

PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 05th NOVEMBER, 2022

The SEAC met on 05th November, 2022 under the Chairmanship of Sri. Sashi Paul. The following members were present in the meeting.

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

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 EXPANSION AND MODIFICATION OF PROPOSED “DEVELOPMENT OF AN AFFORDABLE HOUSING PROJECT OVER 20.21 ACRES OR BUILT-UP AREA 90111.25 SQM AT CHANDRASEKHARPUR, BHUBANESWAR WITH (G+4) RESIDENTIAL BUILDINGS” ” [PRIVATE DEVELOPER PROJECT] AT MOUZA-CHANDRASEKHARPUR, PLOT NO: 321 (P) KHATA NO. 619, BHUBANESWAR, DISTRICT - KHORDHA, ODISHAOF - M/S PARAMITRA SMART INFRA PRIVATE LTD OF SRI RAHUL CHOUDHARY – EC.

1. The proposal is for Environmental Clearance for Expansion and Modification of proposed “Development of an Affordable Housing Project Over 20.21 Acres at Chandrasekharpur, Bhubaneswar with (G+4) Residential Buildings” ” [Private Public Partnership] PP Project At mouza-Chandrasekharpur, Plot No: 321 (p) Khata No. 619, Bhubaneswar, District -Khordha, Odishaof - M/s Paramitra Smart Infra Private Ltd.
2. The project falls under category ‘B2’, 8 (a) Building and Construction project as per MoEF notification of 2006, as amended from time to time.
3. The land comes under Bhubaneswar Development Authority area. The site is located adjacent to the local landmarks, Buddha Jayanti Park and Lumbini Vihar. Total land required for this proposed project is 48359.98 sqm 11.95 Acres. Present Kism of land is U.Y.Yoga.

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4. The Proposed Construction of Affordable Housing Project will be over Plot No.: 321 (p) and Khata No.: 619 at Chandrasekharapur, Bhubaneswar, Dist- Khurda, Odisha has been approved by Bhubaneswar Municipal Corporation vide letter no. 11612 on dated 08/04/2019.
5. EC obtained for Plot Area 50694.96 m²(12.527 Ac.) Ground Coverage 18426.09 m² (36.3 % of the Total Plot Area) Total Built-up Area 88217.71 m² , Maximum Height of Building 17.5 meter. Total Nos. of Dwelling Units 2540 Parking Area (Open Parking) 8969.42 m²(10 % of the Total Built up Area) Area of internal Roads 16,366.27m²(32.2 % of Total Plot Area) Landscape Area 10654.89 m²(21 % of the Total Plot Area) vide SEIAA letter No 6155/SEIAA With File no. 75165/32-NCP/O5-2018 On dated 12/10/2018 along with CTE No:5214/IND-II-CTE-6302 On dated 30.05.2019.
6. **After getting the EC, the construction work has been started up to 50 % of the approved built up area at the project site as per building plan approved by Bhubaneswar Development Authority.**
7. Proposed Project Capacity
 - Plot area = 48359.98 sqm 11.95 Acres
 - Proposed Total Built-Up Area increases 88217.71 sqm to 90111.25 sqm.
 - Ground Coverage = Increase from 18426.09 sqm (36.3% of total plot area 50694.96 sqm) to 19126.76 sqm (39.5% of the total plot area 48359.98 sqm).
 - Max building height: 17.5 m
 - Total No. of Floors Proposed: EWS (G+4), MAC (G+2), NSC (G+2)
 - Total No. of Blocks Proposed: 64 EWS Block (62 nos. Block type 1 & 2 nos. Block type 2), 2 MAC & 1 NSC
 - Dwelling Units: 2600
 - Increase from earlier proposed 2540 units to 2600 units
8. **After getting the EC, the construction work has been started up to 50 % of the approved built up area at the project site.** . The land has been earmarked for construction of residential building as per Plan approved by Bhubaneswar Municipal Corporation.
9. The proposed site is located at Chandrasekharapur, Bhubaneswar, and Odisha. The Geographical co-ordinate of the project site is: Latitude - 20° 19' 15.23" N & Longitude - 85° 48' 12.66" E. The project site is well connected with Nandan Kanan road which take towards National Highway-16 (Kolkata-Chennai Road). Nandan Kanan road is 1.5 Km from proposed AHP site. The nearest railway station is Bhubaneswar Railway station at a distance of approx 7.4 Km in South East direction. The nearest airport is Biju Patnaik Airport at a distance of approx. 8.3 Km in South direction from project site.
10. The site is located adjacent to the local landmarks, Buddha Jayanti Park and Lumbini Convention. There is no structure or encroachments on the site. The site is easily accessible from Nandan Kanan Road.
11. Environmental Sensitivity

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Sl. No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location boundary
i)	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No	Not applicable, there is no such areas existing within 15 km buffer zone.
ii)	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Yes	Nuapalli PF- 0.17Km -S Bharatpur PF -0.62 Km -SW Jagannathprasad PF.- 2.15 Km -NNW Chandaka Reserve Forest-7.96 Km – NW Nandan kanan Zoo-7.33 Km-N Daspura RF-6.39 Km-W Bhola RF-7.24 Km-W Dalua PF-6.98 Km-NW Mendhasal RF-8.9 Km-SSW Kuakhai River-5.67 Km-E
iii)	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Yes	Nuapalli PF- 0.17Km -S Bharatpur PF -0.62 Km -SW Jagannathprasad PF.- 2.15 Km -NNW Chandaka Reserve Forest-7.96 Km – NW Nandan kanan Zoo-7.33 Km-N Daspura RF-6.39 Km-W Bhola RF-7.24 Km-W Dalua PF-6.98 Km-NW Mendhasal RF-8.9 Km-SSW Kuakhai River-5.67 Km-E
iv)	Inland, coastal, marine or underground waters	No	Not applicable
v)	State /National boundaries	No	Not present
vi)	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	YES	Nandankanan Road 1.5 km from the project site
vii)	Defence installations	No	Not applicable
viii)	Densely populated or built-up area		Bhubaneswar Approx. 7.5 km from the project site

Sl. No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location boundary
ix)	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Yes	Institute: <ul style="list-style-type: none"> • DAV Public School -1.5 Km-NE. • Koustav Institute of Technology - 2.6 Km - NE • College of Engineering, Bhubaneswar-2.5Km - NE • Bhubaneswar Medical Research Institute-1.4Km- E • Kalinga Hospital - 1.6 Km - SE • Hemlata Cancer Hospital-1.25 Km
x)	Areas containing important, high quality or scarce resources. (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)		Central Institute of Freshwater Aquaculture (CIFA) 14.78 km -S
xi)	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)		Mancheswar Industrial area 3.31 km - EEN
xii)	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	Yes	Earthquakes The site falls under the Zone III as per the Seismic Zone Map of India and is thus Moderate to lower damage risk zone. Adequate measures will be taken during the construction of the project. Cyclone Odisha state is prone to cyclone and other similar severe weather conditions. The building will be designed accordingly considering such extreme conditions. Flood The project will be designed adequately for taking care for seasonal

12. The width of the main entrance to the plot is more than 06 mtrs. If compound wall is constructed then the entrance gate shall fold back against the compound wall of the premises. If the main entrance at the boundary wall is built over, the minimum clearance shall be 05 mtrs.
13. The height of the proposed Residential Buildings (Block-Type-t & Type-2) will be 14.70 mtrs, proposed Multi-Purpose Amenities Center building will be 9.45 mtr and Neighbourhood Shopping Complex will be 9.6 mtr above the ground level.

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14. As observed from the plan 64 numbers of affordable housing projects, 02 numbers multi-purpose amenities centre and 01 number of neighbourhood shopping complex are proposed to be constructed in 03 patches. Provision of Open Spaces for individual blocks as shown in the plan varies between 02 to 04 mtrs. Besides, there is provision of 06 mtrs wide Open Space all around individual patches has been shown in the plan. But, as per Bhubaneswar Development Authority (Planning and Building Standards) Regulations, 2018, open space required around the individual blocks are as follows: -

15. Front-04 mtrs., Rear-03 mtrs., Left-2.5 mtrs., Right-2.5 mtrs

16. **Seismic Zone:** Zone- The project falls under seismic zone-III as per IS1893 (Part-1):2002 indicating Moderate to lower damage risk zone. The buildings will be designed as earthquake resistant and comply with the required IS specifications.

17. Area details

- **Area:** 11.95 Acres. (48359.98 sqm)
- **Purpose:** Affordable Housing Project at Chandrasekharpur.
- **Mouza:** Plot no. 321 (P), Khata No. 619, Chandrasekharpur.
- **Existing Approach Road:** 18M (North & South) & 45M (East).
- **Zone: Kisam:** Unnat Yogana Yogya
- **Total No. of Floors Proposed:** EWS (G+4), MAC (G+2), NSC (L.G+G+2)
- **Total No. of Blocks Proposed:** 64 EWS Block (62 nos. Block type 1 & 2 nos. Block type 2), 2 MAC & 1 NSC
- Total 9961.57 m² (20.6% of total plot area) has been provided.

18. Building Configuration

S. No.	Particulars	Area (in m2)
i)	Plot Area	48359.98 sqm 11.95 Acres
ii)	Total Built Up Area (Proposed)	90111.25 m²
iii)	Total Proposed Ground Coverage (39.5 % of the Total Plot Area)	19126.76 m ²
iv)	Landscape Area (21.5 % of the Total Plot Area)	10155.5 m ²
v)	Total Parking Provided (Open Parking 20.6 % of the project area)	9961.5742m ²
vi)	Road Area (Internal-6M) (19% of the total plot area)	9116.05 m ²
vii)	Maximum height of building	14.7 mt
viii)	Total No. of Dwelling Units	2600 Units
ix)	No. of Floors	Total No. of Floors Proposed: EWS (G+4), MAC (G+2), NSC (G+2)
x)	No. of Blocks	Total No. of Blocks Proposed: 64 EWS Block (62 nos. Block type 1 & 2 nos. Block type 2), 2 MAC & 1 NSC

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		NSC
xi)	Total Project Cost	Existing-95 Cr + proposed 95 Cr =190 Cr

19. The power supply shall be supplied by TPCODL, Bhubaneswar. The Maximum Demand Load is estimated at 3155 KW. There is provision of Power backup for this residential project which will be through 1X250 KVA. The proposed DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion
20. During construction phase, approx 10 KLD of water will be required which will be provided by private water tanker from the nearby suppliers. The waste water generated from human settlements will be collected in a septic tank and soak pits.
21. The daily fresh water requirement for total will be approximately 973 KLD which will be met through PHED. NOC for Water Supply & Sewerage connection to proposed **Affordable Housing Project” at Chandrasekharapur** for Economic Weaker Section of the Society over plot No. - 321 (P), Mouza - Chandrasekharapur, Bhubaneswar has been granted vide letter no. **10267 on Dated 06.09.2018** from Office of the Executive Engineer P.H. Division-II, Bhubaneswar.
- Total Fresh Water requirement is 973 m3/day.
 - Total Flushing Water requirement is 542 m3/day.
 - Total Water requirement is 1515 m3/day (fresh water + flushing water).
 - Waste water generate is 1213 m3/day.
 - Treated water recovered is 970 m3/day
 - Reuses of treated water 970 m3/day (during Dry Season) and during monsoon season 92 m3/day of surplus treated waste water discharge to nearest municipal drain.
22. The site comprises of approx. 10155 sqm of land as a green belt with open space and does not support any ecologically threatened vegetation. However, a multilayered peripheral greenbelt of native plant species will be developed, which will enhance the aesthetic value of the region and also provide an excellent habitat for various faunal groups.
23. Trees like Azadirachta indica, Cassia fistula, Terminalia arjuna, Butea monosperma etc. and flowering and ornamental plants have been proposed to be planted inside the premises. Parks will also be developed by the management. The suggested plant species consisting of large trees, small trees and green lands will be planted.
24. The solid waste of the Affordable Housing project will be segregated into biodegradable waste and non-biodegradable. Biodegradable waste and non-biodegradable waste will be collected in separate bins. The MSW and recyclable wastes will be handed over to Govt. authorized agency. Proper guidelines for segregation, collection and storage will be prepared as per Municipal Solid Wastes (Management and Handling) Rules, 2000 and amended Rules, 2016.
25. During the operation phase, waste will comprise domestic waste. The solid waste generated from the project shall be mainly MSW (Municipal solid waste) approx. 6903 kg/day, following

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arrangements shall made at the site in accordance to Municipal Solid Wastes (Management and Handling) Rules, 2000 and amended Rules, 2016.

26. The total biodegradable solid waste will be 2760 kg/day and total non-biodegradable solid waste will be 4141 kg/day. This will be collected in separate-colored bins. Proper waste management practices will be adopted during the collection, storage and disposal of the generated solid waste and construction and demolition waste.

27. Energy Conservation

➤ **SOLAR PANEL SIZING (IN KW) AND SOLAR POWER GENERATION**

- For energy conservation, there will be 75 nos. of Solar Lighting poles (@72 Watt)
- has been proposed for Street & common area solar lighting, so
- Energy conservation by using Solar Street Lighting = 75 x 72 = 5400 watt =5.4 KW
- Energy conservation by using Solar lighting for common area = 200 KW
- Total Energy Conservation= (200+ 5.4) KW= 205.4 KW
- Total Energy saving = 205.4/3155 = 0.0651 x 100 = 6.5 %

28. **Cost Detail: Existing- ` 95 Cr + proposed- ` 95 Cr = ` 190 Cr**

29. **EMP COST: Capital Cost: ` 188 Lakh & Recurring Cost= ` 5.55 (In lacs)**

30. The project proponent along with the consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** made a detailed presentation on the proposal on 30.08.2022.

31. The SEAC in its meeting held on 30.08.2022 decided to take decision on the proposal after receipt of certain information / documents from the proponent.

32. 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.	Self-certificate that no construction has been made in proposed four towers bearing number 5,6,7,8. Construction status of the original plan approved vis- a-vis the approved revised plan also.	A self-certificate is enclosed as Annexure-1 .
2.	Comparative matrix on relevant environmental parameters e.g.	A comparative statement between existing and proposed expansion in tabulated form w.r.t addition of 1 Block and removing of 2 no's of MAC & decrease in Road area, increase in parking as per BDA norms, change in greenbelt, design, drainage plan, renewable energy, parking, water consumption, waste water generation, solid waste generation etc. is

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent					
	impact on STP, Green belt, Fire tender roads etc on expansion. Whether existing system can accommodate the proposed expansion?	enclosed in Annexure-2 . Certainly the proposed expansion can be accommodated in the existing system.					
3.	Reduce discharge of treated water to drain by utilising in green belt plantation.	Total Fresh Water requirement is 992 m3/day. Total Flushing Water requirement is 579 m3/day. Total Water requirement is 1571 m3/day (fresh water + flushing water). Waste water generate is 1257 m3/day. Treated water recovered is 1006 m3/day Reuses of treated water 1006 m3/day (Zero discharge during Dry Season) and during monsoon season 91 m3/day of surplus treated waste water discharge to nearest municipal drain . Water balance diagram is attached as Annexure-3 .					
4.	Detailed calculation on solar energy existing and proposed.	For energy conservation, there will be 75 nos. of Solar Lighting poles (@72 Watt) has been proposed for Street & common area solar lighting, so Energy conservation by using Solar Street Lighting = 75 x 72 = 5400 watt =5.4 KW Energy conservation by using Solar lighting for common area = 200 KW Total Energy Conservation= (200+ 5.4) KW= 205.4 KW Total Energy saving = 205.4/3155 = 0.0651 x 100 = 6.5 %					
5.	Continuous greenbelt to be made. A detailed report and layout on green belt existing and proposed.	Total green area measures 10155.5 m2 will be developed (21 % of the Total Plot Area). Greenbelt of native plant species will be developed, which will enhance the aesthetic value of the region and also provide an excellent habitat for various faunal groups. Layout showing greenbelt plan is given in Annexure-4 .					
6.	Comparative statement for all physical features between existing and proposed expansion.						
			LAND USE BREAKUP	As per previous EC	PROPOSED		
		S. No.	Particulars	Area (in m2)	%	Area (in m2)	%
		1.	Plot Area	50694.96 m2		48359.98 m2	
		2.	Total Built Up Area	88217.71 m2		90111.25 m2	
		3.	Total Ground Coverage	18426.09 m2	36.3	19126.76 m2	39.5
		4.	Landscape Area	10654.89 m2	21.5	10355.5 m2	21.5
		5.	Total Parking	8969.42 m2	10	9761.5 m2	20.0
		6.	Road Area	16366.27 m2	32.2	9116.05 m2	19

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent					
		7.	Maximum height of Building	14.7 mt		14.7 mt	
8.	Total No. of Dwelling Units	2540		2600 Units			
COMPARISION BETWEEN BUILDING CONFIGURATION							
Sl.no.	Approved Covered area	As per previous EC		Proposed after modification		Under construction	To be construction
		No. Of DU	Area in m2	No. Of DU	Area in m2	Area in m2	Area in m2
1	Type-1	(62 blocks)		(62 blocks)			
	Ground to 4 th floor	40 units X 62 =2480 units	79855.816	40 units X 62 =2480 units	81924.32	31712.64	50211.68
2	Type-2	1 Block		2 Block			
	Ground to 4 th floor	60 units X 1 =60 units	1966.45	60 units X 2 =120 units	3965.6	1982.8	1982.8
3	Multipurpose Amenities	4 Nos.		2 Nos.			
	Ground to 2 nd floor	924.11 X 4	3696	896.47X 2	1,792.94	896.47	896.47
4	Neighbourhood Shopping Centre	1 No.		1 No.			
	Shopping (LG+G+2)		2223.18		2188.39	Nil	2188.39
5	Kiosk	4 nos		4 nos.		Nil	4 Nos.
	Ground floor		243.96		240	Nil	240
			87985.406		90111.25	34591.91	55519.34
Comparison statement for all other services & amenities are given in Annexure-2							
7.	Compliance Report to previous EC conditions duly certified by Regional Office, MoEF&CC, Bhubaneswar.	Request letter of Certified Compliance Report for Proposal "Environmental Clearance of Expansion with Modification of for proposed project & Receiving copy of Recent six monthly EC Compliance report is attached as Annexure-5 .					
8.	Structural stability certificate from NIT/ IIT with endorsement from BDA as per	Structural Stability Certificate is attached as Annexure-6.					

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	the bye laws of the BDA with reference to original approved plan and revised approved plan in view of increase in number of blocks.	
9.	Traffic study undertaken as stated be vetted and submitted with decongestion plan as & if necessary.	Traffic study report attached as Annexure-7 .
10.	The PP to submit sabik RoR with kisam, Hal RoR with kisam for the project area to rule out the involvement of Forest/DLC land.	Plot wise land schedule with kisam of land duly certified by concerned Tahasildar is attached as Annexure-8
11.	To submit a Fire Safety Certificate for the operating towers and utilities and Fire Safety recommendation for the remaining construction.	We have not completed any tower so far therefore submission of fire safety certificate for complete tower and utilities is not applicable. Few amendments have been done in Odisha Fire Prevention and Fire Safety Rules, 2017 (refer notification issued by Home Department, Govt. of Odisha vide notification no. No. 436, Cuttack, dated 06-mar-2019) wherein, building below 15 meters is not required obtain NOC from Fire Dept before commencement of the work. However, on completion of the buildings final operational shall have to be obtained after compliance of the laid down norms of the Fire Department. Please refer compliance of the laid down norms of the Fire Department. Please refer Annexure No -9 . However, for your reference please see enclosed Annexure no. 9A. Earlier obtained NOC from Fire Department
12.	To submit the plan for Ventilation, lightning and air conditioning of lift from lowest basement floor to terrace floor.	Not applicable as there is no provision of lift in the complex.
13.	Provision of solar power for the entire project	For energy conservation, there will be 75 nos. of Solar Lighting poles (@72 Watt) has been proposed for Street & common area solar lighting, so Energy conservation by using Solar Street Lighting = 75 x 72 = 5400 watt =5.4 KW

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	with location of installation of photovoltaic frames and utilisation of solar power for the common area to be marked in the layout plan.	Energy conservation by using Solar lighting for common area = 200 KW Total Energy Conservation= (200+ 5.4) KW= 205.4 KW Total Energy saving = 205.4/3155 = 0.0651 x 100 = 6.5 %
14.	To submit a bio-diversity register for the 12 acres project area as per the provision of biodiversity Conservation Act, 2003 along with a write up on the improvement in conservation of biodiversity.	The Biodiversity Report is attached as Annexure-10
15.	To submit the Energy Conservation efforts made in the project as per bureau of Energy efficiency under Energy Conservation Act, 2002.	ECBC Report is attached as Annexure-11
16.	To submit the original NoC from CGWA VIS-A-VIS the actual consumption of water along with the permission letter and agreement with the State Government Water Resource Department.	Not applicable as PHED shall supply water for the project. Please refer to Annexure no.12 enclosed NOC obtained from PHEO.
17.	Distance between the	Requisite drawing attached as to Annexure no.13.

