-10 to 2028-29.

5. The Mining Plan of the Mining Project has been approved by Director of Geology, Bhubaneswar, Odisha vide letter no 298 dated 13.01.2016.

6. **Location and connectivity**: The lease area is bounded by Latitude: 19° 05' 56.0" N to 19° 06' 07.0"N Longitude: 83° 22' 08.0" E to 83° 22' 10.00"E. It is a part of area covered in the Survey of India Toposheet No. 65 M/8.The lease area is located at a distance of 12km from Rayagada town. The lease area is located at a distance of 59km from District head quarter. Rayagada town is the nearest place from the lease area .Rayagada is connected to the lease area by metal road at a distance of 8 km. The nearest railway station is at Rayagada Railway Station which is about 2.05 km from the mine lease area. The nearest airport is Visakhapatnam (Andhra Pradesh) Airport at 200 KMs from the mining site. Nearest Reserve Forest is Benakhamar reserve forest which is 65.1km away from the lease area.

7. There is no national park, wild life sanctuary, eco sensitive areas and industrial area situated within 10Kms radius of the lease area.

8. **Baseline study**:

Attributes	Parameters	Results
Ambient Air Quality	PM_{10}	61.69-69.3µg/cu.m
	$PM_{2.5}$	23.75-39.93µg/cu.m
	SO_2	5.3-10.46µg/cu.m
	NOx	8.99-16.27µg/cu.m
SurfaceWater Quality	PH	7.15-7.82
	TDS	244-293mg/l
	Sulphate	14.26-50mg/l
	Chloride	45.58-48.08 mg/l
Ground Water Quality	PH	6.91-7.84
	TDS	440-1024 mg/l
	Sulphate	42-92mg/l

Attributes	Parameters	Results
	Chloride	40-320mg/l
	Fluoride	0.63-1.40 mg/l
Noise Level	Day	55.2dBA
	Night	44.9dBA
Soil	pH	7.23-7.67
	Potassium	140 to 360
	Phosphorous	10.34-13.11mg/kg
	Nitrogen	112 – 318 Kg/Ha
	Electrical Conductivity	74 to 171 µs/Cm

9. **Mining method**: The mining of quartz will be done by open cast Semi- mechanized method for excavation & then loading into dumpers/ tractors/tippers for transport to the users' destination. The quarry will be mined for twenty years.

10. **Total reserves and production**: The average proposed rate of production is 54500Cu. m (max) per annum and a total production of 190500 Cu.m in the plan period. As estimated mineable and geological reserve of the proposed project is 77,96,880 cum and 1,06,53,747 cum respectively.

Year	Cross Section	Cross section area (m^2)	Length of influence (m)	ROM (m^3)	Waste vol. 15% of ROM (m^3)	Saleable stone volume 85% of ROM (m^3)
2019-20	Lapse period.					
2020-21	Lapse period.					
2021-22	Lapse period.					
2022-23	Lapse period.					
2023-24	DD'	127	200	25400	3810	21590
	EE'	145.5	200	29100	4365	24735
G.Total	------	----	-----	54500	8175	46325

11. **Water requirement**: The total water requirement will be approximately 5 KLD for different purposes like domestic, Dust suppression, plantation purposes. Water will be withdrawn from tube wells from nearby village.

12. **Greenbelt**: Plantation will be raised along both sides of the roads, available vacant spaces and in the lease area. It is proposed for planting 150 nos. of saplings per annum by the lessee in the lease boundary and village approach roads which is to be undertaken in consultation with the concerned authority.

13. **Manpower requirement**: There will be generation of employment for 100 persons. Out of which, 23 nos.are skilled, 28 nos. semi-skilled & 44 nos. unskilled and 5 supervisors.

14. **Project cost**: Total cost of the project will be ₹ 30 Lakh.

15. **Environment Consultant**: The Environment consultant **M/s Green Circle Inc. Gujarat** along with the proponent made a presentation on the proposal before the Committee

16. The SEAC in its meeting held on dated 12-06-2023 decided to take the decision on the proposal after receipt of the following from the proponent:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Details of mining method along with slope, body of mining and presence of forests without causing any disturbance to the ecological balance of the area.	Semi-mechanized method of mining will be proposed with a regular benching pattern of 6m x 6m and slopes of sides at 45^0. There is no plant growth within the mining area ha. approved by director of mines.	-
2.	Stripping ratio along with photos of mineralization.	Stripping ratio is 1:0.17 and copy of photos of mineralization is attached as **Annexure-I.**	-
3.	Details of mining method to be used.	Semi-mechanized method of mining having bench pattern 6m x 6m on the ore zone, will be maintained as per approved mining plan.	-
4.	Approved DSR with inclusion of identified sairat source in it.	Quartz and Quartzite is not included in DSR.	-
5.	KML file shows the site is full of vegetation. Certificate from concerned DFO that proposed quarry is not part of DLC land.	Certificate from concerned DFO is attached as **Annexure-II.**	The proposed quarry is not included in DLC land as certified by DFO.
6.	Lease documents of Steel and Mines Department, Govt. of Odisha.	Lease document is attached as **Annexure-III.**	The M.L has been granted by Steel and Mines dept. vide letter no. 6451 dated 25-07-2007 in favour of Balakrishna Padhy for twenty years subjected to conditions laid down in the State Government Letter No. 7285/SM dt.04.05.06.

- Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Green Circle Inc. Gujarat**, the SEAC prescribed the standard ToRs as per **Annexure – E** for conducting detailed EIA study with following specific conditions:

  i) Copy of Steel and Mines Department, Govt. of Odisha letter No. 7285/SM dt.04.05.2006 lease granted in favour of lessee till 2027.

  ii) The proponent shall submit copy of approved DSR incorporating the present lease area at the time of application for final appraisal for grant of Environmental Clearance.

ITEM NO. 11

PROPOSAL OF AMENDMENT ENVIRONMENTAL CLEARANCE OF M/S. JINDAL STAINLESS LIMITED FOR JINDAL CHROMITE MINES (ML AREA 89.00HA) LOCATED IN THE VILLAGE KALIAPANI, TEHSIL-SUKINDA, DISTRICT-JAJPUR OF SRI SABYASACHI MOHAPATRA – MOD EC

1. This proposal is for amendment Environmental Clearance of M/s. Jindal Stainless Limited for Jindal Chromite Mines (ML Area 89.00ha) located in the village Kaliapani, Tahasil-Sukinda, District - Jajpur of Sri Sabyasachi Mohapatra.
2. **Category**: As per the EIA notification 2006, and its subsequent amendments, proposed project falls in category B under schedule of Item 1(a) Mining of Minerals.
3. **Statutory clearance details:**