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	towers/ blocks be indicated vis - vis the guidelines for the same.	
18.	Ground coverage of both original approved plan and revised plan approved of the total plot area vis – a- vis the guidelines/ norms.	As per previous EC: Ground Coverage was 18426.09 m2 As per Proposed Expansion for EC: Revised Ground coverage proposed is 19,126.76 m2, i.e. increase of 700.1 sqm Ground coverage was increased due to following new proposed additions : Proposed addition of 1 Block of TYPE - 2 having 60 units. (this part has not been yet constructed). Reduction by removing 2 nos. of Multipurpose Amenities Centers. Existing FAR -1.73 Proposed FAR:- 1.82 The ground coverage provided is as per the building bye-laws stipulated by BDA.

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 for grant of Environmental Clearance valid for 10 years with stipulated conditions as per **Annexure – A** 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 atleast to the tune of 5%of total power requirement as proposed.
- iv) Trees located within the project area shall be transplanted to alongside the boundary green development area.
- v) To reduce discharge of treated water to open drain, the proponent shall use more water for increased number of trees proposed to be planted in the green belt area & shall also utilize this treated water for car washing, floor washing to minimize the surplus discharge to drain.
- vi) The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.
- vii) The proponent shall Comply to the provision of structural stability certificate as per the bye-law of the Development Authority.
- viii) When the public water supply will be available adjacent to/ in the vicinity of the proposed project in future, the PP shall avail it following due procedure of the Govt if the concerned authority agrees and dispense with the drawl of ground water except one borewell for

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emergency purpose. The PP shall take up suitably for the purpose with the concerned authority of the Government.

- ix) The structural stability shall be vetted by NIT or IIT before construction
- x) The Project Proponent shall adhere to terms of Agreement with BDA
- xi) The Project Proponent shall comply the directions of Hon'ble Apex Court dated 03.06.2022 in IA No 1000 of 2003 in the matter of Writ petition (civil) no 202 of 1995 (T.N.Godavarman Thirumulpad Vs Union of INDIA. Certificate from DFO Chandaka shall be obtained regarding distance from boundary of Chandaka Wildlife Sanctuary.**
- xii) The project shall provide rainwater harvesting system.
- xiii) 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. 02

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR SARUABIL CHROMITE BLOCK (ML AREA: 246.858 HA) WITH A PRODUCTION OF 1.0 MTPA CHROMITE ORE (ROM) WITH MAXIMUM EXCAVATION OF 6.48 MILLION CUM PER ANNUM THROUGH OPENCAST MINING AT VILLAGES SARUABIL, KAMARDA, & TAILANGI UNDER SUKINDA TEHSIL, JAJPUR DISTRICT FOR M/S. TATA STEEL MINING LIMITED OF SRI BIBHU DUTTA NANDA - EC

1. The proposal is for Environmental Clearance for Saruabil Chromite Block (ML Area: 246.858 Ha) with a production of 1.0 MTPA Chromite Ore (ROM) with maximum excavation of 6.48 Million Cum per Annum through Opencast Mining at villages Saruabil, Kamarda, & Tailangi under Sukinda Tehsil, Jajpur District for M/s. Tata Steel Mining Limited of Sri Bibhu dutta Nanda.
2. The project falls under Category-B (≤ 250 ha in respect of major minerals other than Coal) as per MoEF&CC Notification No. S.O. 1886(E) Dated 20th April, 2022.
3. The M/s Misrilall Mining Pvt. Ltd. operated in Saruabil Chromite Block from 15.05.1954 till 31.03.2020. Odisha Government had issued the Letter of Intent (LOI) for Chromite ore mining in Saruabil Chromite Block to Tata Steel Mining Limited (formerly known as M/s T S Alloys Limited) over an area of 246.858 Ha for a period of 50 years vide letter no. 223/SM dated 6th January 2020. In terms of section 8B(2) of MMDR Act, 1957 read with rule 9A(4) of MCR, 2016, the bidder is deemed to have acquired all valid rights, approvals, clearances, licenses and the like vested with the previous lessee for a period of two years from the date of execution of the lease deed or till the date of getting fresh approvals, clearances, licenses, permits and the like whichever is earlier vide letter no. 4174/SM dated 29th May 2020. Lease deed for the Saruabil Chromite Block was executed on 26th June 2020.
4. Terms of Reference was granted by MoEF & CC dated 29.12.2020. Public Hearing was conducted on 22.12.2021.
5. The proponent has applied to SEIAA, Odisha for EC as category B as per MoEF&CC Notification No. S.O. 1886(E) Dated 20th April, 2022.

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6. **Location and Connectivity:** The Saruabil Chromite Block is spread over an area of 246.858 Ha and it falls in Survey of India Topo Sheet Open Series Map No. F45N16 (73G/16) with co-ordinates Latitude: N 21°02'42.64" to 21°03'49.65" and Longitude: E 85°48'35.38" to 85°49'49.92". Saruabil Chromite Block is situated in Jajpur district. Tomka Mangalpur State Highway passes through the lease area. The nearest National highway, NH – 200, is situated about 10.5 Km aerial distance from the proposed area and the Chromite block is at about 23 Km Road distance from Daitari Railway Station and 136 km distance from Biju Patnaik airport, Bhubaneswar.
7. The previous Environment Clearance for the project was granted in the name of M/s Mishrilall Mines Pvt. Ltd. for production of 0.35 MTPA Chromite Ore with expansion of Chromite Ore beneficiation plant from 20 TPH to 30 TPH by MoEF vide letter no. J-11015/72/2010-IA. II(M), dated 20.07.2018.
8. Mining Plan approved by IBM, Bhubaneswar dated 18.05.2018. Mining Plan of TSML was approved on 10.11.2020.
9. Environmental Clearance for production of 0.35 MTPA Chromite Ore and enhancement of Chrome Ore beneficiation plant from 20 TPH to 30 TPH from MoEF&CC dated 20.07.2018. However, COB plant has been dismantled by previous lessee.
10. Forest Diversion over 224.63 Ha of entire forest land involved from MoEF&CC dated 16.01.1997, (As per Sabik settlement application for diversion of 17.14 ha is in process)
11. The proponent has obtained Consent to Establish from SPCB, Odisha dated 29.11.2016 and Consent to Operate from SPCB, Odisha dated 16.03.2022.
12. Surface right from District Collector, Jajpur over 242.581 Ha has been obtained.
13. Ground water with drawl permission has been obtained from CGWA, (GoI) dated 16.07.2019.
14. Deep hole blasting & use of HEMM has been obtained from DGMS, (GoI) dated 19.03.2019 (TSML has also obtained the fresh 106 (2) (B) on 28.05.2021).
15. **Method of Mining** - The current project involves mining of Chrome Ore (Chromite) through a Fully Mechanized Opencast mining method with HEMM and deep hole blasting. The proposed production capacity is 1.0 Million Tonnes Per Annum of Chromite Ore (ROM) with total excavation of 6.48 Million Cubic Meters per Annum. The bench height will be about 6 m with width of 10 m. Bench slope has been designed at 70°. Maximum Overall Pit Slope angle 30°. Study of further slope steepening has been initiated under the guidance of CIMFR, Dhanbad. For Drilling and blasting - 150 mm diameter holes are drilled with depth of 6 to 8 m in ore body. Holes will be charged with SME with booster. Powder factor of 7 MT/kg in Ore. For Transportation - Dumpers (44 nos of 35 tonne capacity) are being used to transport the ore from quarry to stack yard.

16. Production Details for the plan period (2020-21 to 2024-25)

Ore & OB Excavation during the plan period (2020-21 to 2024-25)				
Year/ Pit No.	Total ROM Production	Total ROM Production	OB/Waste Volume from Development	Total Excavation

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	(MT)	(CuM)	of Pits (CuM)	(CuM)
1 st year (2020-21)/ B & C	150000	44200	1,195,000	12,39,200
2 nd year(2021-22)/ B & C	400000	117800	1,491,000	16,08,800
3 rd year (2022-23)/ B & C	450000	132500	2,007,000	21,39,500
4th year (2023-24)/ B & C	700000	206100	3,639,000	38,45,100
5th year (2024-25)/ B & C	900000	264900	5,571,000	58,35,900
5th year (2024-25)/ D	100000	29400	619,000	6,48,400
Sub Total (5th Year)	1000000	294300	6,190,000	64,84,300
Total	2700000	794900	14,522,000	1,53,16,900

17. **Power Requirement:** The fully mechanized mining will be done in a three shift of 8 hours each. The use of electricity will be for lighting/illumination/pumping purposes in mining operations and will be obtained from CESU/ Tata Power/ Any other. The electricity/DG power will be provided at the office, camp, and mines. Power requirement of ~1000 KVA would be met from local grid maintained by Central Electricity Utility Services (CESU)/ Tata Power/ Any other.

18. **Water Requirement:** Total water requirement has been estimated to be 330 KLD. There are 2 borewells located inside the mine lease area. As the mine workings has intersected the groundwater table, seepage of groundwater is expected. Dewatering of mine will be undertaken and the water will be utilized for various purposes. Water requirement and usage has been detailed in table.

Activities	Daily Water Requirement, KLD	Effluent Generation, KLD	Losses, KLD	Treatment	Source of water
Drinking & Domestic Use, Canteen	40.00	32.00	8.00	Septic tank/ Soak Pit	Ground water from Borewell
Dust suppression	250.00	0.00	250.00	--	Mine pit water
Plantation & Gardening	100.00	0.00	100.00	--	Mine pit water
Workshop, Wheel wash & Vehicle wash	10.00	8.00	2.00	Treatment in Oil & Grease trap, recycled for wheel wash & dust suppression	Mine pit water
ETP wash water	20.00	0.00	20.00	--	Mine Pit water

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Total	420.00	40.00	380.00		
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19. Baseline study was conducted during October – December, 2020. The observations are Ambient air quality monitoring carried out in 8 different sampling locations. During the study period, the concentration of PM10 = 29 to 64.1 µg/m³, PM2.5 = 17 to 38.5 µg/m³, SO₂ = <4 to 8.1 µg/m³, NO_x = <9 to 13.6 µg/m³.
20. The ground water samples were collected from 8 different sampling stations and analyzed as per IS 10500:2012 to assess the portability of the ground water. As Per the data it has been observed that the pH ranges from 5.06 to 7.78, total hardness varies from 14 to 180 mg/l, chloride ranges from 3.8 to 38 mg/l, TDS ranges from 20 to 316 mg/l.
21. The surface water samples were collected from 8 different sampling stations. As Per the data it has been observed that the pH ranges from 7.21 to 7.84, DO ranges from 4.4 to 6.3 mg/l, COD ranges from 6.0 to 20 mg/l.
22. The ambient noise levels were measured in 8 sampling locations. As Per the data it has been observed that Ambient noise ranges from 36.7 dBA to 60.4 dBA.
23. The soil samples were collected from 12 different sampling stations. As Per the data it has been observed that pH ranges from 7.03 to 7.24, SAR ranges from 2.6 to 4.4 %, clay percent ranges from 59.8 to 73, all the metals are below detectable level.
24. **Employment Potential** - The project will generate 650 manpower in the mine.
25. Total Cost of the proposed project will be ` Rs 179.91 crore with a recurring cost of 66.93 crores and EMP cost is ` Rs 26.75 crore with a recurring cost of 1.79 crores.
26. The project proponent along with the consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** made a detailed presentation on the proposal on 03.08.2022.
27. The SEAC in its meeting held on dated 03-08-2022 decided to take decision on the proposal after receipt of certain information / documents from the proponent.
28. 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.	Comparative statement of salient physical features and salient features with reference to environmental parameters, pollution load of the existing mines and proposed expansion shall be submitted.	Air Environment Table 1 Comparison in pollution load for existing and proposed production (µg/m³) <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Parameters</th> <th style="text-align: center;">Existing</th> <th style="text-align: center;">Proposed</th> <th style="text-align: center;">% Increase</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Air Pollution</td> <td style="text-align: center;">61.2</td> <td style="text-align: center;">67.2</td> <td style="text-align: center;">4.67</td> </tr> </tbody> </table> Water Environment Table 2 Water Requirement for existing and proposed production (KL/T) <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Parameters</th> <th style="text-align: center;">Existing</th> <th style="text-align: center;">Proposed</th> <th style="text-align: center;">% Increase</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Water Requirement</td> <td style="text-align: center;">3.03</td> <td style="text-align: center;">7.21</td> <td style="text-align: center;">40</td> </tr> </tbody> </table> Power Requirement Table 3 Existing vs proposed Power Requirement (MW)	Parameters	Existing	Proposed	% Increase	Air Pollution	61.2	67.2	4.67	Parameters	Existing	Proposed	% Increase	Water Requirement	3.03	7.21	40
Parameters	Existing	Proposed	% Increase															
Air Pollution	61.2	67.2	4.67															
Parameters	Existing	Proposed	% Increase															
Water Requirement	3.03	7.21	40															

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent			
		Parameters	Existing	Proposed	% Increase
		Power Requirement	1	1	0
		Greenbelt Requirement			
		Table 4 Existing vs proposed Greenbelt Requirement			
		Parameters	Existing	Additional	
		Total area of Green Belt in Ha.	15.9 Ha	8 Ha.	
		Total Plantation	39000	12800	
2.	Tailing pond and its design existing and proposed and how it will contribute to zero discharge concept.	The previous Environmental Clearance was granted for production of 0.35 MTPA Chromite Ore with expansion of Chromite Ore beneficiation plant from 20 TPH to 30 TPH by MoEF&CC vide letter no. J-11015/72/2010-IA. II(M), dated 20.07.2018 to M/s Misrilall Mines Pvt. Ltd. After TSML leased in Saruabil Chromite Block during the auction process, the same EC was vested to TSML for fifty (50) years as per MMDR Amendment Act, 2021. TSML has not proposed any beneficiation plant within the lease area during Mining Plan approval. Previous lessee has dismantled the COB plant and cleared the area. As reported by previous lessee the EC was approved on 2018 and they have not operated COB plant a single day, thus no tailing was generated, which was also confirmed by TSML during the inspection of ground condition. It is also evident from the below photographs			
3.	Approval letter for 33KLD usage of ground water and application made for proposed expansion to be submitted.	Previous approval letter from Central Ground Water Authority (CGWA) vide letter No.21- 4(73)/CGWA/SER/2008-686 dated 16.07.2019 for withdrawal of ground water of 147,045 CuM/ year consisting of 12,045 CuM/ year through two existing bore wells and 1,35,000 CuM/ year through dewatering the mine seepage from mine pit (Annexure- I). The same has also been vested to TSML as per the MMDR Amendment Act, 2021 (Annexure - II). Fresh application for withdrawal of 50KLD ground water is attached as Annexure – III .			
4.	Detailed plan for controlling hexavalent Chromium in ground water, surface water and soil surface.	Major hexavalent Chromium concentration is observed from the mine quarry water and run-off from ore stack yard. There are some traces of hexavalent chromium is found in run-off from overburden dumps. As it is an open cast mines, the seepage water is stored in sumps of quarry floor and is simultaneously pumped to Effluent Treatment Plant (ETP) for treatment. During rainy days the surface run-off from ore stack yard and overburden dumps are channelized through garland drains with check dam & settling pit to mine quarry for storage and afterward pumped to ETP for treatment of Cr+6 and Total Suspended Solid (TSS). The treated water is then used for different process such as dust suppression, vehicle washing, plantation and garden use. On monthly basis the ground water quality is being investigated from bore wells to know any contamination of ground water through MoEF&CC & SPCB certified laboratory. At any point of time, no contaminated water from mines is discharged to any soil surface without treatment. The construction activities for installation of 1200 m3/Hr ETP to treat all the surface run off and mine quarry water without any storage, is in progress.			
5.	Suggestions for adaptation/evaluation of new technologies like	Considering the quality and contamination of the inlet water (high TSS and low Cr+6 concentration) and the previous technical research report from IIT, Kharagpur, the mine quarry water and surface run-off is treated with FeSO4 at acidic pH for faster the Cr+6 to Cr+3 reduction process.			

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent			
	Ion Exchange Technology, Membrane technology for removal of hexavalent chromium.	Other treatment technologies used for Cr+6 contaminated water have some limitations which is given below.			
		Process Name	Type of Process	Description	Comments/Remarks
		Liquid – Liquid Reduction	Physical	Amine-based extractants (Hard bases) preferably long-chain quaternary ammonium or tertiary amine-based compounds	Not feasible for large volume of water
		Chemical Reduction	Chemical	Reduction to Cr(III) using bisulphate/ Ferrous sulphate & subsequent precipitation using Lime and Alkali.	<ul style="list-style-type: none"> Used in the existing ETP plant Comparatively high sludge Generation Treatment of large volume of water
		Adsorption	Physical	Costly chemical used such as titanium dioxide, Zeolite, Goethite etc	<ul style="list-style-type: none"> Cost very high Due to high TSS, technology will not be feasible
		Membrane Filtration Technology	Physicochemical	Different membranes like inorganic membrane, liquid membrane, polymeric membrane etc.	<ul style="list-style-type: none"> Cost very high Generation of high reject Short life of membrane Filter bed clog due to high TSS
		Ion Exchange Technology	Physicochemical	Different ion exchange Resins used	<ul style="list-style-type: none"> High cost Selectivity high Not feasible for high volume of effluent and high TSS
		Electrochemical Process	Physicochemical	Electrocoagulation can remove heavy metals from	<ul style="list-style-type: none"> pH dependent High electricity

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent			
				effluents using electromotive force	<ul style="list-style-type: none"> consumption High silt deposition on electrode and efficiency is low
		Phytoremediation	Biological	Aquatic plant used for extraction of Cr(VI)	<ul style="list-style-type: none"> Large area needed Retention time more than 15 days Not feasible for large volume of effluent
<p>The present treatment process/technology is quite viable while treating huge amount of water. However, latest treatment process has been designed by civil department of IIT, Kharagpur for the upcoming ETP and we will continuously explore new technologies for treatment of same in near future.</p>					
6.	Effective measures taken safety of Damsala Nala.	<p>It is ensuring that no single contaminated water is being discharge to the Damsala Nalla from the mining area. Water from mine quarry, surface run-off from ore stack yard and overburden dump is being treated at ETP and the excess water from ETP is discharged to the Damsala Nala. Online continuous Effluent Monitoring station is installed at ETP in-let and Out-let to monitor the water quality, which connected to the SPCB server without any intermediated server. We are also continuously analyzing the quality Damsala Nala before and after of the lease area. Quarterly, the flow rate of the Damsala Nala is being monitored and reported to SPCB, Odisha MoEF&CC.</p>			
7.	Cross-sectional dimension of retaining wall, check dam and garland drain shall be furnished.	<p>At the toe of the overburden dumps approximately 2804 mtrs of retaining wall, 4159 mtrs of garland drain and 15 nos of settling pits are maintained. As per approved mining plan, protective measures shall also be undertaken during conceptual period and maintained regularly. The details of protective measures to be constructed around proposed dump during the plan period will be as follows (Table 6):</p> <p>At the base of dumps 7 & 8, retaining walls over 2078 m & 1088 m lengths respectively along with garland drains over 1730 m & 1080 m respectively shall be constructed. During the plan period, these retaining walls shall be maintained/ reconstructed. Table 6 shows the details of construction to be undertaken for retaining walls to check rolled down debris from side wall of the dump in a phased manner during the plan period of 5 years (2020-21 to 2024-25). Retaining walls will be 1.5m visible height and 1.0 m thick (Table-1) Followed with retaining wall garland drain shall be constructed which will be 1 m wide x 1.0 m deep to channelize water being drained from dumps phase wise during 5 years (2020-21 to 2024-25) plan period. Check dams at every 300 m in the garland drain shall also be constructed during construction of garland drain. This will help in accumulation of sediments during flow of water which shall be cleaned regularly for easy flow of water to the settling tank.</p>			
8.	Report on mining activity done on forest	<p>Mining activity is being carried out only in diverted forest area (224.63ha) out of total forest land of 241.77Ha as per Mining Plan approved by Indian Bureau of Mines, Govt. of India. During the plan period (2020 – 2025) Mining</p>			

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	and non-forest area.	activity will be carried out in 90.7 ha and waste dump in 100ha. In non-forest land of 5.088 ha, no mining activity is proposed during the plan period. The diversion of non-diverted forest area of 17.14 ha is under process for diversion and the area was kept intact in as is condition. Land details are given below:
9.	Details of Solar generation to be used.	Presently, we are conducting the Energy Audit with the Power Tech Consultants, K-8-82, Kalinganagar, Ghatikia, Bhubaneswar, Odisha-751029. After getting the recommendations we will further working it to reduce the consumption. As per our Sustainability target as "PLAN – A", we have installed the solar lights in mines haul road and a plan is under process to produce about 30% of the energy requirement from solar installations. In this regard, TSML is involved Tata and Reliance solar power to finalize the work contract for solar installation in both roof top and open areas.
10.	Nature of 5ha. Non forest land present in mining area.	Nature of 5 ha of Non forest land is Patita and Gharabari kisam in our mining lease area.
11.	Copies of compliance to all ADS by the MoEF&CC, Govt. of India and copies of minutes of all meetings of EAC of MoEF&CC, Govt. of India.	No ADS was requested by MoEF&CC after TOR presentation, copy of EAC meeting is attached as Annexure – IV.
12.	Compliance to earlier EC conditions duly certified by the Regional Office, MoEF&CC, Bhubaneswar and Compliance to CTE & CTO conditions duly certified by the SPCB, Odisha.	Certified copy of the previous EC condition and compliance is attached as Annexure – V . Also, Compliance to CTE & CTO conditions duly certified by the SPCB, Odisha is attached as Annexure VI .
13.	Tailings pond and ETP management with flow diagram and water balance.	M/S. TSML has not proposed any COB plant during the plan period, thus tailing generation will be zero. Pumped out mine water is allowed in to the Effluent Treatment Plant (ETP) designed by the department of Civil Engineering, IIT, Kharagpur in May, 2013 where dissolved Cr6+ is precipitated as Chromium hydroxide (Cr(OH)3) along with Iron hydroxide (Fe(OH)3) after mixing with ferrous sulphate (FeSO4) solution and lime (Ca(OH)2)/ sodium hydroxide (NaOH). The precipitates are settled out in the sludge pond and clear supernatant water is discharged for dust suppression on haul roads and green belt development and excess water from ETP water is discharged to Damsal nala. The project design for Chromium Effluent Treatment Plant (ETP) at Saruabil Chromite Mines has been designed and modified by IIT, Kharagpur.

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		<p>Basic Process Methodology The existing treatment technology adopted for hexavalent chromium containing mine drainage water is reduction of hexavalent chromium to trivalent chromium using Ferrous Iron in the form of Ferrous Sulphate. The reduced Chromium is precipitated as Hydroxide form [Cr(OH)₃]. Ferrous Iron added for reduction of Hexavalent Chromium is being oxidized to Ferric Iron & subsequently precipitated as Hydroxide [Fe(OH)₃].</p> <p>Process Design comprises of the following units:</p> <ol style="list-style-type: none"> i. Rapid mixing unit for chemical dosing: The mine drainage water is directly pumped to the inlet chamber of baffle units where Ferrous Sulphate dosing is done. ii. Collection tank 1 for chemically treated water: The chemically treated water is stored in the existing settling tank. A pump is installed at the sump which is the part of the tank to deliver waste water along with solids to the Flash mixing unit. iii. Flash mixer unit: The waste water is mixed with Polyelectrolyte in the flash mixing unit prior to the clariflocculation. The Flash mixing unit is attached to the clariflocculator with the tank dimension 1.5m (L) x 1.5m (W) x 1.5m (D). iv. Clariflocculator: The flocculator well is designed for a detention time of 20 minutes. The diameter of flocculator unit is 5.6m and depth is 2.5m and 0.5m free board. The clarifier unit is designed for surface overflow rate around 30m³/m²/d. The diameter of clarifier is 15m and side water depth is 3m with 0.5m free board. v. Collection tank 2 for clarified water: The clarified water required storage & the existing lamella clarifier tank serves the purpose of storage. vi. Pressure Sand Filter unit: The pressure sand filter unit operates at a rate of filtration 15m³/m²/h. The treated water from the treated collection tank is further passed through sand filter tanks with high pressure to filter extra TSS in treated water. vii. Filter press: The settled sludge in the bottom of the clarifier is dewatered to sludge chamber from where it is pumped to Filter press achieving a consistency of 40% and then to drying beds & to dispose to hazardous waste management facilities. Filter press containing plate size 1.2m x 1.2m x 0.5m & 36 nos. of chambers is for sludge dewatering. viii. Chemical dosing & electrical panel room: All the dosing work i.e. Ferrous Sulphate, Lime, Polyelectrolyte, etc. are made through dosing pumps. These chemical dosing, electrical work & chemical storing are done from separate buildings. The first floor has dosing solution preparation facility & ground floor has MCC area for Ferrous Sulphate, Polyelectrolyte and lime/NaOH storage.

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 for grant of Environmental Clearance with stipulated conditions as per **Annexure – B** and following specific conditions.

- i) The mine shall explore implementation of membrane-based technology for removing Hexavalent Chromium from Surface run off & mine drainage water.
- ii) The mine shall take adequate measures to minimize the discharge of waste water to Damsala nallah.

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- iii) The project proponent shall monitor analysis of hexavalent chromium in nearby soil and water body periodically and follow mitigation measures if necessary.
- iv) **All the compliances submitted/ committed by PP (s) shall be strictly adhered to by them.**

ITEM NO. 03

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR PATAMUNDA MANGANESE MINE OVER AN AREA OF 43.532 HA. AT VILLAGE: PATAMUNDA, TAHASIL: KOIDA, DISTRICT: SUNDERGARH FOR M/S SUN ALLOYS & MINERALS LTD OF SRI RAJIB LOCHAN MOHANTY – EC (VIOLATION CASE).

1. M/s. Sun Alloys & Minerals Ltd. for Patamunda Manganese mines over an area of 43.532 Ha. at Village - Patamunda, Tahasil - Koida, District - Sundergarh, Odisha of Sri Rajib Lochan Mohanty (Managing Director).
2. The project falls under category "B" or activity 1 (a) - Mining of Minerals under EIA Notification dated 14th September 2006 as amended from time to time.
3. Patmunda Manganese Mining Lease in village Patmunda of Sundergarh District Odisha was granted over an area of over 81.197 Ha in favour of Sun alloys & Minerals Ltd on 23.10.1991 which was executed on 12.02.1996 for 10 years i.e. till 11.02.2006.
4. This is an existing mine operating since 1996-1997 to 2009 and closed since 2009. As the mining was operating without obtaining prior- environment clearance the project will be appraised for Environment clearance under case of violation.
5. Based on the approved ToR vide letter no. 4301/SEIAA dated 02.04.2022, the EIA/EMP report, Damage assessment and remediation plan and natural and community resource augmentation plan has been prepared by M/s Kalyani Laboratories Private Limited, Bhubaneswar.
6. The public hearing for the Patmunda Manganese Mines of Sun Alloys and Minerals Ltd. conducted on 10.04.2012 at 10.00 A.M. at Madan Mohan High School field, Patmunda Village of Sundergarh district in accordance with the Ministry of Environment & Forest, Govt. of India, EIA Notification No. SO-1533 (E) dated 14th September 2006.
7. As the project is declared as a case of violation, the damage assessment, remediation plan, community and natural resource augmentation plan has been prepared. As per the plant the allocated budget for remediation plan based on the damage assessment due to violation is Rs. 22,38,000.00, Budget due to community and natural resource augmentation plant will be Rs. 43,00,000.00 and penalty due to violation will be Rs,1,83,372.00.
8. First RML application was filed on 04.02.2005 (one year before the expiry of the lease) for 20 years (from 12.02.2006 to 11.02.2026) on a reduced area over an area of 43.568 Ha deleting 37.629 Ha area occupied by tenants and local inhabitants within the executed ML area of 81.179 Ha. Mining operation continued within the ML area till 22.12.2009 under deemed clause of Rule 24 A (6) of MCR 1960. Mining operation within the ML was closed by the DFO, Bonai vide letter No 6264 dt 22.12.2009 for want of forest clearance over an area of 0.036 Ha of DLC forest land.

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9. The lessee again deleted 0.036 Ha DLC area from 43.568 Ha of applied RML area and submitted a letter to the Principal Secretary to Government, Department of Steel & Mines, Govt. of Odisha vide letter no. SAML/CO/2010-11/08-06 dated 06.08.2010 along with a fresh map over 43.532 Ha for consideration in respect of renewal of the lease area. The lessee deposited the demanded amount of Rs 2,03,00,894.96 (Rupees two crore three lakh eight hundred ninety four and ninety six paise only) arising out of the final judgement of the Honourable Apex court dated 02,08,17 in the aforesaid Common Cause Matter of WP (C) 114/2014 related to Section 21 (5) of MMDR Act 1957. Based on the order of RA, lessee submitted his request to the state Govt for revocation of the lapsing order on 10.01.19 and 06.03.21 which is under active consideration.
10. The Mining Lease was subsisting as on 12.01.2015, the date on which the MMDR Act, 1957 was amended. As per the provisions of Section 8A (3) read with Section 8A (9) of the amended provisions of the Act, the period of the Mining Lease is deemed to have been extended up to 11.02.2046 (for a total period of 50 years).
11. The application for EC was made by the lessee and public hearing for the said project was conducted on 10.04.2010.
12. The proposal was considered for EC at SEAC, Odisha on 18.10.2012 and Member Secretary State Environment Impact Assessment Authority (SEIAA) Odisha vide Letter No 365/SEIAA dated 27.12.2012 asked to submit the authentic copy of Stage – I Forest Clearance within 12 months for issuance of Environmental Clearance. In reply the lessee submitted a letter to Member Secretary SEIAA vide their letter No SAML/CO/2012-13/03-21 dated 11.03.2013. In this letter the lessee informed that the revised RML area over 43.568 Ha includes 0.036 Ha DLC forest land in south eastern boundary of the lease which has been deleted, retaining the RML applied area of 43.532 Ha. FMCP on 0.036 Ha area which was approved by IBM vide Letter No ORI/BHU/2011-12 Dated 28.10.2011.
13. Replying the above letter of the lessee Member Secretary SEIAA issued a letter (Letter No 726/SEIAA dated 28.04.2014 –to submit the proposal afresh as per EIA Notification 2006.
14. State Pollution Control Board, Odisha accorded Consent to Establish vide their letter No 22809/IND-II-5429 dated 12.11.2012.
15. At the initial stage with reference to the application of the lessee dated 27.03.2006, OSPCB, Bhubaneswar issued consent order for air (Prevention & Control of Pollution) & Water (Prevention & Control of Pollution) vide their letter dated 13.07.2006 for production of manganese ore to the tune of 300 tonnes per month for Air/18B for Water). This was valid upto 31.03.2011.
16. Mining within the ML area started in 1997-98 and continued till 2009-10 and was closed by the DFO, Bonai vide letter No 6264 dt 22.12.2009 (Annexure XIX) for want of forest clearance over an area of 0.036 Ha of DLC forest land. The mine is yet to be re-opened.
17. The Mine was operating since 1997-98 and continued operation till 2009-10 without obtaining Environment clearance. Environment clearance is applicable to the mines under EIA Notification 1994 as well as 2006.

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18. Violation has been made by the lessee under E(P) Act, 1986 and the application for ToR has been made under the case of violation.
19. The mining plan approved in 2016-17 and due to lack of violation, this mining plan was lapsed in 2015. The lease area is reduced to 43.532 Ha in the renewal application. Proposed production from the lease area during the revised scheme period from 2016-17 to 2020-21.
20. Final Mine Closure Plan on 0.036 Ha DLC area was approved vide IBM Letter No FMCP/OTFM/03-ORI/BHU/2011-12 dated 28.10.2011. Certificates obtained under sub rule (2) of rule 29 (A) of MCR 1960 on approved FMCP over 0.036 Ha. Accordingly, a letter was submitted to The Principal Secretary to Government, Department of Steel & Mines, Govt. of Odisha vide letter no. SAML/CO/2010-11/08-06 dated 06.08.2010 along with a fresh map for considering the RML area as 43.532 Ha. As Per Mines & Minerals (Development and Regulation) Amendment Act 2015 the lease shall be extended for a period of forty years i.e., 11.02.2046 (Total lease period is 50 years) w.e. from 12.02.1996.
21. Recent mining plan approved by Indian Bureau of Mines, Bhubaneswar vide letter no: RMP/A/04-ORI/BHU/2021-22, dated 17.06.2021.
22. **Location and Connectivity:** Patmunda Manganese ore Mines over an area of 43.568Ha. located in Patmunda Village, under Sub-division Bonai, Tahsil Koida in Sundargarh District, Odisha. Out of the total lease area 43.568 Ha, 43.532 Ha Govt. non-forest land, and 0.036Ha is Govt. forest land. Lease area is a part of Survey of India toposheet No 73G/5 and is bounded by the latitudes from Latitude 21^o 52' 15.58"N and Longitude 85^o 18' 16.839"E as per survey. Nearest railway stations is Barbil Railway Station at an distance of 45 Km. Nearest town is Koira is 10km. State capital Bhubaneswar via Jajpur – Keonjhor Road, is at a distance of 318 km where Airport is there. Rourkela Steel City via Lohanipura and Koira – Bhadrāsahi is at a distance of 115 km. Jamsedpur via Chaibasa and Noamundi is 185 km far from the lease area. Paradeep port is at about 310 km and nearest NH is NH 215 at a distance of 6 km from the lease area. Suna River at a distance of 4.5Km. Nearest Reserve forest is Khajurdihi RF – 4.8km.
23. **Reserves** - The mineable reserve of manganese ore in the lease area is 1,98,538 MT. In the ensuing plan period about 21,734 MT will be exploited. After this plan period balance mineable reserves of 1,77,164 MT of manganese ore will be available. Keeping in view the production of manganese ore @5500 per annum, life of the mine will be 32.21 years or say 33 years after the current plan period. So, total life of the mine will be 33 years including this plan period.
24. Presently there are four existing quarries namely Quarry-1,2,3 and 4. There are seven nos. of existing dumps are present in the lease area.
25. **Method of Mining** - Open cast semi mechanized system of mining is in practice since long to mine the manganese ore deposit adopting a system of bench formation keeping In mind the quality, cost, safety and conservation of mineral. No change in method of mining has been envisaged during the proposed review period. Quarry-2 and 4 shall be developed during the proposed review period (2022-2023 to 2025-26) from the insitu ore zone with lateral and depth ward extension. There is no regular need of blasting in the over burden and mineralized

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zone for development and ore production. Once the mineralized zone is exposed, low scale drilling shall be required which will be done by rock drill machine attached with compatible compressor for loosening the ore zone formation.

26. **Production Details:** The different types of ore production year-wise is given as follows:

Year	Total Saleable ore(MT)	Total Mineral Reject (MT)	Total ROM (MT)
2021-22	52 numbers diamond core drilling under exploration programme		
2022-23	5346	0	5346
2023-24	5445	0	5445
2024-25	5434	0	5434
2025-26	5509	0	5509
Total	21734	0	21734

27. **Waste management** - A total quantity of 145245 m³ waste (generated from the lease area + Re-handled existing waste dump) will be accommodated on the proposed dump over an area of 2.014 Ha. At the end of the conceptual period the total waste over the proposed dump will be utilized for backfilling of the exhausted quarries. Conceptually, 7272 MT of mineral rejects will be generated. This mineral rejects will be stored in the earmarked site covering an area of 0.18 Ha. These mineral rejects shall be blended as far as practicable as per the demand of buyers.

28. **Green Belt** - During the period of operation of lease the lessee has planted nos of saplings. During the existing plantation of 1995 saplings. In the ensuing scheme period, an area of 2.35 Ha. along the safety zone has been proposed for plantation of 5900 saplings..

29. **Water Requirement** - Water consumption will be limited to 20 KLD which consist of 5KLD for domestic (Permission obtained from CGWB), 5 KLD for dust suppression, green belt development purpose. Water for drinking / domestic use will be sourced from the ground water while water for non-domestic use such as plantation, water sprinkling etc. will be sourced from water harvesting ponds.

30. **Power Requirement** - Electricity is available in the M.L area. As the mine is operated in day shift only, there is no necessity of power for illumination at mines. Energy required: Diesel 800 Ltr/ Day.

31. A total no. of 68 people will be employed in the mines (departmentally/contractually) which includes 6 managerial and supervisory staff, High Skilled and Skilled staff 12 nos., and 50 nos. of workers phase wise manner.

32. Baseline study was conducted during October – December, 2021. The observations are Ambient air quality monitoring carried out in 8 different sampling locations. During the study period, the concentration of PM₁₀ in the project site varies from 46 to 57µg/m³ and from 46.4(Ramka Village) to 85.5(Koida) µg/m³ in the nearby villages. The average value of PM_{2.5} in the project site is 23 to 25µg/m³ and the average of PM_{2.5} varies from 23.3 (Podadihi) to 44.5(Koida) µg/m³ in the surrounding villages. Other parameters like, SO₂, NO_x, CO, Ozone, are within the prescribed limit of NAAQS standard as prescribed by CPCB.