Sl. No.	Approval	Letter No	Valid till
i)	Mining Plan Approval	BBS/JJP/CR/2174/MPM/2022-23 , Date:17.08.2022	31.03.2026
ii)	Environment Clearance approval	EC22B001OR115726, date:04.04.2022	03.01.2052
iii)	Forest Clearance approval	8-68/2000-FC, Date:20.04.2023	03.01.2052
iv)	Consent to Operate	5413 IND-I-CON-2562 , Date:31.03.2023	31.03.2024
v)	CGWA permission for drawl of water for 48 KLD for domestic consumption	CGWA/NOC/MIN/REN/1/2023/7562 Date:28.03.2023	22.02.2025
vi)	DGMS permission for CBM	180050/SEZ/BBSR Region/Perm/2022/ 238108 , Date:06.06.2022	Till completion of CBM

4. **Amendment justification**: Amendment is sought for incorporating opencast mining operation and allied activities in the 7.5 mtr. of Safety Zone area inside JSL lease (sharing Common Boundary between JSL and TSML) in addition to the opencast mining. It may be noted that the mining will be restricted within JSL lease hold area only. Due to the above said operations there will be no change in production capacity and no change/ increase in Mining Lease area and hence; no increase in pollution load. JSL has made MoU with TSML and BAL for Common

Boundary mining in the Safety Zone area of JSL, for which DGMS permission and Mining Plan approval from IBM have already been obtained. Hence the project proponent proposes to carry out Mining operation and allied activities in the 7.5 mtr. Safety Zone area, inside JSL Lease near common boundary with TSML (i.e. Western boundary of JSL and Eastern boundary of TSML) along with existing provision of common boundary mining with BAL as well as development and production from Quarry 1 & 2 in line with the approved Mining Plan and EC. As per the present approved Mining Plan the total Mineable Reserve is 3.81 Million Tonnes as on 01.04.2022. Around 0.6 Million Tonnes of Chromite Ore is locked up in the benches within 7.5 m of safety zone of mine lease area, which can be extracted by the JSL. Therefore, the company is requesting for the amendment in the Existing Environmental Clearance dated 04.04.2022.

5. **Mine lease**: The mining lease over 89.00 ha. in village Kaliapani & forest block - 27 for chrome ore was executed on 4.1.2002 for 20 yrs i.e. from 4.1.2002 to 3.1.2022. As per section 8A (3) of MM(D&R) Amendment Act 2015, the lease period has been extended for a period of 50 yrs i.e. up to 03.01.2052 (with effect from 04.01.2002) and the supplementary lease deed for extended period has been executed on 08.06.2022.

6. **Mining/Project details**: Mining shall be carried out within 7.5m of the boundary (common with TSML) as per the MOU signed with between M/s. Tata Steel Mining Ltd. (TSML). For this all necessary regulatory approvals to excavate locked up Chromite Ore have already been obtained. TSML & JSL will abide by the guidelines and conditions laid down by the regulatory authorities.

7. Permission under Regulation 111(3) of the Metalliferrous Mines Regulations, 1961 to work within 7.5m of the common boundary between Sukinda Chromite Mine of TSML and Jindal Chromite Mine of JSL has already been obtained from Directorate General of Mines Safety, (DGMS) vide letter no. 180050 SEZ Bhubaneswar Region, Perm/2022/238108 dated 06.06.2022, along with approved Mining Plan by Indian Bureau of Mines.

8. **Location and connectivity:** Jindal Chromite Mine is located at village Kaliapani, Sukinda Tehsil, Jajpur District, Odisha. The Mining Lease falls within the Latitude – 21^0 01' 04.39824" to 21^0 02' 03.53184" (N) & Longitude – 85^0 45' 18.17352" to 85^0 46' 31.69704" (E). It falls on Survey of India Topo Sheet No - F 45 N16.The nearest rail head is TOMKA, which is about 30 km from the Mine lease area. National Highway (NH-200) passes at a distance of 30 km from the lease area; Jajpur district head quarter is about 85 km from the area.

9. **Topography**: The Chromite lease area of JSL is situated in Sukinda valley, with Mahagiri hill range on the southern side is largely covered with alluvium and thick horizons of laterite. The valley lies between the Mahagiri hill (707.69 m) on the south side and Daitari range (782.42 m) on the north side .The area exhibits peneplained topography, marked by linearly disposed mounds of low relief .The maximum elevation in the area is 310 MRL on the southern side, while the minimum elevation is 116 MRL on the north-west portion of the area .The overall slope of the area is from SE to NW.

10. There is no national park, wild life sanctuary, national monuments or places of interest for tourist existing in the lease hold area as well as in buffer zone, as per DFO ,Cuttack Forest Division vide memo no. 2198 dated 27.4.2010.

11. **Reserves**: Total Mineral Resource (Geological Reserve & Resources) is 11.246 Million tonnes and Minable Reserve is 3.8157 Million tonnes.

12. **Production Capacity**: As per existing Environment Clearance (EC22B001OR115726 date 04.04.2022 by SEIAA, Odisha) production capacity is 0.215 MTPA along with 60000 TPA from COBP.

13. **Proposed Mining Method**: The existing opencast mechanised mining method shall be continued for Common Boundary Mining in the safety zone area in Band – 1 (Quarry -1) with M/s Tata Steel Mining Limited & M/s Balasore Alloy Limited. Mining in Quarry-1 and Quarry-2 within the ML area shall continue, additionally.

Band- 1 (Quarry – 1)

- Mining shall be carried out in safety zone area on a common development programme with adjacent mine of Tata Steel Mining Limited & Balasore Alloy Limited. Both lessees (M/s TSML & M/s JSL) have obtained the permission from concerned regulatory authorities.
- The ore will be excavated in safety zone along common boundary, following safe and scientific mining method keeping in view the conservation and optimum utilisation of minerals.
- The depth of working in Safety Zone area along Common boundary adjoining with M/s TSML will be up to 25 mRL and top being at 140 mRL will be depressed by 115 m.
- The depth of working in Safety Zone area along Common boundary adjoining with M/s BAL. will be up to 32 mRL and top being at 140 mRL shall be depressed by 108 m
- There is no top soil in the proposed mining area. However, if top soil is found elsewhere during the course of mining, will be stored and used for plantation purpose.

Band VI (Quarry – 2)

- The floor of the quarry has reached the 122 mRL.
- As per Modification of Mining Plan, mining will be carried out till the ultimate Pit Limit is reached by opencast method of mining. Backfilling and reclamation will be done once the UPL is achieved, with overburden/waste generated from Quarry-1 and Quarry-2 during process of mining.

14. **Existing mining method:**

Sl. No.	Particulars	Band – I (Quarry-1) (Common boundary mining with TSML & BAL)	Band VI (Quarry -2)
i)	Method of mining	Open cast mining : Fully Mechanised	Open cast mining : Fully Mechanised
ii)	Type of ore	Friable chromite ore with intermediate waste and overburden comprising of laterite , silicified	Lumpy chromite ore with intermediate waste and overburden comprising of

		chert and ultramafics etc.	Quartzite and ultramafics etc.
iii)	Means of raising	Excavator and dumper combination	Excavator and dumper combination
iv)	Bench height and width	Height of the benches are maximum 8m each with minimum 8 m width	Height of the benches are 8m each with width 12m
v)	Overall slope angle	$< 35^0$	$< 35^0$
vi)	Size/co-ordinate/floor mRL	Present Quarry-356m X 305 m /E-371806,S-2325734,Top 153 mRL& bottom 57 mRL. Back filled area – 280 m X 230 m/558S to 850S – 800E to 1120E,Top 160 mRL& bottom 70 mRL The common boundary mining will be done from 140 mRL to 25 mRL with TSML and from 140mRL to 32mRL with BAL.	Present Quarry – 305 m X 370.5 m/ E-372505, S-2324908, top 305 mRL& bottom 122mRL.

15. **Water requirement:** Total water required for the proposed project is 815 KLD (48 KLD = ground water + 767 KLD = Mine quarry accumulated water).

16. **Power requirement:** For the proposed project, power requirement is 650KVA.

17. **Manpower:** 395 nos. of persons will be employed for the proposed project

18. **Project cost:** The project cost is Rs. 1900 lakhs. This is not a green-field project. So, 1% of the capital investment has been estimated towards CER and Rs. 19.00 lakhs per annum will be spent.

19. The proponent made a presentation on the proposal before the Committee on 13.06.2023.

20. The SEAC in its meeting held on dated **13.06.2023** decided to take the decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
i)	Submit the Forest clearance to carry out mining in safety zone and further plan for compensation for any kind of damage to the environment.	Enclosed the approval copy Forest Clearance U/s. 2 (ii) of Act, 1980 to MoEF & CC, New Delhi vide letter no 8-68/2000- FC(pt.), date: 20.04.2023 (Enclosed as	Copy submitted

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		Annexure - 1) MoEFF & CC has accorded the approval for diversion of 66.20 ha, including safety zone area of 1.899 ha under section 2 (ii) based on the State Govt's recommendation vide FE-DIV-FLO-0115 2021, 15632/FE & CC, dat: 03.09.2021 **(the purpose of utilization of total forest area at apge no.6 of state Govt's recommendation, Enclosed as Annexure -2.)** Non forest Govt. land for compensatory afforestation against the safety zone of 3.141 ha (to be used for non-forestry activity), has been considered in the proposal. Additionally, 1.5 times of degraded forest land i.e. 3.0 ha against the 1.899 ha has been identified and considered for plantation while granting the Forest Clearance. It may be noted that the green belts on northern sides of ML will not be disturbed However, we will develop green belt, in phased manner over the entire 3.141 ha at the final stage of mining. This, along with the green belts of neighboring mining leases shall act as a shield to arrest propagation of fugitive materials, beyond the mining cluster.	
ii)	Approval copy from DGMS to carry out mining in safety zone.	Enclosed the approval copy of DGMS u/s 111(3) to carry out Mining to safety Zone vide letter no. 180050/SEZ/Bhubaneswar Regionn/perm/2022/238108, Date 06.06.2022 (Enclosed as **Annexure-3**)	Copy submitted

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
iii)	RL of ground water table during pre and post monsoon period to be reported along with RL of the surface of the mining site post mining as per the approved mining plan.	I. RL of ground water table during pre and post monsoon period is (Enclosed as **Annexure - 4)** II. RL of the surface of the mining site post mining as per the approved mining plan by Indian Bureau of Mines for the period 2022-2023 to 2025-2026 vide letter no. BBS/JJP/CR/2174/MPM/2022-23, date 17/08/2022 (Enclosed as **Annexure -5)**	Copy submitted
iv)	Level of chromium, manganese and other heavy metal elements in the ground water samples of the EIA study area.	Monitoring report of Ground Water sample of EIA study area carried out by NABL accredited laboratory and is Enclosed as **Annexure -6.**	Monitoring report of Ground Water sample is submitted.

21. The SEAC in its meeting held on dated **23-08-2023** decided to defer the proposal to next meeting as information submitted by the proponent requires more deliberation.

22. The SEAC observed that the existing opencast mechanised mining method shall be continued for Common Boundary Mining in the safety zone area in Band – 1 (Quarry -1) with M/s Tata Steel Mining Limited & M/s Balasore Alloy Limited. Mining in Quarry-1 and Quarry-2 within the ML area shall continue, additionally.

23. The SEAC opined that this is a policy matter need to be discussed jointly with M/s Jindal Stainless Ltd., M/s Tata Steel Mining Limited, M/s Balasore Alloy Limited, Steel and Mines Department, Govt. of Odisha and concerned official in Forest Department, Govt. of Odisha before going to take decision for amendment of EC.

After detailed discussion, the SEAC recommended to return the proposal to SEIAA, Odisha with a request that SEIAA, Odisha may consider to discuss jointly with M/s Jindal Stainless Ltd., M/s Tata Steel Mining Limited, M/s Balasore Alloy Limited, Steel and Mines Department, Govt. of Odisha and concerned official in Forest Department, Govt. of Odisha for taking decision for amendment of EC.

ITEM NO. 12

PROPOSAL OF AMENDMENT ENVIRONMENTAL CLEARANCE OF M/S BALASORE ALLOYS LTD, KALIAPANI CHROMITE MINES FOR "PROPOSAL OF COMMON BOUNDARY MINING AND COMMON BOUNDARY DUMPING WITH JINDAL CHROMITE MINES OF M/S JINDAL STAINLESS LIMITED IN VILLAGE KALIAPANI, TEHSIL SUKINDA, DISTRICT JAJPUR, ODISHA, IN ADDITION TO THE EXISTING ACTIVITIES VIZ. OPENCAST & UNDERGROUND MINING, MINING OF BLOCKED PILLAR IN OPEN PIT MINES & COMMON BOUNDARY DUMPING WITH M/S IMFA PRODUCING 0.6 MTPA OF CHROME ORE BY KALIAPANI CHROMITE MINES(ML AREA 64.463 HA) AT KALIAPANI DIST JAJPUR OF OF SRI A NAGENDRA KUMAR – MOD EC

Proceedings of the SEAC meeting held on 19.10.2024 (ADS Received – 12 Nos.)

Environmental Scientist, SEAC

This proposal is for Amendment Environmental Clearance of M/s Balasore Alloys Ltd, Kaliapani Chromite Mines for "Proposal of Common Boundary Mining and Common Boundary Dumping with Jindal Chromite Mines of M/s Jindal Stainless Limited in Village Kaliapani, Tehsil Sukinda, District Jajpur, Odisha, in addition to the existing activities viz. Opencast & Underground mining, mining of blocked pillar in open pit mines & Common Boundary Dumping with M/s IMFA producing 0.6 MTPA of Chrome ore by Kaliapani Chromite Mines(ML area 64.463 ha) at Kaliapani Dist Jajpur of of Sri A Nagendra Kumar.

2. **Category:** As per the Environmental Impact Assessment (EIA) Notification dated 14th September 2006, the proposed enhancement of chromite ore production by mining falls under **'Category B'** of project type 1(a)-Mining of Minerals.