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33. The ground water samples were collected from 8 different sampling stations and analyzed as per IS 10500:2012 to assess the portability of the ground water.
34. As Per the data it has been observed that the pH of the ground water varies 6.50 to 6.80, Chlorides Ranges From 12.0 to 44 Mg/L, Sulphates value found to be between 2.4 to 20.9 mg/l, Fluoride Ranges low in lease area i.e. 0.12 to 0.39 mg/l, Hardness varies from 32-168 mg/l, and Total dissolved solid 40-210 mg/l.
35. The ambient noise levels were measured in 8 sampling locations. In the project site the day time noise level is 29.5 dB (A) and the night time noise level is 22.4 dB (A). The maximum noise level is 50.4 dB (A) during the day time at Koida Village and minimum noise level is 29.5 dB (A) during the day time at lease area. The maximum noise level is 42.6 dB (A) during the night time at Koida Village and minimum noise level is 22.4 dB (A) during the night time at lease area. The noise level is found to be maximum in Koida Village.
36. The cost of Project is ` 295 lakh. The allocated capital EMP cost for the project will be Rs. 67.5 Lakhs and 17.6 Lakhs allocated as recurring EMP cost.
37. The Environment Consultant **M/s Kalyani Laboratories Pvt. Ltd. Bhubaneswar** along with the proponent made a detailed presentation on the proposal before the Committee on 03.08.2022.
38. The SEAC in its meeting held on dated 03-08-2022 decided to take decision on the proposal after receipt of certain information / documents from the proponent.
39. 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
i)	Compliance to NEERI recommendation for Manganese mine expansion to be submitted.	Lessee will follow the Recommendations of CSIR-NEERI Report on "Carrying Capacity Study for Environmentally Sustainable Iron and Manganese Ore Mining Activity in Keonjhar, Sundargarh and Mayurbhanj district of Odisha State" as applicable for the mines. However, point wise compliance of the NEERI conditions has been attached as Annexure 1 .
ii)	Detailed plan for Dump management and dust suppression and mitigation measures suggested towards issues raised in Public Hearing.	Details of Dump management and dust suppression and mitigation measure has been attached as Annexure 2 .
iii)	Details of Public Hearing with proposed redress point wise to be submitted.	Details of public hearing and time bound action plan in compliance to public demand is attached as Annexure 3 .
iv)	Safety measures to protect Damsala Nala.	Damsala nala is not located near the project site as the project is located in Sundargarh district and Damsala nala is flowing near Sukinda. The nearest nala is Suna Nadi which is flows at 4.5 Km from the project and there

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		is no anticipated impact of the project on Suna Nadi as the maximum impact of the mines will be limited up to 500m from the source.
v)	Cross-sectional dimension of retaining wall and garland drain shall be furnished.	Dimension of the retaining wall and garland drain is given in Annexure 2 .
vi)	Conversion of agricultural lands to mining use with help of concerned Authority Revenue Department.	The land has been allocated for mining operation.
vii)	Specific measures taken Manganese poisoning in that area.	Details of measures taken to mitigate manganese poisoning due to mining activity is given as Annexure 4
viii)	Reclamation Plan for Dump after conceptual plan.	Dump reclamation plan has been elaborated in Annexure 2 .
ix)	Budget details of EMP.	Detail EMP budget is attached as Annexure 5 .
x)	Details of DLC land surrendered and the same acceptance Letter by IBM to be submitted.	The DLC land of 0.036 Ha has been surrendered by the lessee and certificate has been issued by IBM. Retained area of the lease is 43.532 Ha. Copy attached as Annexure 6 .
xi)	Native/local species should be planted which has survival rate is 90%. And increase the greenbelt plantation within lease area.	Detail plantation plan is attached as Annexure 7 .
xii)	Status of legal case filed if any under section 19 of Environment (Protection) Act, 1986 for violation.	The case against the lease under section 19 of Environmental (Protection) Act, 1986 for violation is under process at state govt.
xiii)	Conversion of Agriculture land for use of mining purpose.	For operation of mines surface right must be obtained from district administration where the land conversion is a part of the process as and when required after obtaining EC. However, this is an existing mine and having surface right for 7.50 Acre, 7.88 Acre & 15.53 Acre, Total 30.91 Acres of area is as enclosed as Annexure 8. The area under surface right is being / will be used for mining operation. Further, Surface right area will be accorded by the district administration as & when required with due process which will include land conversation.

40. The SEAC observed the following:

- a) The proposal was considered by the State Level Expert Appraisal Committee (SEAC), Odisha in its meeting held on 05.01.2022 for appraisal of the proposal for ToR in pursuance

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of the MoEF&CC, Govt. of India Notification dated 14th March, 2017. The SEAC, after deliberations on the proposal in terms of the provisions of the Notification dated 14th March, 2017, confirmed the case to be of violation of the EIA Notification, 2006 and recommended for the following:

- (i) The State Government to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986, and further no Consent to Operate to be issued till the project is granted Environmental Clearance.
 - (ii) The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of Environmental Clearance. The quantum is recommended by the SEAC based on EIA report and finalized by the regulatory authority i.e. SEIAA, Odisha. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the SEAC and approval of the regulatory authority i.e. SEIAA, Odisha.
 - (iii) Public hearing has already been conducted for the proposal earlier on 10.04.2012, a copy of which is also furnished with EIA/EMP. For this reason, conducting a fresh Public Hearing has been exempted.
- b) EIA/EMP study report has been prepared by a NABET Accredited / NABL Accredited Consultant namely **M/s Kalyani Laboratories Pvt. Ltd. Bhubaneswar**.
 - c) Detailed assessment of Ecological Damage, Remediation Plan and Natural and Community Resource Augmentation Plan has been incorporated in the EIA report.
 - d) An amount of ` 43,00,000.00/- (Rupees Forty three lakh only) has been estimated in the EIA / EMP report towards the cost of assessment of Environmental / Ecological damage due to violation as well as Natural and Community Resource Augmentation Plan.
 - e) There is no specific guideline issued by the MoEF&CC, Govt. of India for assessment of Environmental and Ecological Damage as well as estimation of cost for remediation plan as well as Natural and Community Resource Augmentation Plan.
 - f) In the absence of any guidelines, the cost as suggested by the proponent in the EIA report above to be taken into account for remediation plan as well as Natural and Community Resource Augmentation Plan. However, the proponent has to abide by the guidelines if issued by the MoEF&CC, Govt. of India in future and accordingly the proponent has to comply. To this effect, they have to submit an undertaking in form of a legal affidavit.
 - g) No record is available in the file about initiation of legal action against the project proponent by the State Govt./SPCB under the provisions of section 19 of the Environment (Protection) Act, 1986 for violation of the EIA Notification, 2006. To this effect, they have to submit a legal affidavit that no legal action is either initiated or pending against them.

After detailed discussion, the SEAC recommended for grant of Environmental Clearance for production of 5509 Ton/Annum of Manganese over mining lease area of 43.532 Ha. at Village - Patamunda, Tahasil - Koida, District - Sundergarh, Odisha with the following specific conditions in terms of the provisions of the MoEF&CC, Govt. of India notification dated 14th March, 2017

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and SoPs for violation cases issued by the MoEF&CC, Govt. of India in addition to the conditions stipulated as per **Annexure – C. However, the Environmental Clearance shall be issued by the SEIAA after receipt of relevant bank guarantee as stated above.**

- (i) The SEAC recommended for an amount of ` 43,00,000.00/- (Rupees Forty three lakh only) towards Remediation plan and Natural and Community Resource Augmentation plan as the proponent has gone for excess production of chromite Ore without prior Environmental Clearance under EIA Notification, 2006.
- (ii) The project proponent shall be required to submit a bank guarantee of an amount of ` 43,00,000.00/- (Rupees Forty three lakh only) towards Remediation plan and Natural and Community Resource Augmentation plan with the State Pollution Control Board, Odisha prior to the grant of Environmental Clearance.
- (iii) The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the SEAC, Odisha and approval of the regulatory authority (i.e. SEIAA, Odisha).
- (iv) The SEIAA, Odisha may consider to request to the Govt. in F&E Deptt., Govt. of Odisha to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986 for violation of the EIA Notification, 2006. Environmental Clearance is to be issued after initiation of legal action against the project proponent.
- (v) The proponent has to abide by the SoPs for violation cases issued by the MoEF&CC, Govt. of India.
- (vi) Following specific conditions to be stipulated in Environmental Clearance:
 - (a) Haulage road shall be developed and maintained perennially and perpetually by the proponent in consultation with the concerned authority of the Govt.
 - (b) CER related issues as per MoM of public hearing held on 10.04.2012 may be prescribed as special condition in EC.

ITEM NO. 04

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S FERRO ALLOY CORPORATION LTD. (FACOR) FOR INSTALLATION OF CHROME ORE BENEFICATION PLANT OF CAPACITY 4,95,000 TPA THROUGHPUT VILLAGE-TOMKA, TEHSIL - DANAGADI, DISTRICT - JAJPUR, ODISHA OF - 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. M/s Ferro Alloys Corporation Ltd (FACOR) has applied for “Terms of Reference (ToR)” for Installation of Chrome Ore Benefication Plant of capacity 4,95,000 TPA throughput Village-Tomka, Tehsil - Danagadi, District - Jajpur, Odisha.
3. The category of the project is 2(b) Mineral beneficiation under Category “B” as per EIA Notification, 2006 & its amendments.

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4. M/s Ferro Alloys Corporation Ltd (FACOR) owns a Chromite Ore Beneficiation (COB) plant with an output capacity of 20 TPH at Ostopal chromite Mine, village- Gurujanga, PO- Kaliapani of Jajpur district in Odisha. Due to the recent expansion in mine production and proposed expansion of Charge Chrome Plant, the company has proposed to establish a new stand-alone Chromite Ore Beneficiation plant with a production capacity of 4,95,000 TPA at Village-Tomka, Tehsil-Danagadi, District-Jajpur, Odisha over an area of 23.88 acres (out of which 21.95 acres will be utilized for the plant establishment).
5. **Location and Connectivity** - The project is of total area 23.88Ac. and located at Village – Tomka, Tahasil-Danagadi, District - Jajpur, Odisha. The Geographical co-ordinates of the project site is: Latitude - 21° 5'23.28"N to 21° 5'37.59"N & Longitude - 85°58'0.36"E to 85°58'6.30"E and under the Survey of India Toposheet No. F45N-16 & F45O-4. The nearest NH is NH 5 is about 12-15km. Nearest approachable roads are Keonjhar-Paradeep Expressway is at 0.1 km and nearest State Highway (Naranpur-Duburi Road) is at 2 km. The nearest railway station is Tomka Railway Station (1.78 km). The nearest airport is Bhubaneswar International Airport (119 km) from project site. Nearest Habitation is Arasahi (0.085km, E) and Tomka (1.4 km, SSW). A perennial Nala is at 0.1km and nearest river is Brahmani Tributary (4.2 km, N). Nearest Reserve forest is Tomka RF (0.120 km, SW).
6. **Manufacturing Process** - This COB plant will follow the wet method and will be operated through an integrated plant comprised of Reflux TM Classifier and Spiral Concentrate followed by clarifier & Filter Press for getting the concentrate as desired. Though this process of Chrome Beneficiation, the company aims to upgrade the locally available 40% Cr concentrated ore (obtained from its own chromite mines or other mines residing over the Sukinda Valley) into 52% Cr concentrate, which will be used as the feedstock in its own Charge Chrome Plant at Randia, Bhadrak. The annual feed chrome ore to be processed 4,95,000 tons (0.495 million TPA throughput) of below 40% Cr grade ore and will be processed in this plant to fetch 2,97,000 TPA Chrome Concentrate.
7. **Water Requirement** - Total water requirement will be 250 KLD (Domestic - 10KLD & For beneficiation plant - 240 KLD). Water is will be sourced from either ground water/borewell or surface water. Industrial liquid waste will be treated in the Effluent Treatment Plant (ETP – 250KLD) whereas the domestic liquid waste will be recycled by the Sewage Treatment Plant (STP – 10 KLD) and will be used for the greenbelt.
8. **Power Requirement** - The total power requirement for the project will be 3.5 MW. Power is will be sourced from local grid which will provide the electricity by using 33 KV high-tension Power Line and 33KV/0.440 KV distribution Transformers.
9. **Employment Potential** - Around 92 employees will be employed in running the COB plant, while another 250 people will be either directly or indirectly employed for the various operations.
10. **Greenbelt** - Greenbelt / plantation will be done in about 33% (i.e., 4.25 acres) of the total project area.
11. **Solid Waste Generation** - The solid waste will be generated as the tailing (1,98,000 TPA), which will be stacked and utilized for the backfilling in the mines after the 3rd year of the project. Similarly, the hazardous waste (0.5 TPA spent oil) will be stored in the designated

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drums and sold to the authorized recyclers.

12. **Project Cost** - The total capital cost of the project is ` 55.4 Crores.
13. The project proponent along with the consultant **M/s Ardra Consulting Services Pvt. Ltd. Bhubaneswar** made a detailed presentation on the proposal on 08.07.2022.
14. The SEAC in its meeting held on dated 08-07-2022 decided to take decision on the proposal after receipt of certain information / documents from the proponent.
15. 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.	Generation and processing of hexavalent Cr to be included along with mitigation plan.	Generation and processing of hexavalent Cr (Cr+6) along with mitigation plan is attached as Annexure-1
2.	Due to the recent expansion in mine production and proposed expansion of Charge Chrome Plant, a new 4,95,000 TPA Stand Alone Chromite Ore Beneficiation Plant is proposed, brief justification of its establishment along with permission status from concerned authority.	The Mining Plan has been already approved by Indian Bureau of Mine for mineral processing outside Mining lease of Ostapal Chromite Mine, as mentioned in clause no. 4.1.2 & 4.1.3 respectively, whose excerpts are attached in the given annexure. Further Director of Mines has permitted for conversion of low grade chrome ore from Ostapal Mines in outside the leasehold area, which can be utilized for our purpose. These details are attached as Annexure-2 .
3.	Since there is a perennial Nala flowing at distance of 840 meters, surface water can be utilized for plant than depending on ground water.	The total water required for the project is 250 KLD, which will be sourced from Surface water, for which the survey work is being carried out. Alternatively request for IDCO supply of water will be done. However for the drinking water 10 KLD water out of 250 KLD will be sourced from the ground water.
4.	Detail Land schedule with kissam of land in tabulated form duly certified by concerned Tahasildar.	The certified copy of Land schedule with kissam of land from Tahasildar for 18.3Ac is attached in Annexure-3 , which are also converted as industrial land.
5.	Agricultural land need to be converted to Industrial use and necessary documents to be submitted.	The land conversion documents are attached as Annexure-3 .
6.	Design and capacity of Tailing Pond with basis including detailed plan for disposal of tailings and sludge from ETP be submitted.	Design and capacity of Tailing Area with disposal method is attached as Annexure-4
7.	Mass/ Material balance.	Material balance is attached as Annexure-5
8.	Water quality of perennial Nala with test report and start& end of the Nala.	Water quality report of nala is attached as Annexure-6 .
9.	RWH Management with recharging without contamination	The details of Rain water harvesting is attached as Annexure-7 .

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	of ground water by Hexavalent Chromium to be submitted.	
10.	Source of Chrome Ore and the arrangement for the same.	Source of the Chrome Ore for this COB Plant is i) Major source of Supply is from FACOR's own Chromite Mines, ii) If any additional requirement will be there, we will be sourcing the chrome ore from other mines for feeding into this COB plant based on our Charge Chrome Plant Quality and Quantity Requirements.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Ardra Consulting Services Pvt. Ltd. Bhubaneswar**, the SEAC prescribed the ToR as per **Annexure – D** for conducting detailed EIA study.

ITEM NO -5

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR BASENPALI STONE QUARRY OVER AN AREA OF 5.56 HA. /13.75 ACRES IN VILLAGE- BASENPALI, UNDER TAHASIL - LAKHANPUR OF DISTRICT - JHARSUGUDA OF M/S SHREE RADHARAMAN STONE CRUSHER PVT. LTD. – 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. The project falls under category "B" or activity 1(a) - Mining of Minerals projects under EIA Notification dated 14th September 2006 as amended from time to time
3. The proposed project is for Basenpali Stone Quarry over an area of 5.56 Ha. /13.75Acres in village- Basenpali, under Tahasil - Lakhanpur of District - Jharsuguda of M/s Shree Radharaman Stone Crusher Pvt. Ltd. Of Sushil Kumar Agrawal, Director.
4. The Basenpali stone quarry has been granted by the Tahasildar, Lakhanpur and M/s Radharaman Stone Crusher Pvt. Ltd has been declared as the successful bidder for grant of Basenpali stone quarry over 13.75 Ac.(5.56 Ha.) in Mouza- Basenpali, Khata No. 1 and Plot No. 580,106/829(P),106/828(P) and 594/832(P) for a period of 5-Years vide Lease Letter No.102, dated 08.01.2018.
5. The mining plan for Basenpali Stone quarry has been approved by the Director Geology Sambalpur Odisha vide letter no.1269/ZS on dated 17.05.2018.
6. **Location and Connectivity** - The lease is located in survey of India toposheet no. F44R9(64O/9) and bounded between the latitudes of 21°47'30.5" E to 21°47'46.5" E and longitudes of 83°32'57.3" N to 83°33'09.0" N. on Khata No. 1 and Plot No. 1(P),3(P) Kisam: Jalabhandar. Nearest Railway station is Raigarh Railway Station at a distance of 19 Km from the project site. The nearest road is NH 200 located at a distance of 0.5 Km. Nearest airport is Jharsuguda airport at a distance of 55 Km from the mining Lease area. Nearest water reservoir is Hirakud – 4.5km. Nearest habitation – Basenpalli at 1.9km. Nearest RF – Jhargan at 2.5km. Debrigarh wild life sanctuary at 9km. Nearest State Boundaries (Odisha-

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Chatishgarh) at 1.5km. Nearest road bridge at 0.6km.

7. **Total Reserves** – Geological reserve is 976557cum and Mineable reserve is 596203cum.
8. **Method Of Mining** - The method of mining will be semi mechanized method. The total production in five years is up to 276777m³ per annum. The details of year wise production is given below,

Table No.1.1: Details of Year Wise Production

Year	Length Of Influence(M)	X-Area Of Rock Mass (M ²)	Vol. Of Excavation ₃ (M)	Vol. Of Rock ₃ Mass (M)	Vol. Of Waste ₃ (M)	X-Area Of Soil ₂ (M)	Vol. Of Soil ₃ (M)
A	C	D	E= C X D	F=E x 90%	G=E x 10%	H	I= H X C
1st Year	153	400	61200	55080	6120	10	1530
2nd Year	153	401	61353	55218	6135	9	1377
3rd Year	153	402	61506	55355	6151	10	1530
4th Year	153	403	61659	55493	6166	11	1683
5th Year	153	404	61812	55631	6181	10	1530
Total			307530	276777	30753		7650

9. Mining of rock mass will be worked out by opencast method of mining. Handling of rock mass will be done both manually and by excavators. Handpicks, spade, chisel, hammer will be used by manual labors for sorting and sizing. The loosening of rock mass will be done by drilling and blasting. Drilling will be done either by wagon drill or jack hammer taking in to consideration the bench height varying from 3 meter to 6m.
10. Mine road will be maintained between benches with Suitable gradient of haul road will be maintained in between 1 in 16 to 1 in 20.
11. Ultimate depth of Mining 178 mRL respectively. The proposed pit dimension will be 196m x 145m after plan period.
12. **Water Requirement** - 3KLD of water will be required from which 1KLD of water will be required for drinking & domestic purpose. 2 KLD of water is suggested to be utilized for dust suppression and plantation purpose. Water will be sourced from private water tankers and rain water harvesting from the existing quarry.
13. The total excavated rock mass will be utilised as road metal. Hence, 30753 cum of waste/reject will be generated in the plan period. Waste/rejects to be generated from the lease area will be utilised for making of mine road and allied infrastructures. The soil to be generated will be stacked in the earmarked temporary soil stack and will be utilised for the plantation purpose to be undertaken around quarry and adjacent to haul roads.
14. **Green Belt** - In the process, 1618 nos. of saplings will be used for plantation in the quarried out areas of 1.011Ha. within lease respectively.
15. **Power Requirement** - No use of electric power as the operation will be done in day time. However solar lights will be used for day to day living purposes. Tipper & Dumper will be used for transportation. So the approximate quantity of the fuel/Diesel used per day is 100 Lit/day.
16. **Employment Potential** - The mining activity will generate employment for 12 workers (Skilled-1nos., Semi-skilled-02nos. and Un-skilled-07nos.& Mines Manager/Mine Permit

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Manager-02nos).

17. The project cost is ` 20 lakhs.
18. The Environment consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar** along with the proponent has made a presentation on the proposal before the Committee on 09.04.2021.
19. The SEAC in its meeting held on 09.04.2021 recommended the following:
 - A. The Interstate Boundary Chhatisgarh is 1.5 km away from the boundary of the lease area. The proposal to be examined in light of order of the Hon'ble NGT whether general condition is applicable for this project.
 - B. If general condition is not applicable, then the proponent may be asked to submit the following information / documents followed by site visit of the sub-committee of SEAC to verify the impact of the mining activity on Hirakud Reservoir for taking decision on the proposal.
 - i) Project Proponent shall provide detail justification concerning non-applicability of general conditions as project is located at 1.5 Km distance from interstate boundary
 - ii) Certificate from the concerned DFO with respect to DLC land involved in the lease area and exact distance of lease from Eco sensitive Zone of Debrigarh Wild life sanctuary.
 - iii) Certificate from the concerned Tahasildar that there is no other mine located within 500 meter of the lease area. Distance of all nearby mines in Topomap with geo coordinates i.e., latitudes and longitudes of mines.
 - iv) Land documents with kizam of land.
 - v) Water bodies within lease area. How mining will be done within water body.
 - vi) Mitigation measures to be taken to ensure not to affect Hirakud reservoir and contamination of river due to mining.
20. The proponent had not responded to the queries raised in the online system as a result the proposal was delisted from the online system.
21. The proponent has now applied afresh without responding to the queries raised as above.
22. The MoEF&CC, Govt. of India notification vide S.O. 1886 (E), dated 20.04.2022 stipulates that all mining lease area in respect of minor mineral mining leases will be considered as "category B" project. However, the notification was silent about non-applicability of general condition for the minor mineral mining leases Subsequently, the MoEF&CC, Govt. of India vide notification no. S.O. 2163 (E), dated 09.05.2022 clarified that general condition is not applicable for mining of minor minerals.
23. The SEAC in its meeting held on dated 20-08-2022 decided to take decision on the proposal after receipt of following information / documents as sought for earlier followed by site visit of the Sub-Committee of SEAC to verify the impact of the mining activity on Hirakud Reservoir.
24. The proponent has furnished the compliance and the SEAC verified the same as follows:

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Certificate from the concerned DFO with respect to DLC land involved in the lease area and exact distance of lease from Eco sensitive Zone of Debrigarh Wild life sanctuary.	Submitted as Annexure – 1.	The land is not coming under DLC as certified by DFO. However, the proposed quarry is 7.15km from ESZ of Debrigarh Wildlife Sanctuary.
2.	Certificate from the concerned Tahasildar that there is no other mine located within 500 meter of the lease area. Distance of all nearby mines in Topomap with geo coordinates i.e., latitudes and longitudes of mines.	Submitted as Annexure – 2.	----
3.	Land documents with kizam of land.	Submitted as Annexure – 3.	----
4.	Water bodies within lease area. How mining will be done within water body.	Submitted as Annexure – 4.	The PP has mentioned the proposed quarry is located within the backwater area of Hirakud Dam which will remain submerged during rainy season. Therefore, mining will not be done during rainy season. PP has mentioned that NOC letter from EE, Main division Burla is attached but copy not found.
5.	Mitigation measures to be taken to ensure not to affect Hirakud reservoir and contamination of river due to mining.	Submitted as Annexure – 4.	----

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories (Pvt) Ltd. Pahala, Bhubaneswar**, the SEAC prescribed the following specific ToRs in addition to standard ToRs as per **Annexure-E** for mining project for conducting detailed EIA study.

- (i) Certificate from the concerned Tahasildar about the geo coordinates and other mines located within 500 meter from the periphery of the lease boundary.
- (ii) Distance of the nearest habitation / village (s) etc. from the lease boundary duly certified by the concerned Tahasildar.
- (iii) Details of waste management i.e., quantity to be used, stored and the waste composition.
- (iv) NOC from concerned competent authority for usage of road for transportation of minerals.
- (v) Plantation on both sides of approach road and its maintenance.

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- (vi) Zero discharge from lease area to be maintained.
- (vii) In case village / any habitation is very nearby, plan to ensure safety of human life and livestock from accidents be submitted.
- (viii) Number and type of vehicles to be engaged per day and their frequency of plying.
- (ix) Certificate from the concerned DFO / Tahasildar that there is no DLC land involved in lease area. Distance of the mines from the boundary of the Notified Eco-Sensitive Zone / Wildlife Sanctuary if any.
- (x) Land documents with kisam of land.
- (xi) The proposed quarry is located within the backwater area of Hirakud Dam which will remain submerged during rainy season. NoC from Water Resources Department, Govt. of Odisha shall be obtained for this purpose. Copy of the NoC obtained from Water Resources Department, Govt. of Odisha shall be submitted along with EIA/EMP report.
- (xii) Mitigation measures to be taken to ensure not to affect Hirakud reservoir and contamination of river due to mining.
- (xiii) The project proponent shall maintain periodic health check-up records of their employees and ensure use of face mask by workers in crushing and handling sections of the stone quarry for ensuring that working personnel are not affected by silicosis.

ITEM NO. 06

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR NIZGARHZAMI SAND MINING PROJECT OVER AN AREA OF 10.06 HA. OR 24.86 ACRE LOCATED AT VILLAGE - NIZGARHZAMI, TEHSIL- TALCHER, DISTRICT- ANGUL OF SRI PITAMBAR BHUTIA – EC

1. The proposal is for Environmental Clearance for Nizgarhzami Sand mining project over an area of 10.06 Ha. or 24.86 Acre located at Village - Nizgarhzami, Tehsil- Talcher, District- Angul of Sri Pitambar Bhutia.
2. The project falls under category “B” or activity 1 (a) - Mining of Minerals under EIA Notification dated 14th September 2006 as amended from time to time.
3. Nizgarhzami Sand mining project over an area of 10.06 Ha. or 24.86 Acre located at Village - Nizgarhzami, Tehsil- Talcher, District- Angul.
4. Terms of Reference was issued vide letter no. 1341/SEIAA dated 24.05.2021 by SEIAA, Odisha.
5. Public Hearing was conducted in 24.11.2021 at Tahasil Office , Talcher under Angul district, Odisha. Major issues of PH are Employment opportunity to local villagers, Plantation in village and Water sprinkling for dust suppression.
6. Baseline study was conducted during post Monsoon in Dec, 2020 to Feb, 2021.
7. Replenishment Study has been submitted and study says replenishment of Sand to be 20120cum which is more than the proposed annual production of 18000cum.
8. **Location and Connectivity** - The area under discussion is featured in Survey of India Topo Sheet No – 73H/1 and is bounded between the Latitude -20° 55’ 20.56” N to 20° 55’ 35.14” N

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& Longitude – 85° 14' 19.86" E to 85° 14' 31.77" E. The Lease area is located at a distance of 3.2kms from Talcher town, 21kms from the District Headquarters Angul and 130kms from the State Capital Bhubaneswar. Talcher Railway station is the nearest railway station located at a distance of 4.13kms from the lease area. Nearest Road bridge is at a distance of 1kms from the mining lease. Metal road connecting to the lease area with the village – Nizgarhjami is at distance of 0.32 meters. SH – 63 is the nearest State Highway which is at distance of 17.7km. NH 200 is the nearest National Highway at 1km and NH 23 which is major district road at a distance of 2.5kms.

9. The mining lease area is listed as an identified sand minor mineral in the DSR page no – 20, Serial no – 11 of the Angul district.
10. The Mining plan has been approved by the Joint Director of Geology Zonal Survey, Dhenkanal vide letter no- 666 on dated 01.06.2020.
11. **Reserves and Production** - Total Geological Reserve of Kanaka Sand Bed is 103069 cum and Mineable Reserve is 90636 cum. The average production is proposed to be 18000 cum/year and 90000 cum is the total production during the plan period. The sand will be excavated by open cast semi mechanized method and by manual method also.
12. **Employment Potential** - Total number of employment will be around 30 including Skilled, Semiskilled and Unskilled
13. **Water requirement** - 7 KLD of water will be required for drinking, domestic purpose and for dust suppression. Water will be withdrawn from tube wells from nearby village through water tankers.
14. Green belt shall be developed along the approach roadside & in nearby village after consultation with local villagers with the native tree species. 940 saplings will be planted and local species like Chakunda, neem etc as per the availability.
15. The estimated project cost is ` 60lakhs and EMP cost is Rs. 4,67,000 and recurring cost Rs. 4,20,000.
16. The project proponent along with the consultant **M/s P & M Solutions, Noida (U.P)** made a detailed presentation on the proposal on 05.08.2022.
17. The SEAC in its meeting held on dated 05-08-2022 decided to take decision on the proposal after receipt of certain information/ documents from the proponent.
18. The proponent has furnished the compliance and the SEAC verified the same as follows:

SI. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
1.	Undertaking by Tahasildar that Haulage Road is not constructed.	There is no Haulage road is constructed over the plot.	Report of the R.I Sadar, Talcher has mentioned there is no haulage road constructed which has been submitted by Tahasildar, Talcher.
2.	Distance of Talcher King Palace	The Sand quarry is approximately 4.2Km.,	

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	from proposed quarry and distance of new barrage being constructed.	away from the Talcher king's palace.	--
3.	NOC certificate from Irrigation Dept. that proposed mining will not affect the barrage proposed/under construction adversely.	Physically there is no barrage in the proposed site at Brahmani river and also no such information is available at R.I Office, Sadar, Talcher regarding the proposed new barrage.	Joint inspection report was conducted by the AEE, Flood Sub-Division, Angul, AEE, Derjang Aunli Irrigation Sub – Division, Angul and R.I. Talcher (Sadar) on 27.09.22 which states that, the site is feasible for sand quarry, but after completion of the In stream storage structure, over river Brahmani near village Khalpal in Talcher Block, the sand quarry may be affected due to the storage of water in upstream side of Barrage. The distance between proposed quarry and In- stream Storage structure is 4km
4.	Mining plan shall be prepared based on essential physical criteria as per Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India enclosed as Annexure – B . Layout of progressive Mine Closure Plan shall also be incorporated in the Mining Plan.	The site of proposed barrage as identified by Dibakar Behera, AEE, Flood Sub-Division, Angul & Kumari Chirasmitta, AEE, Derjeng – Aunli Sub- Division, Angul is approximately 4Km. Away from Nizigarh Zami Sand quarry.	Same as above.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories Pvt. Ltd., plot no. 78/944, Millennium city, Pahala, Bhubaneswar – 752101**, the SEAC recommended for grant of Environmental Clearance for the proposal valid upto lease period with stipulated conditions as per **Annexure – F** in addition to the following specific conditions.

- i) Revised mining plan shall be prepared based on essential physical criteria as per Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India enclosed as **Annexure - G**.
- ii) Regular replenishment study to be conducted and report to be submitted.
- iii) Provision of Bio-toilet shall be made at the site.

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- iv) Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.
- v) Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.
- vi) NOC from Irrigation Deptt., Govt. of Odisha shall be obtained that proposed mining will not affect the barrage proposed/under construction adversely. Mining activity shall be commenced after obtaining NoC from Irrigation Deptt., Govt. of Odisha.

ITEM NO. 07

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR BHAGABANPUR DECORATIVE STONE AN AREA 4.50 HA. BEARING KHATA NO. 215, PLOT NO.705 (PART), 711 (PART), 714 (PART) IN VILLAGE -BHAGABANPUR, TEHSIL - KUKUDAKHANDI, DISTRICT-GANJAM OF MD IRFAN RAZZAK – EC

1. This proposal is for Environmental Clearance for Bhagabanpur Decorative Stone an area 4.50 ha. bearing Khata no. 215, Plot no.705 (Part), 711 (Part), 714 (Part) in village -Bhagabanpur, Tehsil - Kukudakhandi, District-Ganjam of Md Irfan Razzak.
2. The project is categorized under Category-B1 as the total lease area under cluster approach is more than 5 Ha (2 other mines are in the cluster) and is present in Schedule under item 1(a) in the EIA notification, 2006 and its subsequent amendments thereto.
3. This present proposal of Bhagabanpur Decorative Stone is a stone mining project and the total area is 4.50 Ha. / 11.12 acres and is located in Mouza - Bhagabanpur, Tahasil - Kukudakhandi, District - Ganjam of Odisha.
4. All the mining leases is granted by Tahasildar, Kukudakhandi, Ganjam and has been auctioned and leased out to the successful bidders. The LOI for mining has been issued for 5 years period vide letter no. 6602/SM, dated 06.09.2019. Now, Md. Irfan Razzak Niladri Vihar, (IInd Lane Extension), Aska Road, Berhampur-760001, Dist: Ganjam, Odisha. has applied for Environment clearance for the Bhagabanpur Decorative Stone.
5. TOR letter has been issued vide letter no. 1799/SEIAA on 26.07.2021.
6. Baseline study has been conducted for post monsoon season of 2020 i.e, from December, 2020 to Feb, 2021.
7. Public hearing was exempted for this project because Public Hearing previously was conducted for other 2 mines present in cluster on dated 02-07-2014. At the time of TOR (Terms of Reference), SEAC meeting held on 13.11.2020 had clarified that the same public hearing is valid for this project.
8. The Mining Plan of stone quarry has been approved by the approving authority, Office of the Joint Director of Mines, Odisha, Bhubaneswar for period of 5 years vide letter no 3118/DM on 15.05.2020.
9. **Location And Connectivity:** The Bhagabanpur Decorative Stone is proposed on Khata no- 215, Plot no- 705(P), 711(P), 714(P) of Parbat Kissam in Mouza - Bhagabanpur in Tahasil Kukudakhandi in Ganjam District of Odisha. The area under discussion is featured in Survey of India Topo Sheet No – 74A/11 and is bounded between the Latitude: 19°20'20.00"N to

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19°20'29.12854"N, Longitude: 84°44'08.30" E to 84°44'19.15"E. The lease area is located at a distance of 16 km from Mouza Berhampur and at a distance of 33 kms from Tahasil/ District Ganjam and 155.04 kms from the State Capital Bhubaneswar. Berhampur Railway station is the nearest railway station located at a distance of 16 kms from the lease area. Nearest Road bridge is at a distance of 1.5 km from the mining lease area. Metal road connecting to the lease area is at distance of 3 km. SH – 17 is the nearest State Highway at a distance of 3 kms. Major district road is at distance of 3 km. NH-59 is the nearest National Highway which is at a distance of 12 km.

10. The mining lease area is identified and listed in the DSR of Ganjam under minor mineral - stone and is mentioned in Annexure – IX.
11. **Reserves, Method of Mining and Production** – The geological reserves is 126547 cum and Mineable reserves is 92948 cum. Bhagabanpur Decorative Stone is a minor mineral extraction project for exploitation of stone. The average production from the mining is proposed to be 3105 cum/year and total production will be 12,285 cum during the valid lease period of 5 years. The method of mining is proposed as Open cast semi-mechanized method as well as manual method. There is no overburden outside the mine lease area. During the plan period over 0.358ha of land in the south-western side of the M.L area is proposed for waste dump. A total of 36,858 cum (in-situ) waste/rejects is likely to be generated during the plan period. Depending upon the essentially about 70 % of these waste/rejects will be utilized con-currently for construction and maintenance of road in the lease area and will be disposed of as minor mineral other than decorative stone with the permission of the competent authority.

Total Production of the Bhagabanpur Decorative Stone

Year	Total Volume of Excavation M ³	Waste Volume @ 45%: m ³	Present Presently non-saleable stone @ 40% (m ³)	Vol of Decorative Stone (Block & Khanda) @15% (m ³)
1 st Year	12000	5400	4800	1800
2 nd Year	14300	6435	5720	2145
3 rd Year	16100	7245	6440	2415
4 th Year	18800	8460	7520	2820
5 th Year	20700	9315	8280	3105
Total	81900	36855	32760	12,285

12. **Green Belt** in the lease area shall be developed over an area of 0.793 Ha and 3700 saplings will be planted during the valid plan period. This project is expected to meet the demand supply gap of the area for different uses in the domestic market.
13. **Water requirement:** Water requirement for the project will be 11.0 KLD. Water required in the project will be for drinking purpose and dust suppression, which will be sourced from water tanker.

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14. **Power Requirement:** Power Requirement will be required for mining operations and transportation will be met through diesel. Site services in the mining lease area will be electrified by power supply from Orissa Electricity board.
15. **Employment Generation:** Employment Generation from the project is 32 nos. of people and OMS has been assumed to be 0.5 cum. Indirect employment through creation of shops/ stalls, hired vehicles, etc. also can be generated to full fill the day to day requirements of the mining personals.
16. **Project Cost:** The total project cost of entire mining is 90 lakhs and EMP cost is Capital cost Rs. 7.15 lakhs and Recurring cost 10.69 Lakhs/annum.
17. The Environment Consultant **M/s P & M Solution, Noida** along with the proponent made a detailed presentation on the proposal before the Committee.
18. The SEAC in its meeting held on dated 02-09-2022 decided to take decision on the proposal after receipt of the following information / documents from the proponent.
19. 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.	In view of the likely revision of DSR for Ganjam District in future the details of this Minor Mineral reserve to be ensured in the revised DSR.	No information has been furnished	Not complied
2.	NOC from concerned competent authority for usage of road for transportation of minerals.	Undertaking by Lessee that transportation of minerals will be done in existing road. No NOC has been furnished by the proponent.	Not complied
3.	Plantation on both sides of approach road and its maintenance.	No information has been furnished.	Not complied
4.	Zero liquid discharge from lease area to be maintained.	Brief note submitted	-
5.	In case village / any habitation is very nearby, plan to ensure safety of human life and livestock from accidents be submitted.	Sarpanch has certified that the nearest habitation is at 1km	-
6.	NOC of BDO of Panchayat for usage of haulage road/ Panchayat Road.	Not furnished	Not complied
7.	Silt management and mitigation from agricultural fields and water bodies nearby.	Submitted	Not properly arranged or explained
8.	Composition of wastes/dumps and it's storage plan for different years with proposed layout	Submitted	Not properly arranged or explained
9.	Mitigation of flying rock if likely to generate due to possible use of explosive.	Not furnished	--

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
10.	The EIA and CSR activities should be made in cluster approach.	EMP and CSR budgets for the cluster submitted.	Complied
11.	ToR was issued to conduct EIA study and submit final EIA report after conducting public hearing. However, the proponent has submitted EIA report without conducting a fresh public hearing and intimated during presentation that public hearing is not required as a public hearing has already been conducted in 2014. The proponent has to give a detailed justification as to why a fresh public hearing will not be conducted.	MoEF notification S.O. 2269(E) dated 01.07.2016 has been submitted and copy of Public Hearing of Dakhinapur Decorative stone of Ajax Petro has been submitted. Proceedings of SEAC Meetings 13.11.2020 and 02.09.2022 has been submitted.	Not properly arranged or explained Proper justification not given
12.	Detailed status of all the mines in cluster.	Mining officer, Ganjam Circle, Berhampur has certified presence of 2 mines, Bhagabanpur Decorative Stone mines of M/s Ajax Petro and Bhagabanpur Decorative Stone mines of M/s Neelachal Granites Pvt. Ltd. are within the 500m radius periphery of the proposed quarry.	Complied

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

- i) In view of the likely revision of DSR for Ganjam District in future the details of this Minor Mineral reserve to be ensured in the revised DSR
- ii) NOC from concerned competent authority for usage of road for transportation of minerals
- iii) Plantation on both sides of approach road and its maintenance
- iv) NOC of BDO of Panchayat for usage of haulage road/ Panchayat Road
- v) Silt management and mitigation from agricultural fields and water bodies nearby
- vi) Composition of wastes/dumps and it's storage plan for different years with proposed layout
- vii) Mitigation of flying rock if likely to generate due to possible use of explosive
- viii) ToR was issued to conduct EIA study and submit final EIA report after conducting public hearing. However, the proponent has submitted EIA report without conducting a fresh public hearing and intimated during presentation that public hearing is not required as a public hearing has already been conducted in 2014. The proponent has to give a detailed justification as to why a fresh public hearing will not be conducted.