3. The Govt. of Odisha has issued Terms & Conditions that would govern the grant of mining lease of 100.063 Ha vide their letter no VI-SM-108/99-3927/SM dated 24/5/1999. Further Govt. of Odisha has split up the total area of 100.063 Ha into two leases viz 64.463 Ha (Non-Forest area), 35.6 Ha (forest area) vide letter No 1864/SM BBSR Dt 16/02/2000. The Mining Lease Deed of 64.463 Ha was executed vide Lease Deed dated 17.07.2000. Lease Deed was further modified on 01.01.2008 for change of name from Ispat Alloys Ltd. to Balasore Alloys Ltd.

4. **Terms of Reference details**: ToR was issued by MoEF & CC Vide No . J-11015/139/2012-IA-II (M) dated 11th October, 2012 for an annual production capacity of 0.6 MTPA of Chrome ore by opencast and underground including mining of blocked pillars in open pit mines by drift and fill mechanized mining method

5. Environmental Clearance for the project has been received from Ministry of Environment, Forests & Climate Change (MoEF&CC), Govt. of India, New Delhi with an annual production capacity of 0.6 MTPA of Chrome ore by opencast and underground including mining of blocked pillars in open pit mines by drift and fill mechanized mining method vide Letter No J-11015/139/2012-IA.II (M) Dated 22nd August 2014.

6. **Public hearing details**: As per the EIA Notification dated 14th September, 2006, Public hearing for this project was conducted on 4th April, 2013 at 11:00 AM in the Open place over Khata no. 55, Plot no. 888 of Kaliapani village in front of main gate of M/s Blasore Alloys Ltd. in accordance with the procedure to obtain the Environmental Clearance.

7. **List of Statutory clearances obtained earlier**:
   - Environmental Clearance for the project has been received from Ministry of Environment, Forests & Climate Change (MoEF&CC), Govt. of India, New Delhi with an annual production capacity of 0.6MTPA of Chrome ore by open cast and underground including mining of blocked pillars in open pit mines by drift and fill mechanized mining method vide Letter No J-11015/139/2012-IA.II (M) Dated 22nd August 2014 .
   - Consent to Establish(CTE) has been obtained for production 0.06 MTPA chrome ore with open cast and underground including mining of blocked pillars in open pit mines by drift and fill mechanized mining method vide No 16196/IND-II-NOC-5723 date 08/10/2017
   - Consent to Operate (CTO) was obtained for production of 0.6 MTPA Chrome Ore form State Pollution Control Board, Odisha vide No 3749/IND-I-CON-2576 date 28.03.2018 valid upto 31.3.2023.

- Mine operation is under suspension since 22.6.2022
- Scheme of mining has been modified and approved by Indian Bureau of Mines, Govt. of India vide letter No BBS/JJR/CR/2169/2022-23 dated 03.06.2022 .
- Stage –I Forest Clearance was accorded by MOEF & CC for this mining project vide No F.No.8-14/2016-FC dated 18th November,2016 and approval of Stage-II order is under consideration with MoEF&CC.

8. **Forest clearance status** : The ML area is of 64.463 ha is of Non- Forest Land Kisam as per lease deed. However, in view of MoEF guidelines, vide No. 8-78/1996-FC(pt) dated 10.3.2015 and subsequent Circular dated 30.3.2015 issued by State Govt. certified Land Schedule vide letter No. 2899, dated 30.10.2015 out of 64.463 ha ML area, 64.119 ha was classified as Sal Jungle i.e., Forest Kissam as on 25.10.1980 and balance 0.344 ha as road(Non-Forest). Stage-I Forest Clearance was accorded by MOEF & CC for this mining project vide No F.No.8-14/2016-FC dated 18th November,2016 and approval of Stage-II order is under consideration with MoEF&CC.
9. Scheme of mining has been modified and approved by Indian Bureau of Mines, Govt. of India vide letter No BBS/JJR/CR/2169/2022-23 dated 03.06.2022.
10. **Project details**: the proponent has applied for amendment of existing environmental clearance vide no Vide No J-11015/139/2012-IA.II (M) Dtd.22.8.2014 for production of 0.6 MTPA for the proposal of common boundary dumping and mining with Jindal Chromite Mines of M/s Jindal Stainless Ltd in addition to existing opencast, underground, Boundary pillar Mining and Common Boundary Mining and Dumping with M/s IMFA.
11. **Location and connectivity**: the propose project site is located at village - Kaliapani, Tehsil – Sukinda of district Jajpur in the state of Odisha bearing topo sheet no 73 G/12, G/16, H/9, H/13 bounded by Latitude N 21°02'9.82" to N 21°01'33.05" and Longitude : E 85°45'29.24" to E 85°46'28.24".Nearest SH-20 (25 km in ESE direction); NH–200 (23 km in South direction); NH–215 (38 km in East direction); and NH–5 (62 km in SE direction). Nearest railway station is Jajpur-Keonjhar Road (52 km, SE). Nearest airport is Bhubaneshwar Airport (150 Km, South). There are totally 13 operating chromite mines in Sukinda valley. In addition to the existing BAL mine, Eleven opencast mines and Two underground mine (FACOR-Kathapal & Mahagiri,IMFA) in Sukinda valley. Some of the mines has been operating since 1960/1980.
12. **Method of Mining**: Opencast and underground mining method along with boundary pillar Mining, common Boundary mining with M/s IMFA an M/S JSL shall be carried out by engaging Tripper, Dumper, Loader, Excavator, Road Header, Belt Conveyor etc. as per approved Mining Plan . Transportation shall be carried through road.
13. **(Dump) management:**

SL. No.	Dump ID	Dump status	Type of Dump	Total Dump Quantity (MT)	Area covered by Dump (Ha)	Height (M)
1	Dump -1	Active	OB	4418374	13.500	79
2	Dump-2	Active	OB	1045259	5.945	37
3	Dump - 3	Active	OB	5429463	14.880	65

TOTAL	**10893096**	**34.325**	

14. **Waste generation and management:**

Sl. No	Waste details	Management
1	Overburden	Dumped at earmarked Place with arrangement of Garland drain, Toe wall, plantation and coir matting
2	COBP tailing	Collected through Dumper and Stacked at earmark place with adequate measure
3	ETP Sludge	Disposed to Common TSDF at Sukinda
4	Used Oil	Disposed to SPCB Authorized vendor
5	Oil Contaminated Waste	Disposed to SPCB Authorized vendor
6	Waste Water from mine /domestic waste water	Treated in existing ETP and STP respectively. Treated effluent is partly used and rest is discharged to outside.