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ITEM NO. 08

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S. STALWART PROJECT PVT LTD FOR PROPOSED B1+B2+G+6(BLOCK-A) COMMERCIAL, B1+B2+S+31(BLOCK-B) RESIDENTIAL BUILDING, B1+B2+S+13 (BLOCK-C) RESIDENTIAL BUILDING & G+3 CLUB HOUSE (BLOCK-D) OVER BUILT-UP AREA OF 63560.91 SQM STORIED RESIDENTIAL COM COMMERCIAL BUILDING AT MOUZA- PATIA, BHUBANESWAR, DIST – KHORDHA OF SRI SARAT KUMAR SAHU – EC

1. The proposal is for Environmental Clearance of M/s. Stalwart Project Pvt Ltd for proposed B1+B2+G+6(Block-A) Commercial, B1+B2+S+31(Block-B) Residential Building, B1+B2+S+13 (Block-C) Residential Building & G+3 Club House (Block-D) over built-up area of 63560.91 sqm storied residential com commercial building at Mouza- Patia, Bhubaneswar, Dist – Khordha of Sri Sarat Kumar Sahu.
2. As per EIA Notification dated 14th Sept, 2006, as amended from time to time; this project falls under Category “B”, Project or Activity 8(a) Building and Construction projects (EIA Notification dated 14th Sep, 2006 as amended on 2009).
3. M/s Stalwart Projects Pvt. Ltd. has proposed for Development of Housing Project on 2.44 Acres of land at Plot No.: 306/1712/4449, 306/1712/4450, 306/1712/4935, 306/1712/4256, 306/1712/4840, 306/1712/4812, 306/1712/4841, 306/1712/4963, 306/1712/4033, 306/1712/4163, 306/1712/4695, 306/1712/4255, 306/1712/3986, 306/1712/5692, 306/1817, 306/1711/5556, 306/1711/5557 & 306/1711/5558 on Khata No- 474/2770, 474/2771, 474/3474, 474/3700, 474/3160, 474/3162, 474/6177, 474/3988, 474/2369, 474/2506, 474/3470, 474/3000, 474/2601, 474/2331, 474/6210, 474/5007, 474/5008 & 474/5009, Near NH-16 Road, at-Patia, Bhubaneswar, Odisha.
4. **Location and Connectivity** – The proposed site is located at Patia, Bhubaneswar, Odisha. The Geographical co-ordinate of the project site is: Latitude - 20° 21' 34.1" N & Longitude - 85° 49' 41.8" E. The project site is well connected with National Highway-16 (Jharpokharia-Chennai Road). The nearest railway station is Patia P.H. Railway station at a distance of approx 1.9 Km. The nearest airport is Biju Pattnaik International Airport Bhubaneswar at a distance of approx. 12.4 Km in South-West direction from project site.
5. The site is coming under Bhubaneswar Development Authority.
6. Bhubaneswar Municipal Corporation has provisionally approved the building plan vide letter no. 23849, dated 05.05.2022.
7. Height Clearance from Airport Authority of India vide NoC Id no. BHUB/EAST/B/110421/633732, dated 11.11.2021.
8. The building details of the Project:

Particular	Proposed	Permissible
Project Name	Proposed B1+B2+G+6 (Block-A) Commercial, B1+B2+S+31 (Block-B) Residential Building, B1+B2+S+13 (Block-C) Residential Building & G+3 Club House (Block-D)	--

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Plot Area	9895.0 sqm	--
Ground Coverage	3940.04 sqm (39.82 % of Plot area)	--
Total FAR Area	63560.91 sqm	--
Built Up Area (Residential)	54396.79 sqm	--
Built Up Area (Commercial)	9164.12 sqm	--
Total Built up Area	80683.44 sqm	
FAR	6.42	--
Maximum Height	92.07 mtr (Residential) 25.2 mtr (Commercial)	--
Road & Paved Area	4122.16 sqm	--
Parking Area	17928.48 sqm (30 % of Residential FAR Area + 50 % of commercial FAR Area)	17751.78 sqm (30 % of Residential FAR Area + 50 % of commercial FAR Area)
Green Belt Area	2218.45 sqm (22.42% Plot Area)	1979.0 sqm (20% Plot Area)
Power/Electricity Requirement & Sources	3372 KW Source: TPCODL	--
No. of DG sets	4 x 750 KVA	--
Fresh Water requirement & Sources	270.48 KLD Source-Ground Water	--
Sewage Treatment & Disposal	STP Capacity 350 KLD	--
Estimated Population- Residential, Floating/visitors	3146 nos.	--
Estimated Population- Commercial, Floating/visitors	150 nos.	--

9. **Water Requirement** – Fresh make up revised to 217 m³/day in ADS submitted will be required for the project which will be sourced from Ground water. Waste water of 292.6 KLD will be treated in a STP of 350 KLD capacity, which includes primary, secondary and tertiary treatment. After treatment the treated water will be discharge will 34.7KLD to the Nearest Drain in Non-Monsoon period and 74.0KLD in Monsoon period.

10. **Total no. of Rain water Harvesting pits** – 44 nos for the project.

11. **Power Requirement** – The daily power requirement for the proposed Project is preliminarily assessed as 3372 KW source from TPCODL of Odisha State Electricity Board. In order to meet emergency power requirements during the grid failure, there is provision of 4 nos. of DG set having 750 KVA (4 Nos.) capacities for power back up in the Housing Project.

For energy saving,

Energy Conservation by using Solar Street Lighting = 70 x 72= 5040 W, 5.04 KW

Energy generated by 85 nos. of PV solar panel per day = 175.92 KW

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Total Energy Saving = (175.92+5.04) KW = 180.96 KW

Total Solar Energy saving = 180.96/3372 = 0.0536 x 100 = 5.36 %

12. **Solid waste Management** – From the proposed Housing project solid waste in form of food waste from kitchen and miscellaneous waste will be generated @ 0.45 kg/person/day, which will be about 1287.0 kg/day and waste generated from the commercial will be @ 0.15 kg/day, which will be 22.5 kg/day. The waste generated from floating population in residents will be @ 0.15 kg/day, which will be 42.9 kg/day.

S. No.	Category	Counts (heads)	Waste generated
1.	Residents	2860 @ 0.45 kg/day	1287.0 kg/day
2.	Commercial population(including Floating Population)	150 @ 0.15 kg/day	22.5 kg/day
3.	Floating population in residents	286 @ 0.15 kg/day	42.9 kg/day
4.	STP sludge		60.0 kg/day
Total Solid Waste Generated			1412.4 kg/day

13. **Green Belt**- Green belt will be developed over an area of 2218.45 sqm (22.42 %) of the plot area; by using the local species like Radhachuda, Nageswar, Akash Neem, Ashok, Polanga, Karang, Bela, Pijilu, Kaniara, Tagar, Hena, etc.
14. **Parking Details** – Total parking area of the project is revised to 22061.62 sqm/ 703 ECS.
15. The project cost is ` 75 crores and Environmental Monitoring programme – 2.2 crores.
16. The proponent along with the consultant **M/s. Centre for Envotech & Management Consultancy Pvt. Ltd. Bhubaneswar** made a detailed presentation before the SEAC on the proposal.
17. The SEAC in its meeting held on dated 18-05-2022 decided to take decision on the proposal after receipt of the following information / documents from the project proponent followed by site visit of the Sub-Committee of SEAC.
18. 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.	2 separate Entry and Exit gates for commercial and Residential units.	The separate entry & exit will be provided for Residential & Commercial Units. The layout plan showing both entry & exit is attached in Annexure - 1 .
2.	No. of DG sets calculation needs to be rechecked. PP has stated to have 4 nos. of DG sets with capacity of 750KVA each, totaling to 3000KVA. The basis of deriving the number & capacity be	Total Power Requirement of the project is 3372 KW which will be sourced from TPCODL and total two nos. of DG set (750 KVA) will be provided for the proposed building project.

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	submitted and reworked out to reduce the number & cumulative capacity and be submitted.	
3.	Capacity of STP needs to be increased, and submission of calculation of water balance of 135KLD. Basis of arriving at population of residents, visitors, club and commercial complex be submitted with details of water consumption, flushing water & water balance thereof. Accordingly, STP capacity be revisited and confirmed.	Total Fresh Water Requirement of the projects is 217.0 KLD and total 292.6 KLD waste water will be generated in the proposed building. The STP capacity is 20% more of total waste water generation. So STP capacity is 350 KLD. The revised water balance is attached in Annexure-2 .
4.	Excess treated waste water is said to be discharged to nearby drain. Thus, the distance of the drain from the project boundary and the ownership / Row of the said land be submitted along with the permission from drain Authority to take the Addl. Load of this project. Besides, the start & the fall out of the drain to which the treated waste water will be discharged be informed.	Total 34.7 KLD treated water will be discharged to nearest Municipal drain which is adjacent to the proposed project site. We have already applied to BMC for discharged of treated water in this drain, once the permission letter will be received from BMC we will submit to SEAC/SEIAA committee before commencement of the project.
5.	No of rain water harvesting pits (RWHP) 11 Nos has been calculated. This calculation be re-visited taking in to consideration of hourly maximum rainfall in 24hours is past 30 years based on logical climate data with real time input an co-efficient of run-off & retention time or reference be submitted on their basis.	Rain Water harvesting pits (RWHP) have been calculated as per 30 years Rainfall data (1988-2021), as per 30 years Rainfall maximum rainfall 150 mm/hr is considering. So total rain water available for recharging is 258m ³ an total 44 nos. of rain water harvesting pits has been provided for ground water recharging. Detail calculation is given in Annexure-3 .
6.	Structural Stability Certificate from an institute of repute like- NIT, IIT etc. shall be submitted as per the bye law of the Development Authority.	Structural Stability Certificate is attached in Annexure-4 .
7.	Parking in terms of ECS & space, both for 4 wheelers / 2 wheelers / Bicycle for residential apartment as well as commercial complex as per the norms showing the demarcation in the layout map be submitted, considering the residents, visitors & floating population for commercial complex as well be submitted.	Total parking area provided for the proposed building is 22061.62 sqm and 703 ECS provided for the building is 600 nos. of 4 wheelers & 450 nos. of 2 Wheelers including bicycle. Detailed parking calculation is attached in Annexure-5 .
8.	Availability of surface water through PHED/WATCO pipeline and evidence of refusal.	The Public water supply is not available in the nearby the project area; once the public water supply is available the permission will be

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		obtained from Public Health Division (PHD).
9.	Permission from WR Deptt. to be taken for water both for residential and use in commercial complex.	Ground water application is already submitted to CGWA vide application no. 21-4/4091/OR/INF/2022, once the permission is obtained from CGWA we will apply to Water Resource Department, Odisha. Ground Water application copy is attached in Annexure-6 .
10.	Provisions of solar power (5.36%) of total power demand in stated to have been made. Details of plan and consumption calculation vis-s-vis the generation of the same be submitted.	Total power generation from Solar system is 180.96 KW through 85 nos, of PV panels & 70 nos, of Solar Street Lighting. Total power demand of the proposed building is 3372.0 KW. So total solar power generation from the proposed building is 5.36% of total power demand. For Solar Power distribution, 70 Nos. of Solar Street Light poles of 5.04 KW capacity is directly connected with Solar Panel and 175.92 KW Solar energy generated from 85 nos, of PV panel is directly connected with electric grid Details solar calculation is attached in Annexure-7 .
11.	Fresh traffic study to be carried out by an institute of repute (the vetted report will not be acceptable) and submitted once again.	Traffic Study has been carried out by CEMC. The vetted Traffic Study report is attached in Annexure-8 .
12.	Location of the DG set w.r.t predominant wind direction vis-à-vis the location of the apartment & commercial complex be submitted along with installation drawing of the exhaust pipe of the stack of DG Set be submitted. The capacity numbers and location of DG set to be reviewed to prevent noise and air pollution impact on the residents.	The predominant wind direction of the proposed project area is South and the DG set will installed as wind flow from South to North. The DG set position is marked in the layout with respect to predominant wind direction and location of the building tower along with installation drawing/ layout is enclosed as Annexure-9 .
13.	Stretch and width of greenbelt with number of plants to be planted and species be submitted. The space for mechanical ventilation units and rain water harvesting pit should not be calculated as part of the greenbelt and landscape.	Total greenbelt area provided for the proposed building is 2218.45 sqm, which is 22.42% of the total plot area (9895.0 sqm). We propose to develop three tier hierarchal green belt along the periphery of the building. Greenbelt drawing is attached in Annexure-10 .
14.	Layout of internal drainage map showing the drain network till fall out and RWH and Recharging pits.	Layout map showing internal drainage network, storm water drainage line, sewer water line is attached in Annexure-1 .

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
15.	Source of water is stated to be ground water to the tune of 270.58 KLD. PP need to submit a letter from the authority (Watch/ PHD/ Municipality) that they will not be able to supply pipe water.	The Public water supply is not available in the nearby the project area; once the public water supply is available the permission will be obtained from Public Health Division (PHD). Ground Water application is already submitted to CGWA vide application no. 21-4/4091/OR/INF/2022, once the permission is obtained from CGWA we will apply to Water Resource Department, Odisha
16.	It is stated that 134.70 KLD treated waste water will be reused for vehicle/ AC make up/ other use. The detail calculation be submitted.	Total Fresh Water Requirement of the project is 217.0 KLD and total 292.6 KLD waste water will be generated in the proposed building. Total 278 KLD treated water will be reused in Flushing, HVAC, Green belt Development & Dust Suppression. The revised water balance is attached in Annexure-2 .
17.	Power of Attorney from all land owners in favour of the PP for the plot s area be submitted and Kisam of the land in "Sabik & Haal" land record with conversion to Gharabari be submitted.	Total land area of the proposed project is 9895.0 sqm and the kisam of land is Gharabari. Land document is attached in Annexure-11 .
18.	Number of overhead tanks with capacity and norms of water consumption for fresh water in residential areas and commercial areas.	Per head 135 liters per day water will be required for residential building & 45 liters per day per head required for commercial building. Total fresh water requirement of the proposed project is 217 KLD. Total 4 nos. of overhead tank is provided for the proposed building.
19.	Similarly, no. of OH Tan for storage of STP treated wastewater for reuse in flushing of toilets supplied through dual plumbing system.	Total two nos. of Overhead tank is provided for STP treated water storage purpose.
20.	The fire Safety recommendation by the state Sire Service Wing be submitted	Fire safety clearance is under process, once fire clearance is received we will submit to the SEAC/SEIAA.

After detailed discussion, the SEAC decided to take decision on the proposal after the site visit by the sub-committee of SEAC.

ITEM NO. 09

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S SASWAT INFRASTRUCTURE PVT. LTD. FOR PROPOSED MULTI STORIED RESIDENTIAL APARTMENTS BUILDING PLAN WITH COMMERCIAL FACILITY OF LS+US+12 OVER AN TOTAL BUILT UP AREA OF 43,223.23 SQM LOCATED AT MOUZA: PATAPUR, DIST: CUTTACK OF SRI SWADESH KUMAR ROUTRAY – EC

1. The proposal is for Environmental Clearance of M/s Saswat Infrastructure Pvt. Ltd. for proposed Multi Storied Residential Apartments building plan with Commercial Facility of LS+US+12 over an total built up area of 43,223.23 sqm located at Mouza: Patapur, Dist: Cuttack.
2. As per EIA Notification dated 14th Sept, 2006, as amended from time to time; this project falls under Category “B”, Project or Activity 8(a) Building and Construction projects (EIA Notification dated 14th Sep, 2006 as amended on 2009).
3. **Location and Connectivity** – The proposed site is located at Mouza-Patapur, Dist- Cuttack, Odisha. The Geographical co-ordinate of the project site is: Latitude – 20°26'51.52"N & Longitude - 85°50'0.98"E. River Katajorhi is flowing at a distance of 200 metres in the North direction. The Nearest Railway Stations are Barang at 5.5 Km, Cuttack Railway Station is 7.2 km from project site and Bhubaneswar Railway Station is at a distance of 20 Km (by road) from Project site. The nearest Airport is Biju Patnaik Airport, Bhubaneswar, which is approx. 23 km (by road) from the project site.
4. The site is coming under Cuttack Development Authority.
5. The total plot area is 9359.81 sq meters (2.31Acres). with total built-up area 43,223.23 SqM.
6. The building details of the Project:

Particular	Proposed	Permissible
Project Name	Saswat Infrastructure Pvt. Ltd.	--
Plot Area	9432.52 Sqm	--
Ground Coverage	3743.02 sqm (39.99 %)	--
FAR (Floor Area Ratio)	3.632	-
FAR Area	34259.91 sqm	
Built up Area	43223.23 sqm	--
Maximum Height	45.04 m	--
Total Parking Area	8547.22 sqm	
Green Belt Area	1871.96 sqm (20 %)	1871.96 sqm (20 %)
Road Area	1829.66 sqm	
Parking Area	Covered – 6632.05 sqm Open – 1915.17 sqm Total – 8547.22 sqm	8525.53 sqm
Maximum No. of Floor	LS+US+12	--
Power/Electricity Requirement & Sources	Total – 1566.6 KW Solar – 98.24 KW TPCODL – 1468.36 KW	--
No. of DG sets	1x200 KVA & 1x82.5 KVA	--

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Water requirement	137.2 KLD (Fresh)	--
Sewage Treatment Plant	STP Capacity - 200 KLD	--
Estimated Population-Residential, Commercial, Floating/visitors	Residential - 1477 Nos. Floating – 148 Nos. Commercial- 58 Nos.	--

7. **Water Requirement** – Fresh make up of 137.2 m³/day will be required for the project which will be sourced from Ground water. Waste water of 177.9 KLD will be treated in a STP of 200 KLD capacity, which includes primary, secondary and tertiary treatment.

8. Rain Water will be harvested through 18 nos. of Rain Water recharging pits.

9. **Power Requirement** - The total consolidated electrical load estimate for proposed project is about 1768.5 KW. Power from Solar is 98.5 KW. The 1670.0 KW power will be supplied by 11 KV source of TPCODL of Odisha State Electricity Board. Also, in case of power cut, 100 % power backup generator will be provided for common uses only. For this purpose diesel generator having 200 KVA (1 no.) & 82.5 KVA capacities will be provided.

There are 80 nos. of Solar Lighting poles (@72 Watt) has been proposed for Street lighting, Energy conservation by using Solar Street Lighting = 80 x 72 = 5760 watt = 5.76 KW

Energy Saving by using Solar Lighting = 92.44 KW

Energy Saving by using Solar Street Lighting = 5.76 KW

Total Energy Saving = (92.44 + 5.8) KW = 98.24 KW

Total Solar Energy saving = 98.24/1566.6 = 0.0627 x 100 = 6.27 %.

10. **Solid waste Management** - From the residential complex solid waste in form of food waste from kitchen and miscellaneous waste will be generated @ 0.45 kg/person/day, which will be about 664.7 kg/day. The generated solid waste from the residential complex will be segregated as biodegradable and non-biodegradable. This will be collected in separate colored bins. Proper waste management practices will be adopted during the collection, storage and disposal of the generated solid waste and construction and demolition waste.

S. No.	Category	Counts (heads)	Waste generated (kg/day)
1.	Residents	1477 @ 0.45 kg/day	664.7
2.	Floating Population	148 @ 0.15 kg/day	22.2
3.	Retail Shop	66 @ 0.15 kg/day	9.9
4.	STP sludge		85.0
TOTAL SOLID WASTE GENERATED			781.9 kg/day

11. **Green Belt**- Green belt will be developed over an area of 1871.96 sqm which is 20.0 % of the plot area; by using the local species like Radhachuda, Nageswar, Akash Neem, Ashok, Polanga, Karang, Bela, Pijilu, Kaniara, Tagar, Hena, etc.

12. **Parking Details** – Total parking area allocated to the project is 8547.22sqM/ 314ECS.

13. The project cost is ` 180 crores and Environmental Monitoring programme – 3.6 crores.

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14. The proponent along with the consultant **M/s. Centre for Envotech & Management Consultancy Pvt. Ltd. Bhubaneswar** made a detailed presentation before the SEAC on the proposal on **22.12.2021**.
15. The SEAC in its meeting held on dated 22.12.2021 decided to take decision on the proposal after receipt of the following information / documents from the project proponent followed by site visit by the Sub-Committee of SEAC to the proposed site.
- (i) "Kisam" of the land along with relevant document from appropriate Revenue Authority be submitted.
 - (ii) The source of water is 'Ground Water' as stated. Why cannot be surface water / pipe water supply? Letter from the appropriate authority be submitted that surface water / pipe water supply from CMC / WATCO/PHD is not possible.
 - (iii) PH value of ground water from the baseline study data reveals that it is 6.91 against the norm of 6.5-8.5. Thus, from health point of view, measures to improve the same be submitted.
 - (iv) No. of rain water harvesting pits (14 nos.) has been arrived with maximum rain fall as 120 mm/hr in 24 hours and retention time as 25 mts with co-efficient of run off as 0.70 for paved area. This calculation be revisited taking into consideration of maximum rain fall is 24 hours in past 30 years based on logical climate data (Date taken for 10 years up to 2018 by PP) and norm for retention time /co- efficient of run-off with relevant reference be submitted as well.
 - (v) Parking in terms of space of ECS, both for 4 wheelers / two wheelers / by-cycles for residential apartment as well as commercial complex as per the norms showing the demarcation in the layout map be submitted, considering the residents, visitors and floating population for commercial complex as well.
 - (vi) Provision of solar power (5.68% of total power demand of 89.1 KW) is stated to have been made. Details of plan and consumption calculation vis-à-vis the generation of the same be submitted.
 - (vii) 1871.96 m² land (exactly 20% has been stated to have been taken for green belt development. As such, details of dimension of green belt continuous stretch surrounding the boundary with three tier plantations (indicating the species) be submitted.
 - (viii) Traffic study be undertaken by a domain expert at the intersecting point with public road /NH/SH, considering the traffic 10 years ahead with other projects and decongestion plan (if any required) based on the study findings be submitted.
 - (ix) Installation drawing of exhaust pipe of the stack of DG sets be submitted with the basis of selection of no & capacity of DG sets along with the location of the same (2 nos. DG sets of capacity of 500 KVA each) with respect to predominant wind direction vis-à-vis the location of residential tower and shopping complex.

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- (x) Distance of ESZ (Nandan Kanan Sanctuary and Chandaka - Dampada Sanctuary) duly certified by the concerned DFO from the project site boundary be submitted.
- (xi) The treated water proposed to be discharged to nearby dead canal. Permission from the Water Resources Department, Govt. of Odisha to discharge to the nearby dead canal is to be submitted.
16. The project proponent was requested vide letter no. 91(9)/ SEAC–(Misc)-28, dated 25.01.2022 to submit the information / documents as sought by the SEAC at para 15 above. But, they have not yet furnished the same.
17. The proposed site was visited by the sub-committee of SEAC on 16.03.2022. Following are the observations of the sub-committee and proponent needs to submit relevant documents as below:
- As there is lot of space at some places in the periphery, 2 rows of trees in north side wherever possible to be provided
 - Copy of Fire authority recommendation
 - NOC from appropriate authority for connecting the excess treated to final drain
 - Details of reuse of STP treated water for possible zero discharge as the sandy soil can absorb more water
 - Provision of solid waste disposal system to be submitted in details
 - Rain water harvesting, its calculation and internal drainage map showing final connection to the external drain to be provided in a map
 - No of OHT and Dual plumbing along with residential units
 - Details of solar power calculation, generation and use in % of total power
 - Map showing Entry and exit gates (Needs to be separate for residential and commercial) for both residential and commercial area, Parking areas for residential, commercial and visitors (for both separately) with ECS calculation vs norms and also mention the % of each parking w.r.t. total parking. Visitor parking for commercials to be adequate qualifying the norms.
 - Traffic study by a reputed institute
 - Stack height of DG set and height of building
18. The SEAC in its meeting held on dated 12-04-2022 decided to take decision on the proposal after receipt of information / documents as requested vide letter no. 91(9)/ SEAC – (Misc) - 28, dated 25.01.2022 and as sought by the Sub-Committee of SEAC at para 17 above.
19. 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.	"Kisam" of the land along with relevant document from appropriate Revenue	Total land area of the proposed project is 9432.52 Sqm and the kisam of land is

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	Authority be submitted.	Gharabari. All plots have been converted to Gharabari. Detail Land documents with Kissam of Land are attached in Annexure-1.
2.	The source of water is 'Ground Water' as stated. Why cannot be surface water / pipe water supply? Letter from the appropriate authority be submitted that surface water / pipe water supply from CMC / WATCO/PHD is not possible.	The Public water supply is not available in the vicinity of the project area; once the public water supply is available the permission will be obtained from Public Health Division (PHD). The letter from Cuttack Development Authority (CDA) regarding Non-availability of Public Water Supply is attached in Annexure-2. Ground Water permission is under process.
3.	PH value of ground water from the baseline study data reveals that it is 6.91 against the norm of 6.5-8.5. Thus, from health point of view, measures to improve the same be submitted.	We have recollected the Ground Water from nearby area and analyzed at NABL Accredited Laboratory. The value of PH is 7.16 which is within the norm of 6.5-8.5. The latest Ground Water Report is attached in Annexure-3.
4.	No. of rain water harvesting pits (14 nos.) has been arrived with maximum rain fall as 120 mm/hr in 24 hours and retention time as 25 mts with co-efficient of run off as 0.70 for paved area. This calculation be revisited taking into consideration of maximum rain fall is 24 hours in past 30 years based on logical climate data (Date taken for 10 years up to 2018 by PP) and norm for retention time /co-efficient of run-off with relevant reference be submitted as well.	Rain water harvesting pits (RWHP) has been calculated as per 30 years Rainfall data (1988-2021), as per 30 years data maximum rainfall is 150 mm/hr is considered for Rain Water Harvesting Pit calculation and the retention time is 15 meter is considered. So total rain water available for recharging is 254 m³/hr and total 10 nos. of rain water harvesting pits will be provided for ground water recharging. Detail calculation is given in Annexure-4.
5.	Parking in terms of space of ECS, both for 4 wheelers / two wheelers / by-cycles for residential apartment as well as commercial complex as per the norms showing the demarcation in the layout map be submitted, considering the residents, visitors and floating population for commercial complex as well.	Total parking area provided for the Residential building is 8735.66 sqm and ECS provided for the residential building is 250 nos. of 4 Wheelers & 150 nos. of 2 Wheelers including bicycles. Total 772.18 sqm (10.04%) area is provided for visitor parking. Layout showing 4 wheelers & 2 wheelers parking is attached in Annexure-5.
6.	Provision of solar power (5.68% of total power demand of 89.1 KW) is stated to have been made. Details of plan and consumption calculation vis-à-vis the generation of the same be submitted.	Total power generation from Solar system is 94.94 KW through 67 nos. of PV Panels & 35 nos. of Solar Street Lighting. Total power demand of the proposed building is 1566.6 KW. So total solar power generation from the proposed building is 6.06% of total power demand. Details solar calculation is attached in Annexure-6.

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
7.	1871.96 m ² land (exactly 20% has been stated to have been taken for green belt development. As such, details of dimension of green belt continuous stretch surrounding the boundary with three tier plantations (indicating the species) be submitted.	Total greenbelt area provided for the proposed building is 1933.66 sqm, which is 20.5% of the total plot area (9432.52 sqm). We propose to develop three tier hierarchal greenbelt along the periphery of the building. Greenbelt drawing is attached in Annexure-7 .
8.	Traffic study be undertaken by a domain expert at the intersecting point with public road /NH/SH, considering the traffic 10 years ahead with other projects and decongestion plan (if any required) based on the study findings be submitted.	The Traffic Study Report has been carried out by KIIT University, Bhubaneswar. The vetted traffic study report is attached in Annexure-8 .
9.	Installation drawing of exhaust pipe of the stack of DG sets be submitted with the basis of selection of no & capacity of DG sets along with the location of the same (2 nos. DG sets of capacity of 500 KVA each) with respect to predominant wind direction vis-à-vis the location of residential tower and shopping complex.	The predominant wind direction of the proposed project area is South and the DG set will be installed as wind flow from South to North. The DG Set position is marked in the layout with respect to predominant wind direction and location of the building tower along with installation drawing/ Layout is enclosed as Annexure-9 .
10.	Distance of ESZ (Nandan Kanan Sanctuary and Chandaka - Dampada Sanctuary) duly certified by the concerned DFO from the project site boundary be submitted.	The distance of Eco boundary for Nandan Kanan Sanctuary is 4.16 km from project site. The ESZ Map showing di Nandan Kanan is attached in Annexure -10 . The distance of Eco – Sensitive Zone boundary for Chandaka - Dampada Sanctuary is 2.52 km from project site. The ESZ Map showing distance & Letter to DFO Chandaka - Dampada Wildlife Sanctuary is attached in Annexure – 11 .
11.	The treated water proposed to be discharged to nearby dead canal. Permission from the Water Resources Department, Govt. of Odisha to discharge to the nearby dead canal is to be submitted.	The treated water will be discharged to nearby drain. We have also developed the drain with consultation with Irrigation department to our own cost. CDA letter regarding developing of drain is attached in Annexure – 12 .

Considering the information furnished and the presentation made by the consultant, **M/s. Centre for Envotech & Management Consultancy Pvt. Ltd. Bhubaneswar** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 10 years with stipulated conditions as per **Annexure – H** 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**

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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 atleast to the tune of 5%of total power requirement as proposed.
- iv) Trees located within the project area shall be transplanted to alongside the boundary green development area.
- v) To reduce discharge of treated water to open drain, the proponent shall use more water for increased number of trees proposed to be planted in the green belt area & shall also utilize this treated water for car washing, floor washing to minimize the surplus discharge to drain.
- vi) The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.
- vii) The proponent shall Comply to the provision of structural stability certificate as per the bye-law of the Development Authority.
- viii) When the public water supply will be available adjacent to/ in the vicinity of the proposed project in future, the PP shall avail it following due procedure of the Govt if the concerned authority agrees and dispense with the drawl of ground water except one borewell for emergency purpose. The PP shall take up suitably for the purpose with the concerned authority of the Government.
- ix) The structural stability shall be vetted by NIT or IIT before construction
- x) The PP shall adhere to terms of Agreement with CDA
- 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. 10

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S. UTKAL INNOVATION FOR ESTABLISHMENT OF COMMON HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITY (CHWTSDF) OVER AN AREA 63.5 ACRES AT VILLAGE- PARMANPUR, TAHASIL- KOLABIRA, DISTRICT- JHARSUGUDA, ODISHA OF SHRI RAJESH KUMAR AGARWAL (MANAGING PARTNER) – 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. M/s. Utkal Innovation has applied for Terms of Reference (ToR) for Establishment of Common Hazardous Waste Treatment, Storage and Disposal Facility (CHWTSDF) over an area 63.5 acres at Village- Parmanpur, Tahasil- Kolabira, District- Jharsuguda, Odisha.
3. As per EIA Notification dated 14th Sept, 2006, as amended from time to time; this project falls under Category “B”, Project or Activity 7 (d). (EIA Notification dated 14th Sep, 2006 as amended on 2009).

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4. Utkal Innovation approached Odisha Industrial Infrastructure Development Corporation and State pollution Control Board to set up TSDF in central Odisha to cater the need of industries in Odisha. The land considered is at Village Parmanpur in the District of Jharsuguda. The area of plot is 63.5 acre (25.69 Ha) and the proposed facility will cater the needs of all hazardous generating industries. Jharsuguda is near to the boundary of Sundergarh, Sambalpur industrial estate and major industries like Smelters, Integrated Steel plant, Refractory, Thermal Power, Mines and Small- Medium Reprocess or are operating in this industrial area.
5. The project is located at Village- Parmanpur, Teshil- Kolabira, District- Jharsuguda. The geo coordinates of the project site is Latitude 21°48' 46.77" North & Longitude 84° 06' 53.63" East. The proposed site is on the outskirts of the village and at a distance 0.65km to NH 49. The nearest railway station is Jharsuguda at 11.5km and nearest airport is V.S.S Airport, Jharsuguda 12.5km. Nearest habitation is Kalibahal at a distance of 0.57km. Nearest water body is Kharkhari Nala – 1.05 km (NW). The area of plot is 63.5 acre and the proposed facility will cater the needs of all hazardous waste generated in surrounding industries.
6. Jharsuguda has an average elevation of 218 meter (715 ft). The climate is tropical in Jharsuguda. In winter, there is much less rainfall than in summer. The temperature here averages 33.1°C. The highest temperature recorded during the summer months is 48.0 °C. The annual rainfall is 1,527 mm.
7. The total Capacity of the proposed project of secured landfill and stabilization treatment will be 50000 TPA (Direct landfill: 30000 TPA and Treatment/Stabilization: 20000 TPA). The Facility is located strategically at Jharsuguda District which is the Common Boundary of Industrial cluster like Jharsuguda, Sundargarh, Bargarh, Bolangir, Sambalpur, Angul, Keonjhar and Deogarh Belt of Odisha.

8. Technology & Process Description

Landfill - Secured landfill is the part of waste management facility. This place is final graveyard for the hazardous wastes. This secure landfill is prepared as cells in which waste is encapsulated. These cells have bottom liner, side liners and top liner. The impermeability and reactivity of these liners is of prime importance. After construction of bottom and side liners waste is filled into cells. On complete filling of waste, the top liners are placed and packed. Leachate collection system is provided in cell in order to collect leachate out in well for the further treatment and disposal. The landfill will be designed and constructed as a secure facility to contain the waste material and any Leachate, which is formed by the entrapped moisture or by infiltration of rainfall. To meet these requirements, the base of the landfill shall be designed as an engineered liner constructed prior to the placement of waste and also an engineered capping over the surface after completion of filling to minimize the infiltration of rainfall. The base liner of the landfill containment system is proposed to be a double composite liner with synthetic geo-membrane plus clay. Adequate Leachate collection system shall be incorporated at the base to collect and remove the Leachate. A Leachate collection and removal system shall also be placed over the primary liner to collect and remove any Leachate generated by infiltration of precipitation or by the moisture entrapped in the waste. This makes the secondary system to serve as a leak detection system and an early warning of potential future liabilities to necessitate action for remediation. Above the drainage system of the primary liner shall be

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placed a geo-textile filter to act as a filter/ barrier between the waste and the drainage system. This entire system would make the base liner a double composite liner meeting the national laws.

9. **Landfill Life, Closure and Post Monitoring** - The proposed landfill life is expected to be 25 years and will be closed with top single liner and covered with top soil minimum 60 cm with vegetation. Gas vent system shall be provided. The post monitoring of soil, leachate and air shall be carried out on regular basis for 30 years

10. Treatment & Disposal

Waste Treatment and Disposal Scheme

Leachate Management - A leachate collection system shall be designed at the base of all the landfills. It shall comprise of drainage layer i.e. layer of pebbles of greater permeability, leachate collection sump, and its removal i.e. pump. One number of solar evaporation pond with impervious lined (one stand by) shall be provided to manage the leachate as per CPCB guidelines. After collecting the leachate it shall lead to onsite Leachate Treatment Plant, This involves complete treatment of the leachate to meet the discharge standards for lined drains. Treatment process may be biological, chemical or physical. Leachate collection and removal shall be provided above the geo-membrane in two layers viz., the primary and the secondary liners. The primary liner shall serve as Leachate collection and removal system, while the secondary liner shall serve as leak detection system and a signal of potential liabilities in terms of environmental pollution.

Gaseous Emission Management - This system shall be optional as landfill gas is generated as a product of waste biodegradation or on account of presence of VOCs in the waste. Gas generation can be avoided or reduced by avoiding disposal of biodegradable / organic waste. If the gaseous emissions are anticipated, the gas management strategy shall be (a) controlled passive venting or (b) control collection and treatment /reuse.

11. **Anticipated Environmental Impact & Mitigation Measures** - A comprehensive environmental management plan (EMP) will developed along with EIA report which will be followed throughout the construction, operational and restoration phase of the project development.
12. **Water Requirement:** Maximum water consumption will be 20 KLD which will be available from JMC (Jharsuguda Municipal corporation) & through 1 bore well. The waste water will be treated and waste water will be used in greenbelt. Leachate and effluent from landfill will be treated in Effluent Treatment plant (ETP) with capacity of 10 KLD and Solar evaporation pond (SEP).
13. **Manpower:** During construction phase, the labours and workers will be hired from local village. The total manpower required in construction phase will be 100 and in operation phase will be 60.
14. **Power Requirement:** The power requirement will be met through 420 KVA connecting loads of Tata Power Western Odisha Distribution Limited (TPWODL). In case of power failure, one D.G. Set shall be used (124 KVA capacity) in Emergency only. HSD at rate of 3KL/Month will be used as fuel in D.G. set.

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15. **Greenbelt** - A greenbelt development plan will be prepared and implemented along with the project. Total green belt area shall be of 21 acre (33% of 63.5 acre). The main objective of the greenbelt is to provide a barrier between the plant and the surrounding areas.
16. **Project Cost:** The estimated cost of the Project is approximately ` 46 Crore.
17. M/s Utkal Innovation shall be an important endeavour to mitigate the degradation of environment in the region. The Facility is designed to cater to over more than 200 industrial units within Western Odisha who are generating Hazardous waste.
18. The proponent along with the consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** made a detailed presentation before the SEAC.
19. The SEAC in its meeting held on dated 12.10.2022 decided to take decision on the proposal after receipt of the following from the proponent:

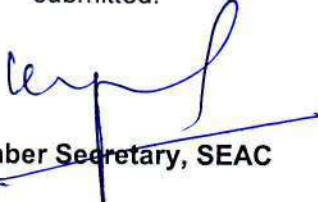
Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
1.	De-reservation of Gocchar land to be done before commencement of project. An undertaking to this effect shall be submitted.	As undertaking stating that the commencement of the project will be done only after the de-reservation of Gochar Land is attached as Annexure 1 .
2.	Detailed list of type of hazardous wastes to be handled and places of collection.	<ul style="list-style-type: none"> • Hazardous wastes like waste oil, contaminated ETP Sludge, tarry waste etc, is listed down and submitted as Annexure 2 for your reference. • The project area will be for the Western-Odisha Industrial Cluster comprising the Sundargarh, Sambalpur districts etc. Which are mentioned in the Annexure 2
3.	Compliance to the OM of MoEF&CC, Govt. of India, dated 29.08.2016 (Copy enclosed as Annexure-B) w.r.t. distance criteria for setting up of Common Hazardous Waste TSDF.	<ul style="list-style-type: none"> • The proposed project fulfills all the site selection criteria as mentioned in the CPCB guideline document "Criteria for Hazardous selection criteria as mentioned in the CPCB guideline document "Criteria for Hazardous Waste landfill" 2001. • In the Western Odisha Industrial Cluster there are more than 200 industries which generate Hazardous Waste. And there is no TSDFs in the nearby vicinity. The proposed TSDF will be beneficial for the Western Odisha Industrial Cluster. The operational unit of TSDF by M/s. Ramky Enviro Engineers located at Village Kanchichuan, Tehsil Sukinda, District Jajpur is at an aerial distance of 206.5 km from the proposed TSDF site.