15. **Water requirement**: Water Requirement of Mines will be 360 KLD, which will be sourced from One bore well and Mine Dewater.
16. **ETP/STP details**: Effluent treatment Plant of 750 KLH capacity has been installed for treatment of Mine water and STP of 50 KLD capacity installed for Treatment of Domestic waste water.
17. **Power requirement**: Power requirement for the proposed project is 1300 KVA (1040 KW) LT 415 V AC and the unit has 6.0 KW solar system in mines.
18. **Greenbelt**: 80540 nos. of saplings planted at dump slope, roadside inside ML area since 2010-11. Green belt has been developed over 0.17 ha of safety zone area.
19. **Rain Water Harvesting Details** – Two nos. of Roof Top rain water harvesting structure has been planned and one is being completed and another structure is ongoing. It is calculated to recharge at least 5,000 m^3/year of water to be recharged to the underlain fractured aquifer through rooftop rainwater harvesting structure. Thus, the total quantum of annual recharge is expected to be around 46,000 m^3/annum
20. **Project cost**: Estimated cost of the proposed project is 529 Crore. EMP Capital cost is 500.26 Lakh and Recurring Cost is 580.00 Lakh. CSR Cost is Rs 80 Lakh/Annum as proposed.
21. **Environment Consultant**: **M/s Balasore Alloys Ltd.** made a presentation on the proposal before the Committee.
22. The SEAC in its meeting held on dated **20-10-2023** decided to take decision on the proposal after receipt of the following from the project proponent: The proponent has furnished the compliance and the SEAC verified the same as follows.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Specific permission to be obtained from MoEF&CC, Govt. of India for modification in the conditions mentioned in the EC and also to carry out mining activity in the safety zone.	Environmental clearance vide No. J-11015/139/201-1A.II (M) dated 22nd August 2014 was issued based on the EIA EMP report prepared based on approved mining plan in which it is mentioned in the same report that as the mines is located within cluster of mines such as lese of Sukinda Chromite Mines of M/s. IMFA on the East, Jindal Chromite Mines of M/s. Jindal Stainless Ltd (JSL) on west & in south Ispat Sukinda Chromite Mine of M/s. Balasore Alloys Ltd. As per para 4.7 of guidelines of EC Act-1980, the safety Zone of 7.5 m width all around the lease boundaries should be maintained. At para 4.7 (ii) "which inter alia says that in case of cluster of mines, the outer boundaries of cluster should be taken as Safety Zone & its maintenance cost has to be borne proportionately by the lessee operating the cluster" In north side of the Lease area with tree growth is maintained as safety zone with 7.5 m width and total area comes to 0.17 ha except limited area used for entry to the ML area. Copy of EIA/EMP report attached as Annexure-1 refer page no 13,67,68.540-541. Ministry has accepted the proposal and issued Environmental clearance (copy attached as **Annexure-2**)	-
2.	Copy of Environmental Clearance wherein it has been indicated that the mine has common boundary with M/s. Indian Metals and Ferro Alloys Ltd. (IMFA)	It has been indicated about common boundary dumping and mining with M/s. IMFA in the final EIA/EMP report submitted at MoEF & CC (Copy attached as Annexure-1) and based on which Environmental Clearance vide No. No.J-11015/139/2012-IA.II (M) dated 22nd August.2014 was issued.	-
3.	Approval letter from DGMS	Copy of letter from DGMS regarding	-

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	regarding mining in the safety zone as well as at the common boundary with M/s. Jindal Stainless Ltd to avoid collapse of the adjacent mining benches.	mining in the safety zone as well as the common boundary with M/s. Jindal Stainless Ltd to avoid collapse of the adjacent mining benches is attached as **Annexure -3.**	
4.	Details of greenbelt development and proposed plan for the plantation programme.	Detail greenbelt plan for the Mines is attached as **Annexure-4.**	-
5.	Copy of earlier EIA/EMP report submitted during grant of Environmental Clearance wherein it has been allowed to share common boundary for dumping of Over Burden.	Copy of earlier EIA/EMP report submitted during grant Environmental clearance wherein it has been allowed to share common boundary for dumping of over burden is attached as **Annexure-1.**	-
6.	Submit permission copy from MoEF&CC to carry out mining with M/s. Indian Metals and Ferro Alloys Ltd. (IMFA)	Environmental clearance (Annexure-2) was accorded by MoEF & CC based on EIA/EMP report submitted incorporating Common boundary mining and dumping with M/s. IMFA Same has been also accepted by the EC division, MoEF & CC during Forest advisory committee meeting held on 26th October,2016 copy of MOM of EAC meeting (attached as **Annexure-5** para sl 34,35.36 to refer) based on which Stage-1 approval was accorded (copy of stage -1 attached as **Annexure-6**)	-
7.	Clarify that proposed mining activity will not be carried out over any existing earmarked OB Dumps area.	It can be revealed from the surface plan attached as **Annexure-7** and Google image of the area (**Annexure-8**), that, there is no existing dump at proposed area for common boundary dumping and mining on safety zone with Jindal Chromite Mines of M/s. Jindal Stainless Limited.	-
8.	Copies of all the statutory clearances obtained.	Copies of all statutory clearance viz CTE, CTO, DGMS permission for common boundary mining an dumping with Sukinda Chromite Mines of M/s. IMFA and Jindal Chromite Mines of M/s.	-

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		Jindal Stainless Limited, Stage -1 Forest Clearance area attached as **Annexure-9.**	
9.	Clarify that there should be no dump along the mining area.	Dumping shall be done as provision in the approved mining plan as per same no dump exist at the common boundary are with Jindal Chromite Mines of M/s. Jindal Stainless Limited in Village Kaliapani, Tehsil Sukinda, District Jajpur, Odisha. Dumping shall be started only after obtaining all permission form all authorities.	-
10.	Copy of analysis report of Hexavalent chromium levels in the ground water samples collected from within and outside the ML area.	Concentration of Hexavalent Chromium in the ground water has been monitored for one borewell inside Mine lease and several locations at the buffer zone of the mines engaging NABL accredited laboratory. Copies of same reports attached **Annexure-10.**	-

23. The SEAC observed that this is a proposal for Amendment of Environmental Clearance of M/s Balasore Alloys Ltd, Kaliapani Chromite Mines for "Proposal of Common Boundary Mining and Common Boundary Dumping with Jindal Chromite Mines of M/s Jindal Stainless Limited in Village Kaliapani, Tehsil Sukinda, District Jajpur, Odisha, in addition to the existing activities viz. Opencast & Underground mining, mining of blocked pillar in open pit mines & Common Boundary Dumping with M/s IMFA producing 0.6 MTPA of Chrome ore by Kaliapani Chromite Mines(ML area 64.463 ha) at Kaliapani Dist Jajpur of of Sri A Nagendra Kumar.

24. The SEAC opined that this is a policy matter need to be discussed jointly with M/s Jindal Stainless Ltd., M/s Tata Steel Mining Limited, M/s Balasore Alloy Limited, Steel and Mines Department, Govt. of Odisha and concerned official in Forest Department, Govt. of Odisha before going to take decision for amendment of EC.

After detailed discussion, the SEAC recommended to return the proposal to SEIAA, Odisha with a request that SEIAA, Odisha may consider to discuss jointly with M/s Jindal Stainless Ltd., M/s Tata Steel Mining Limited, M/s Balasore Alloy Limited, Steel and Mines Department, Govt. of Odisha and concerned official in Forest Department, Govt. of Odisha for taking decision for amendment of EC.