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Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		<ul style="list-style-type: none"> • We have applied the present proposal MoEF & CC EIA Gazattee Notification 2006 & amendments thereafter. MoEF & CC/ SEIAA have already given Environmental Clearance a number of projects throughout India without considering this Office Memorandum. • Therefore, this OM is not a binding rule for issue of Environmental Clearance. • Based on the above facts you are requested to grant the Terms of Reference. • A list of implemented project for instance in different states is mentioned in the Annexure 3.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar**, the SEAC prescribed the following specific ToRs in addition to standard ToRs as per **Annexure – I** for conducting detailed EIA study.

1. Land details/ kissam.
2. Certificate from concerned DFO that no DLC land involves in the land area.
3. Exact distance from nearby water bodies duly certified by Tahasildar.
4. Elevation of site and elevation of high flood line from nearby water bodies.
5. Specific measures to prevent leaching in case of heavy rain fall, high flood and earth quake with justification with complete scientific leachate management be submitted.
6. Water sampling and soil sampling monitoring points taking gradient into consideration
7. Water balance with ETP details.
8. Status of NOC from CGWA and permission of WR Department, Govt.of Odisha for use of ground water.
9. Inputs to STP, purpose of STP, STP capacity, septic tank and soak pits details be submitted.


Member Secretary, SEAC


Chairman, SEAC

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CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR EXPANSION AND MODIFICATION OF PROPOSED "DEVELOPMENT OF AN AFFORDABLE HOUSING PROJECT OVER 20.21 ACRES OR BUILT-UP AREA 90111.25 SQM AT CHANDRASEKHARPUR, BHUBANESWAR WITH (G+4) RESIDENTIAL BUILDINGS" " [PRIVATE DEVELOPER PROJECT] AT MOUZA-CHANDRASEKHARPUR, PLOT NO: 321 (P) KHATA NO. 619, BHUBANESWAR, DISTRICT -KHORDHA, ODISHAOF - M/S PARAMITRA SMART INFRA PRIVATE LTD OF SRI RAHUL CHOUDHARY – 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 firefighting equipment etc. as per National Building Code including protection measures from lightning 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 973 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. 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 adequate 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.
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 adequate capacity. The treated effluent from STP shall be reused for flushing, horticulture & Filter backwash.
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.

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, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murrum, 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.

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 m² 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. 10155.5 m² (21 % of the 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.
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 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 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, SO₂, 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.

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR SARUABIL CHROMITE BLOCK (ML AREA: 246.858 HA) WITH A PRODUCTION OF 1.0 MTPA CHROMITE ORE (ROM) WITH MAXIMUM EXCAVATION OF 6.48 MILLION CUM PER ANNUM THROUGH OPENCAST MINING AT VILLAGES SARUABIL, KAMARDA, & TAILANGI UNDER SUKINDA TEHSIL, JAJPUR DISTRICT FOR M/S. TATA STEEL MINING LIMITED OF SRI BIBHU DUTTA NANDA - 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 plantation 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 geo-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 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 2nd August 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)**

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.

- 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.

- 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

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

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/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be desilted 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

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.

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

- 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

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

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.

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR PATAMUNDA MANGANESE MINE OVER AN AREA OF 43.532 HA. AT VILLAGE: PATAMUNDA, TAHASIL: KOIDA, DISTRICT: SUNDERGARH FOR M/S SUN ALLOYS & MINERALS LTD OF SRI RAJIB LOCHAN MOHANTY – EC (VIOLATION CASE) – 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 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 in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board 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) Air quality monitoring and preservation

- (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. PM₁₀, PM_{2.5}, NO₂, CO and SO₂ 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 PM₁₀ and PM_{2.5} 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.

(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.

- (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 supernatant 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) Noise and vibration monitoring and prevention**
- (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 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 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.
- (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 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) Public hearing and human health issues

- (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 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 14 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.
- (viii) The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.
- (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) Corporate Environment Responsibility (CER)

- (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) Miscellaneous

- (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.
- (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) Fe grade -55 and +45 to be attempted to use by blending with higher grade.
- (xi) 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.
- (xii) 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.

TERMS OF REFERENCE (ToR) FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR M/S FERRO ALLOY CORPORATION LTD. (FACOR) FOR INSTALLATION OF CHROME ORE BENEFICIATION PLANT OF CAPACITY 4,95,000 TPA THROUGHPUT VILLAGE-TOMKA, TEHSIL - DANAGADI, DISTRICT - JAJPUR, ODISHA OF - TOR

1. The alternate sites considered, the relative merits and demerits and the reasons for selecting the proposed site for the Beneficiation Plant should be indicated.
2. Details of the technology and process involved for beneficiation should be given.
3. Location of the proposed Plant w.r.t. the source of raw material and mode of transportations of the ore from mines to the beneficiation plant should be justified.
4. Treatment of run of mine (ROM) and or of the fines/waste dump should be spelt out.
5. Estimation of the fines going into the washings should be made and its management described.
6. Details of the equipment, settling pond etc. should be furnished.
7. Detailed material balance should be provided.
8. Sources of raw material and its transportation should be indicated. Steps proposed to be taken to protect the ore from getting air borne should be brought out.
9. Management and disposal of tailings and closure plan of the tailing pond, if any after the project is over, should be detailed in a quantified manner.
10. 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 also be indicated.
11. A copy of the document in support of the fact that the Proponent is the rightful lessee of the unit should be given.
12. All documents including EIA and public hearing should be compatible with one another in terms of the production levels, waste generation and its management and technology and should be in the name of the lessee.
13. All corner coordinates of the Unit, superimposed on a High Resolution Imagery/Toposheet should be provided. Such an Imagery of the proposed Unit should clearly show the land use and other ecological features of the study area (core and buffer zone).
14. Issues relating to Safety should be detailed. The proposed safeguard measures in each case should also be provided. Disaster management plan shall be prepared and included in the EIA/EMP Report.
15. The study area will comprise of 10 km zone around the Plant.

16. Cumulative impact study of both Beneficiation Plant with suggested mitigation measures as per the study should be described.
17. Option to provide only silo for storage of minerals instead of open stacking to avoid fugitive dust should be explored and arrangements finalized justified.
18. 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 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.
19. Details of the land for any Over Burden Dumps outside the lease, such as extent of land area, distance from lease, its land use, R&R issues, if any, should be given.
20. 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.
21. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
22. A study shall be got done to ascertain the impact of the 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.
23. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, 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.
24. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

25. Proximity to Areas declared as 'Critically Polluted' shall also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB/CPCB shall be secured and furnished to the effect that the proposed activities could be considered.
26. 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 lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects, should be discussed in the report.
27. 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 unit in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.
28. 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.
29. 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.
30. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be secured and copy furnished. .
31. 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.
32. 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.

33. Details of any stream, seasonal or otherwise, passing through the project area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
34. 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. 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 the pollution.
35. 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.
36. Details of the onsite shelter and facilities to be provided to the workers should be included in the EIA report.
37. 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 should be detailed.
38. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
39. 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.
40. Public hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan 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 brief background of the Project, its financial position, Group Companies and legal issues etc. should be provided with past and current important litigations if any.
44. Benefits of the Project, if the project is implemented should be outlined. The benefits of the projects shall clearly indicate environmental, social, economic, employment potential, etc.

45. Besides the above, the below mentioned general points are also to be followed:-
- (a) Executive Summary of the EIA/EMP Report
 - (b) All documents to be properly referenced with index and continuous page numbering.
 - (c) Where data are presented in the report especially in Tables, the period in which the data were collected and the sources should be indicated.
 - (d) 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.
 - (e) Where the documents provided are in a language other than English, an English translation should be provided.
 - (f) The Questionnaire for environmental appraisal of project as devised earlier by the Ministry shall also be filled and submitted.
 - (g) While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF&CC 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 also be followed.
 - (h) 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.
 - (i) 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. 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 by the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
46. **THE TORS PRESCRIBED SHALL BE VALID FOR A PERIOD OF THREE YEARS FOR SUBMISSION OF THE EIA-EMP REPORTS ALONG WITH PUBLIC HEARING PROCEEDINGS (WHEREVER STIPULATED) AS PER MOEF&CC, GOVT. OF INDIA O.M. NO. J-11013/41/2006-IA-II(I)(P), DATED 07.11.2014.**

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR BASENPALI STONE QUARRY

A. Specific Conditions

1. This EC for the proposal shall be operational after submission of an undertaking through affidavit to SEIAA, Odisha within 15 days of receipt of the EC letter for compliance of all the conditions prescribed herein.
2. EC for the proposal shall be operational after getting necessary approval from the CGWA.
3. Consent / NoC shall be obtained from the concerned village Sarpanch for use of village road for mineral transport. The said road shall also be maintained by the lessee.

B. Standard conditions

(I) Statutory compliance

1. This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
2. The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations.
3. The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors. 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,
4. 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.
5. 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.
6. 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.

7. 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.
8. 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 area".
9. 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.
10. 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.
11. 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.
12. The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board 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.
13. 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) Air quality monitoring and preservation

14. The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2; CO and SO2 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.
15. 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 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 standards prescribed by the MoEF&CC/ Central Pollution Control Board.

(III) Water quality monitoring and preservation

16. 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.
17. 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.
18. 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.
19. 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.

20. 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.
21. 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 supernatant after sedimentation shall be allowed to spill away through stone pitch structure to the nearby valley.
22. 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.
23. 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.
24. 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.
25. 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.
26. 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.
27. 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) Noise and vibration monitoring and prevention

28. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
29. 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.
30. 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

31. 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.
32. 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.
33. 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

34. 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.
35. 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.
36. The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.
37. 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.
38. 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.
39. 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.
40. 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.
41. 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.

42. 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

43. 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.
44. 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.
45. Traffic management shall be done as per recommendation of Traffic Management Study Report.

(VIII) Green Belt

46. The Project Proponent shall develop greenbelt in 7.5 m 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.
47. 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.

48. 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.
49. 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.
50. And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

(IX) Public hearing and human health issues

51. 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.
52. 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.
53. The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.
54. 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 14 inches and of good quality).

55. 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.
56. 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.
57. 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.
58. The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.
59. 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) Corporate Environment Responsibility (CER)

60. 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.
61. 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) Miscellaneous

62. 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.
63. 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.
64. 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.
65. 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.
66. 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.
67. The project proponent shall augment infrastructure on drinking water, health care and education in nearby villages as per time bound action plan submitted.
68. The project proponent shall obtain permission from DGMS under 106(2b) to carry out blasting operation within the lease area.
69. 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.
70. 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.

STANDARD ENVIRONMENTAL CLEARANCE CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR SAND MINING

Stipulated Conditions:

1. The project proponent should carry out River bed sand mining manually by engaging local laborers in force to check over exploitation of sand at the source.
2. Any change in the plan or quantity to be produced shall require prior approval of SEIAA.
3. There shall be a 'no working zone' to protect the embankment on both sides, road or rail bridge in the vicinity, if any, dam, weir, water intake structure of irrigation or drinking water project, or any cross drainage structure. 10 % of the width of river shall be left intact along the embankments on both sides as 'no mining zone'. Further, no mining shall be allowed within 200 m of any existing structures dam, weir, water intake structure of irrigation or drinking water project, or any cross drainage structure. In case of River Bridge, this no mining zone shall extend upto a minimum stretch of 200 meters from the bridge and it may extend upto 500 meters in sensitive locations. The lease area shall be accordingly curtailed to carve out the actual sand mining area within the leasehold. Exact map of the lease area, and the 'no mining zone' shall be drawn to scale, showing the DGPS coordinates of all corner points, and the location of the bridge, embankment, extraction route & other structures; and such map has to be submitted to SEIAA by the project proponent through the Tahasildar within three months of the date of issue of the EC. The quantum of sand allowed to be extracted will be worked out on the basis of the actual working area.
4. The lease area and the actual working area shall be demarcated on the ground by erecting durable masonry /concrete pillars by the project proponent.
5. The project proponent shall take prior statutory and regulatory clearance as required from the concerned authorities in respect of the project, before carrying out any operation.
6. Mining is not permissible within the water channel or stream flow area. No stream shall be diverted for the purpose of mining and no natural water course shall be obstructed. The mining or any ancillary activity shall not in any way disturb the flow pattern of the river water during the non monsoon period. There shall be no sand mining in the river during the rainy season or when there is flow of water in the river.
7. Sand mining operations shall not affect the existing sources for irrigation / drinking water / industrial purpose.
8. The natural sand dunes, if any, near or surrounding the lease area shall not be disturbed.
9. No transportation of the minerals shall ordinarily be allowed on any road passing through villages/habitations/forest land without prior explicit permission. Transportation

of minerals through existing rural roads can be allowed only by the concerned Govt. Department/BDO and only after required strengthening, such that the carrying capacity of road is increased to handle the sand truck traffic. The project proponent shall bear the cost towards the widening and strengthening of existing public roads in case the same is proposed to be used for the project. No movement on any road is allowed on existing village road network without appropriately increasing the carrying capacity of such roads. 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 traffic density. Plying of sand extraction trucks may be allowed on roads / path ways passing close to schools, temples, hospitals and such other public places only with prior written permission of competent authority.

10. Vehicles hired for transportation of sand from the site should be in good condition and should have pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.
11. The vehicles shall not be overloaded and shall be covered with Tarpaulin. The Tahasildar may collect an appropriate road maintenance levy from the lessee as part of the lease conditions on the basis of quantum of sand transported, and utilize the proceeds of the levy for proper maintenance of the extraction paths and roads to prevent their degradation on account of plying of sand trucks.
12. The project proponent shall take all precautionary measures against causing damage to flora and fauna of the locality. The PP shall plant and nurse to full establishment a minimum of 50 number of saplings of native tree species along the approach roads, river banks and in community areas in consultation with the Gram Panchayat.
13. Water spray should be made on the road/extraction paths to control dust emission during transportation of sand.
14. The Project Proponent shall undertake phased restoration, reclamation and rehabilitation of land affected by mining and completes this work before abandonment of mine.
15. Environmental Management Plan (EMP) shall be implemented by PP to ensure compliance with the environmental conditions specified above. The year wise funds earmarked for environmental protection measures shall be kept in separate account and shall be spent according to the plan proposed. Year wise progress of implementation of EMP shall be reported to the SEIAA, Odisha and OSPCB along with the compliance report.
16. The proponent shall take necessary measures to ensure that there is no adverse impact of the mining operations on the human habitation if any, existing nearby.
17. It shall be mandatory for the project management to submit quarterly compliance reports on the status of implementation of the above stipulated environmental safeguards to the SEIAA, Odisha / SPCB, Odisha/ Regional Office of the MoEF&CC, Bhubaneswar, in hard and soft copies on 1st day of January, April, July, October of each calendar year, failing which EC is liable to be revoked.

18. River Bank stabilization shall be made through stone patching. Plantation of adequate number native species on river banks and both sides of haulage roads shall be made.
19. Since NH200, Kuccha Road and temple are only at a distance of 800 mtr, 570 mtr and 500 mtr respectively, all traffic safety measures shall be taken to avoid any kind of accidents.
20. Bio - toilet provision shall be made.
21. As raised during public Hearing and committed by PP, Loknathpur Sasan village road shall not be used for transportation of sand.
22. Stone patching on river bank with plantation in-between and the ramp construction shall be done in consultation with and advice of concerned W.R.Deptt, Government of Odisha.
23. Necessary sprinkling on Haulage Road and Avenue plantation shall be done.
24. At the end of mine closure, the proponent shall immediately remove all the sheds put up in the quarry and all the equipment in the area before closure of the quarry.
25. The conditions stipulated in the environmental clearance will be closely monitored on the ground by the lease granting authority, i.e. the Tahasildar, who shall ensure compliance of the stipulated conditions and take corrective measures promptly in case of any non- compliance and also ensure that the project proponent submits quarterly compliance reports.
26. The concerned Regional Office of the MoEF&CC/ SPCB, Odisha shall periodically monitor compliance of the stipulated conditions as applicable for this project. The project authorities should extend full cooperation to the MoEF&CC officer(s)/SPCB officer(s) by furnishing the requisite data / information / monitoring reports.
27. A copy of the clearance letter shall be sent by the proponent to concerned Gram Panchayat /Panchayat Samiti /Zilla Parisad /Municipal Corporation / Urban Local Body as the case may be.
28. Project proponent shall obtain Consent to Operate from the OSPCB 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 State Pollution Control Board.
29. The SEIAA, Odisha may revoke or suspend this EC, if implementation of any of the above conditions is not satisfactory. The SEIAA, Odisha reserves the right to alter /modify the above conditions or stipulate any further condition in the interest of environment protection.
30. The Project Proponent (lease holder) shall inform the SEIAA of any change in ownership of the mining lease. In case, there is any change in ownership or mining lease is transferred, then mining operation can be carried out only after transfer of EC as per provisions of the para 11 of EIA Notification, 2006, as amended from time to time.

31. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this environment clearance besides attracting penal provisions in the Environment (Protection) Act, 1986.
32. 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.
33. 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.
34. 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.

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

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

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S SASWAT INFRASTRUCTURE PVT. LTD. FOR PROPOSED MULTI STORIED RESIDENTIAL APARTMENTS BUILDING PLAN WITH COMMERCIAL FACILITY OF LS+US+12 OVER AN TOTAL BUILT UP AREA OF 43,223.23 SQM LOCATED AT MOUZA: PATAPUR, DIST: CUTTACK OF SRI SWADESH KUMAR ROUSTRAY – 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 firefighting 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 137.2 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. 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 18 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.

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 200 KLD. The treated effluent from STP shall be reused for flushing, horticulture & Filter backwash.
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.

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, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murrum, 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.

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 m² 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. 1871.96 sqm (20 %) of 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.

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

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

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, SO₂, 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.

STANDARD TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY FOR COMMON HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES (TSDFS) AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT

1. Reasons for selecting the site with details of alternate sites examined / rejected / selected on merit with comparative statement and reason / basis for selection. The examination should justify site suitability in terms of environmental damages, resources sustainability associated with selected site as compared to rejected sites. The analysis should include parameters considered along with weightage criteria for short-listing selected site.
2. Submit the land schedule with kism of land.
3. Certificate from the concerned DFO about involvement of any DLC land in the project area.
4. Submit the details of the road/rail connectivity along with the likely impacts and mitigative measures.
5. Submit the present land use and permission required for any conversion such as forest, agriculture etc.
6. Examine the details of transportation of Hazardous wastes, and its safety in handling.
7. Examine and submit the details of on line pollutant monitoring.
8. Examine the details of monitoring of Dioxin and Furon.
9. MoU for disposal of ash through the TSDF.
10. MoU for disposal of scrubbing waste water through CETP.
11. Examine and submit details of monitoring of water quality around the landfill site.
12. Examine and submit details of the odour control measures.
13. Examine and submit details of impact on water body and mitigative measures during rainy season.
14. Environmental Management Plan should be accompanied with Environmental Monitoring Plan and environmental cost and benefit assessment. Regular monitoring shall be carried out for odour control.
15. Water quality around the landfill site shall be monitored regularly to examine the impact on the ground water.

16. The storage and handling of hazardous wastes shall be as per the Hazardous Waste Management Rules.
17. Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.
18. Public hearing to be conducted for the project in accordance with provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan. The Public Hearing should be conducted based on the ToR letter issued by the SEIAA, Odisha and not on the basis of Minutes of the Meeting available on the website.
19. A detailed draft EIA/EMP report should be prepared in accordance with the above TOR and should be submitted to the SEIAA, Odisha in accordance with the Notification.
20. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
21. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
22. **This Terms of References (TORs) is valid for a period of four years from the date of issue of TORs for submission of the final EIA/EMP report after conducting public hearing.**