MEMBER SECRETARY, SEAC

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR M/S KORP RESOURCES PRIVATE LIMITED FOR PROPOSED EXPANSION OF TANTRA IRON ORE MINE (ML AREA: 72.560 HA.) FOR ENHANCEMENT OF IRON ORE PRODUCTION FROM 0.12 MTPA TO 0.24 MTPA ALONG WITH ESTABLISHMENT OF 1.0 MTPA THROUGHPUT BENEFICIATION PLANT AT VILLAGE - TANTRA & TENSA, BLOCK - KOIRA, DISTRICT - SUNDARGARH, STATE - ODISHA – EC.

(I) **Statutory compliance**

(i) This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.

(ii) The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations.

(iii) The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.

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

(v) This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the project.

(vi) Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board.

(vii) The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.

(viii) The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made thereunder in respect of lands which are not owned by it.

(ix) The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-I1013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease

Environmental Scientist, SEAC

area".

(x) The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.

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

(xii) State Pollution Control Board shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.

(xiii) The Project Authorities should widely advertise about the grant of this EC letter by printing the same m at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board and web site of the Ministry of Environment, Forest and Climate Change (www.environmentclearance. nic.in). A copy of the advertisement may be forwarded to the concerned MoEF&CC Regional Office for compliance and record.

(xiv) The Project Proponent shall inform the MoEF&CC/SEIAA, Odisha for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

(II) <u>Air quality monitoring and preservation</u>

(i) The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM_{10}, $PM_{2.5}$, NO_2; CO and SO_2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

(ii) Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM_{10} and $PM_{2.5}$ are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from ah sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the

Jnayak
Environmental Scientist, SEAC

standards prescribed by the MoEF&CC/ Central Pollution Control Board.

(III) Water quality monitoring and preservation

(i) In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEF&CC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

(ii) Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

(iii) Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

(iv) The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-a-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC / SEIAA, Odisha. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, SEIAA, Odisha, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.

JNayak
Environmental Scientist, SEAC

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

(vi) The project proponent shall construct retaining wall and settling pond within the lease area. Further, check dams shall be constructed at strategic locations in which rain water passes in rainy season. Finally, the excess supernanted after sedimentation shall be allowed to spill away through stone pitch structure to the nearby valley.

(vii) De-silting of agricultural lands in buffer zone and beyond including nearby Nalas/rivers perennially periodically and perpetually caused due to wash up of minerals/OB/dumps shall be done as per SOP submitted. A legal affidavit shall be submitted within 6 months from the date of issue of Environmental Clearance to this effect with periodicity of de-silting.

(viii) Detail design of the existing retaining wall and the proposed for the expansion from a chartered Civil Engineer shall be submitted within 6 months from the date of issue of Environmental Clearance to ensure that no silt after wash up is escaped from the core / buffer zone of the mines.

(ix) An area of 3.40Ha shall be kept for public use as pond and road. Hence, remaining 52.956Ha shall be planted during life of the mine in a phased manner i.e. within a period of 20 years.

(x) Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office, MoEF&CC annually.

(xi) Industrial waste water (workshop and waste water from the mine) should be properly collected and treated in an ETP as proposed so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

(xii) The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board.

(IV) <u>Noise and vibration monitoring and prevention</u>

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

(ii) The illumination and sound at night at project sites disturb the villages in

Environmental Scientist, SEAC

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

(iii) The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The worker engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

(V) Mining Plan

(i) The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.

(ii) The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.

(iii) The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-a-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerned Regional Office / SEIAA, Odisha.

(VI) Land reclamation

(i) The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan

Tripathy
Environmental Scientist, SEAC

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

(ii) The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

(iii) The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

(iv) The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

(v) The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha.

(vi) Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and topsoil / OB / waste dumps to prevent runoff of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.

(vii) Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the comers of the garland drains.

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

Jnayak
Environmental Scientist, SEAC

(ix) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

(VII) Transportation

(i) No Transportation of the minerals shall be allowed in case of roads passing through transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

(ii) The Main haulage road within the mine lease should be provided with a permanent water arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

(iii) Traffic management shall be done as per recommendation of Traffic Management Study Report.

(iv) The Project Proponent shall provide parking plaza for the heavy vehicles within the lease area as recommendation of NEERI.

(VIII) Green Belt

(i) The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

(ii) The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those

Jnayak
Environmental Scientist, SEAC

species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.

(iii) The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

(iv) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.

(v) And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

(IX) <u>Public hearing and human health issues</u>

(i) The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half-yearly basis.

(ii) A commitment in form of an undertaking for periodical occupational health checkup of the employee and the local people shall be done through an occupational health expert as per the detailed action plan submitted with the proposal within 6 months from the date of issue of Environmental Clearance.

(iii) The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not

Environmental Scientist, SEAC

to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.

(iv) The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x I4 inches and of good quality).

(v) The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities, (c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.

(vi) The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

(vii) Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.

Environmental Scientist, SEAC

(viii) The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing conducted on 09.11.2021 shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

(ix) Issues raised and recorded in proceedings of public hearing w.r.t. environment / pollution / CER shall be complied by the Mining Authority as per OM F. No. 22-65/2017-IA.III, dated 30.09.2020 of MoEF&CC, Govt. of India.

(X) <u>Corporate Environment Responsibility (CER)</u>

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

(ii) Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office / SEIAA, Odisha.

(XI) <u>Miscellaneous</u>

(i) The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.

(ii) 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.

(iii) The project proponent shall establish a solar power plant with 30KVA capacity within the lease area as proposed.

(iv) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MoEF&CC & its concerned Regional Office, SEIAA, Odisha, Central Pollution Control Board and State Pollution Control Board.

(v) A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.

(vi) The proponent shall comply all the specific conditions as recommended by CSIR-NEERI on carrying capacity study (as applicable) in time bound manner as proposed.

Jnayak
Environmental Scientist, SEAC

(vii) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

(viii) The project proponent shall augment infrastructure on drinking water, health care and education in nearby villages as per time bound action plan submitted.

(ix) The project proponent shall obtain permission from DGMS under 106(2b) to carry out blasting operation within the lease area.

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

(xi) Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Jnayak
Environmental Scientist, SEAC

ANNEXURE- B

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S JINDAL STAINLESS LIMITED FOR "KALIAPANI CHROMITE MINES" OVER AN THE MINING LEASE AREA OF 89.0 HA. IN VILLAGE - KALIAPANI, TAHASIL - SUKINDA, DISTRICT - JAJPUR OF SRI VANKA SHIVARAMAKRISHNA - EC.

A. SPECIFIC CONDITIONS:

1) Waste should be dumped on the earmarked sites within the mining lease area and no waste should be dumped outside the lease area.

2) The Project Proponent shall start the planation and cover at least 50% of the proposed area under plantation in the next 5 years. The density of the plantation should not be less than 2500 saplings/Ha. The species to be selected for the plantation should be in consultation with local forest department or any other expert agency engaged for the same. The Project Proponent shall keep the record of saplings planted, survival rate, area covered under plantation, location etc. In addition to this gap filling needs to be done to as and when require for maintaining the density of plantation. The PP shall submit the drone images of area before and after the plantation. PP shall carry out pilot study for phytoremediation of hexavalent chromium through IMMT, CSIR, Bhubaneswar. The budget earmarked for the plantation shall be kept in separate bank account and audited annually. PP shall submit the detail such as photographs (before & after with gee-location date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation and outcome of the pilot study etc. to the Regional Office of MoEF&CC, Bhubaneswar and SEIAA, Odisha before 1st July of every year for the activities carried out during previous year.

3) Approval/permission of CGWA/SGWA shall be obtained before drawing ground water for the project activities. State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.

4) The amount proposed under **Corporate Environment Responsibility (CER)** head should be kept in a separate bank account and should be audited annually. The PP should annually submit the audited statement and details of implementation of CER activities along with proof of activities viz. photographs (before & after with geo-location date & time), purchase documents, photographs & Geo-location of the infrastructures/facilities developed, etc. to the Regional Office of MoEF&CC, Bhubaneswar and SEIAA, Odisha before 1st July of every year for the activities carried out during previous year.

5) The amount (except occupational health) proposed under Environmental Management Plan (EMP) head should be kept in a separate bank account and should be audited annually. The PP should annually submit the audited statement and detailed environment monitoring report along with proof of activities viz. photographs (before & after with geo-location date & time), purchase documents, sampling reports, photographs& Geo-location of the infrastructures/facilities developed, details of persons engaged in Environment Management Cell etc. to the Regional Office of MoEF&CC, Bhubaneswar and SEIAA, Odisha before 1st July of every year for the activities carried out during previous year.

6) The amount proposed under Occupational Health plan head should be kept in a

Environmental Scientist, SEAC

separate bank account and should be audited annually. The PP should annually submit the audited statement and detailed environment monitoring report along with proof of activities viz. photographs (before & after with geo-location date & time), purchase documents, sampling reports, photographs& Geo-location of the infrastructures/facilities developed, details of persons engaged in Environment Management Cell etc. to the Regional Office of MoEF&CC, Bhubaneswar and SEIAA, Odisha before 1st July of every year for the activities carried out during previous year.

7) The Project Proponent shall set up an Environmental Management Cell comprises of persons having qualification and experience in the field of environment along with supporting staff. The details of the same needs to be submitted to the SEIAA, Odisha within 3 months of the grant of EC.

8) The project proponent shall give an undertaking by way of affidavit to comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2ndAugust 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors. before grant of ToR/ EC. The undertaking inter-alia include commitment of the PP not to repeat any such violation in future.

9) In case of violation of above undertaking, the ToR/Environmental Clearance shall be liable to be terminated forthwith.

10) 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.

11) State Government concerned shall ensure that mining operation shall not commence till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.

12) The Project Proponent shall implement the short term and long term measures proposed to be taken in order to get rid from the adversity of Cr (VI) contamination, needs to be implemented and status report of the same along with benefit occurred needs to be submitted to Regional Office of MoEF&CC, Bhubaneswar and SEIAA, Odisha annually.

13) The Project Proponent shall keep a record of each blasting viz. location, number of holes, delay assigned of each hole, explosive quantity of each hole, blasting pattern etc.

B. STANDARD CONDITIONS: (AS MINISTRY'S O.M NO 22-34/2018-IA.III DATED 8.01.2019 &16.01.2020)

Jnayak
Environmental Scientist, SEAC

Statutory compliance

14) This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.

15) The Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &Ors before commencing the mining operations.

16) The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.

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

18) This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.

19) Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.

20) The Project Proponent shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.

21) The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.

22) The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-1A. II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".

23) The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.

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

Jnayak
Environmental Scientist, SEAC

25) State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.

26) The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the

27) State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF&CC Regional Office for compliance and record.

28) The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

Air quality monitoring and preservation

29) The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM 10, PM2.5, N02, CO and S02 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

30) Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&CC/ Central Pollution Control Board.

Water quality monitoring and preservation

31) In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEF&CC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

Environmental Scientist, SEAC

32) Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six- monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

33) The Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

34) The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-a-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.

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

36) Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of

Environmental Scientist, SEAC

water recharged needs to be submitted to Regional Office MoEF&CC annually.

37) Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

38) The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

Noise and vibration monitoring and prevention

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

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

41) The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

Mining plan

42) The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management , O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt., in the form to Short Term Permit (STP), Query license or any other name.

43) The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and

Jnavak
Environmental Scientist, SEAC

verification.

44) The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-a-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerned Regional Office.

Land reclamation

45) The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.

46) The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

47) The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

48) The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

49) The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.

50) Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OBA/Vaste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.

51) Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and

Environmental Scientist, SEAC

its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

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

53) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

54) Slope study by an expert of repute of water dumps to be done and submitted within six months from the date of issue of EC to SEAC / SEIAA

Transportation

55) No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load.

56) The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

57) The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt- conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

58) Haulage road shall be developed and maintained perennially and perpetually by the proponent in construction with the concerned authority of the Govt. and to this effect, the proponent shall submit an undertaking in form of a legal affidavit

59) Traffic density study if not done by domain expert, then the expert to be ratified / authenticated by domain expert and submitted within a month time.

Environmental Scientist, SEAC

Green Belt

60) The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

61) The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.

62) The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

63) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-1 species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.

64) And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

Human Health Issues

65) The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half-yearly basis.

66) The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers

Environmental Scientist, SEAC

and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.

67) The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

68) The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.

69) The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

70) Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project

JNayak
Environmental Scientist, SEAC

related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.

71) The proponent shall implement the mitigative measures as suggested in the Study Report on effect of chromite mines to nearest human habitation.

72) Occupational health check-up shall be done by occupational health expert periodically for employees as well as nearby villagers.

Corporate Environment Responsibility (CER)

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

74) Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office.

Miscellaneous

75) The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC, Bhubaneswar and SEIAA, Odisha.

76) 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.

77) The project proponent shall install solar panel inside the mine to generate 5KW of power required for Administrative Building as proposed.

78) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEF&CC & its concerned Regional Office, Central Pollution Control Board and State Pollution Control Board.

79) A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC, Bhubaneswar and SEIAA, Odisha.

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

81) In pursuant to Ministry's O.M No 22-34/2018-IA.III dated 16.01.2020 to comply with the direction made by Hon'ble Supreme Court on 8.01.2020 in W.P. (Civil) No 114/2014 in

Jnayak
Environmental Scientist, SEAC

the matter Common Cause vs Union of India, the mining lease holder shall after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to other mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

82) The SEIAA, Odisha or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

83) Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

84) The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974. the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court and any other Court of Law relating to the subject matter.

85) Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Environmental Scientist, SEAC

ANNEXURE -C

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

A. Specific conditions

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

B. Standard conditions

1. A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the SEIAA, Odisha 5 years in advance of final mine closure for approval.
2. No mining activities will be allowed in forest area, if any, for which the Forest Clearance is not available.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Odisha.
4. No change in the calendar plan including excavation, quantum of mineral and waste should be made.
5. The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surfacpe 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

Environmental Scientist, SEAC

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

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

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

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

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

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

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

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

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

JNayak
Environmental Scientist, SEAC

parameters and allows only species adopted to that micro climate.

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

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

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

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

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

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

Jnayak
Environmental Scientist, SEAC

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

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

24. Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.

25. Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

26. The project authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

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

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

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

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

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

32. Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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

Environmental Scientist, SEAC

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S EASTERN ESTATES CONSTRUCTION AND DEVELOPERS PVT LTD FOR EXPANSION OF "DIAMOND CITY, CUTTACK" IS A RESIDENTIAL APARTMENT WITH COMMERCIAL BUILDING ON A LAND MEASURING 2.86 ACRES (11556.61 SQ.M) WHICH IS LOCATED AT VILLAGE: PRATAPNAGARI, NUAGADA, DISTRICT: CUTTACK OF SRI SANJEEV KUMAR - EC

PART A - SPECIFIC CONDITIONS:

1. Consent to Establish / Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
2. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of fire fighting equipment etc. as per National Building Code including protection measures from lightening etc.
3. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
4. The project proponent shall ensure that the guidelines for building and construction projects issued vide this Ministry's OM NO.19-2/2013-IA.III dated 9th June, 2015, are followed to ensure sustainable environmental management.
5. The proponent shall obtain prior clearance from the Standing Committee of the National Board for Wild Life if the project will be located within any Eco-Sensitive Zone of Wild Life Sanctuary.

TOPOGRAPHY AND NATURAL DRAINAGE

6. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape and other Sustainable Urban Drainage Systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
7. The permission from competent authority will be obtained to discharge the excess storm water to drain if any. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially.
8. Permission for construction of drain alongside the adjacent NH under construction for allowing the proponent to discharge the treated waste water as well excess runoff water during monsoon from NH Authority shall be obtained. The construction of drains shall be synchronized with the completion of the construction of the Housing Project.

WATER REQUIREMENT, CONSERVATION, RAIN WATER HARVESTING, AND GROUND WATER RECHARGE

9. As proposed, fresh water requirement from ground water shall not exceed 256 KLD.
10. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed the quantity of water allotted to the project under consideration and the balance water available.

Jnagak
Environmental Scientist, SEAC

This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

11. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.
12. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
13. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.
14. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
15. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
16. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits of 10 nos. shall be provided.
17. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
18. The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.

SOLID WASTE MANAGEMENT

19. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
20. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
21. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. Adequate area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
22. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

Environmental Scientist, SEAC

23. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste generated from project shall be obtained.

SEWAGE TREATMENT PLANT

24. Sewage shall be treated in STP of capacity 350 KLD. The treated effluent from STP shall be reused for flushing, landscaping, floor & car washing.
25. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.
26. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
27. Separate large recharge pits shall be constructed inside the project area to accommodate the rainwater in case the housing project period and the CDP of the Govt. does not synchronize with reference to construction of road and drain.
28. No sewage or untreated effluent water would be discharged through storm water drains.
29. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
30. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
31. The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and "Nala" before commencement of any activity at the project site.

ENERGY

32. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
33. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.

JNayak
Environmental Scientist, SEAC

34. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 5% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Follow super ECBC requirement of ECBC 2017 and provide compliance report.

35. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

36. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.

37. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.

AIR QUALITY AND NOISE

38. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3-meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, morram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, morram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

39. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

40. **Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.**

41. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

Jwayak
Environmental Scientist, SEAC

42. For indoor air quality the ventilation provisions as per National Building Code of India shall be provided.

43. Ambient noise levels shall conform to residential standard both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

GREEN COVER

44. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m^2 of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed approx. 2889.15sqm (25% of total plot area) shall be provided for green area development.

TOP SOIL PRESERVATION AND REUSE

45. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

TRANSPORT

46. A comprehensive mobility plan, as per Ministry of Urban Development best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
    - Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
    - Traffic calming measures
    - Proper design of entry and exit points.
    - Parking norms as per local regulation

47. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project.

48. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

49. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

Environmental Scientist, SEAC

50. A dedicated entry/exit and parking shall be provided for commercial activities.
51. Barricades shall be provided around project boundary.
52. Speed of the vehicles shall be restricted upto 15 kmph by erecting speed bumps at regular intervals at project site and proper signage shall be provided for guided vehicular movement and speed restrictions.
53. Parking shall be prohibited on the access road to the proposed project site.
54. Footpath shall be seamless with sufficient width.
55. No vehicles shall be allowed to stop and stand in front of the gate on main access.
56. A buffer of minimum 10 m shall be maintained between the entry/exit gate and the road to avoid traffic congestion.
57. The Traffic Management Plan prepared by the proponent shall be duly validated and certified by the State Concerned Competent Authority and shall have also their consent before implementation.

ENVIRONMENT MANAGEMENT PLAN

58. An Environmental Management Plan (EMP) shall be prepared and implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.

OTHERS

59. Provisions 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.
60. A First Aid Room shall be provided in the project both during construction and operations of the project.
61. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
62. As per the MoEF&CC, Govt. of India Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. As per para 6(II) of the said O.M. appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire

Environmental Scientist, SEAC

activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

PART B – GENERAL CONDITIONS

1. A copy of the Environmental Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
2. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to the SEIAA, Odisha and MoEF&CC, Govt. of India and its concerned Regional Office.
3. Officials from the Regional Office of MoEF&CC, Bhubaneswar who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection.
4. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA, Odisha.
5. The SEIAA, Odisha reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
6. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
7. These stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.
8. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the SEIAA, Odisha. The advertisement shall be made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of MoEF&CC, Bhubaneswar.
9. 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.
10. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The

JNayak
Environmental Scientist, SEAC

clearance letter shall also be put on the website of the company by the proponent.

11. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

12. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC, Govt. of India by E-mail.

JNayak
Environmental Scientist, SEAC

TERMS OF REFERENCE (ToR) FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR BANKIA QUARTZ AND GEMSTONES MINES OVER AN MINING LEASE AREA OF 21.092 HA AT VILLAGE - BANKIA, TAHASIL- BIRAMAHARAJPUR, DIST-SONEPUR, ODISHA OF M/S MANIKESWARI MINERALS (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

Jnayak
Environmental Scientist, SEAC

of reporting of non-compliances / violations of environmental norms to the Board of 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 alongwith budgetary provisions for their conservation should be

Environmental Scientist, SEAC

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 (ease 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 PM_{10}, 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.

Environmental Scientist, SEAC

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,

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

Environmental Scientist, SEAC

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 genera! 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

Environmental Scientist, SEAC

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.

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 three years for submission of the EIA/EMP report, as per the O.M. No. J-11013/41/2006-IA.II (I) (Part) dated 29.08.2017.

Jwayak
Environmental Scientist, SEAC