PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 05TH JANUARY, 2022

The SEAC met on 05th January, 2022 through video conferencing in Google Meet under the Chairmanship of Sri. B.P. Singh. The following members were present in the meeting.

1.	Sri. B. P. Singh	-	Chairman
2.	Dr. K. Murugesan	-	Secretary
3.	Dr. D. Swain	-	Member
4.	Prof. (Dr.) P.K. Mohanty	-	Member
5.	Prof. (Dr.) H.B. Sahu	-	Member
6.	Sri. J. K. Mahapatra	-	Member
7.	Sri. K. R. Acharya	-	Member
8.	Prof. (Dr.) B.K. Satpathy	-	Member
9.	Dr. Sailabala Padhi	-	Member
10.	Dr. K.C.S Panigrahi	-	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 OF M/S URBANYX INFRA PVT. LTD FOR PROPOSED CONSTRUCTION OF B+S+11 STORIED RESIDENTIAL APARTMENT OVER AN AREA OF 1.22AC. OR 4940.074 SQM. LOCATED AT DUMDUMA, BHUBANESWAR, DIST – KHORDA WITH TOTAL BUILT UP AREA-22987.34SQM OF SRI JAVED AKHTAR (DIRECTOR) - EC

1. The proposal is for Environmental Clearance of M/s. Urbanyx Infra Pvt. Ltd for proposed construction of B+S+11 Storied Residential Apartment over an area of 1.22Ac. or 4940.074 sqm. located at Dumduma, Bhubaneswar, Dist – Khorda with total built up area- 22987.34sqm of Sri Javed Akhtar (Director).
2. The project falls under category “B” or activity 8 (a)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. M/s Urbanyx Infra Pvt. Ltd. proposes to construct B+S+11 Storied Residential Apartments comprising of 1st Floor-3BHK- 7 Flats, 2nd Floor-3BHK-8 Flats and 3rd Floor to 11th Floor - 3BHK-9×10 = 90 Flats. The project is in Plot No.:- Plot No- 561 and 561/3998/4807. Khata No- 432/2853 and Kissam – Gharabari of Mouza- Dumduma, Bhubaneswar, Dist- Khurda, Odisha.
4. **Location and Connectivity** - The proposed site is located at Dumduma near NH-16 in Bhubaneswar, Odisha. The Geographical co-ordinate of the project site is: Latitude 20° 15’ 06.13” N & Longitude 85°47’ 24.23” E and is in Toposheet No- F45T15. National Highway-16 is at a distance of 0.4 Km in W direction from the project site. Lingaraj Temple Road Railway Station at a distance of about 3.4 Km in E direction from the project site. Biju Patnaik International Airport at a distance of about 3.13 Km in E direction from the project site.

5. The site is coming under Bhubaneswar Development Authority. The project comprises of comprising of 1st Floor-3BHK- 7 Flats, 2nd Floor-3BHK-8 Flats and 3rd Floor to 11th Floor - 3BHK-9×10 = 90 Flats. Total no.od dwelling units is 105 nos.
6. The total plot area is 4940.074 m2 (0.5034ha) with total built-up area 22987.34 Sq.mt.
7. The Building Details of The Project:

Particular	Proposed
Project Name	M/s. Urbanyx Infra Pvt. Ltd
Plot Area	4940.074 Sqm.
Ground Coverage	1971.71 sqm (39.91 %)
FAR (Floor Area Ratio)	3.57
Built up Area	22987.34sqm
Maximum Height	39.90 m
Total Parking Area	190.34sqm (3.80 %)
Green Belt Area	3421.6 sqm (21.99 %)
Maximum No. of Floor	• 1st Floor - 3bhk of 7 flats • 2nd floor - 3BHK of 8 flats • 3rd to 11 floor – 3BHK of 9×10 Flats each floor-90flats
Power/Electricity Requirement & Sources	Total - 757 KW Solar - 15 KW
No. of DG sets	200 KVA
Water requirement	60 KLD (Fresh)
Sewage Treatment Plant	STP Capacity - 100 KLD
Total Dwelling Units	105 nos.

8. **Water requirement**: The total fresh water requirement is 60KLD which will be sourced from ground water during operation phase. The Flushing water requirement is 34KLD.Treated waste water re-use for Residential building is 79 KLD from STP and the STP capacity is 100KLD. Fresh water will be extracted from ground water through bore well.
9. **Power requirement**: The total power requirement for the purpose project is 757kW. The power will be entirely supplied by Tata Power Central Odisha Distribution Limited (TPCODL). For this purpose a diesel generator having 200KVA (1 Nos.) capacity will be provided and Stack height of the D.G Set is 42.73. 15kW of solar power will be used for common purpose out of 60 kW meant for common use.
10. **Rain Water Harvesting**: The 5 Nos. of recharge pit is required for harvesting rain water from terrace are, hard paved area and natural ground.
11. **Parking Requirement**: Total parking area required 19000.9 sq.mt./728 ECS will be provided.
12. **Fire fighting Installations**: Fire fighting system will be installed as per recommendation of the Fire fighting Officer, Odisha and as per the provisions given in Part-8 “Building Services, Section-2 Electrical and allied installations” of NBCI-2016 and Section-7 of National Electrical code, 2011.No objection certificate of fire safety recommendation with

File No-C-54-2020 is approved by Chief fire officer, fire prevention wing, Director of fire services, Odisha, Cuttack.

13. **Green Belt Development**: An adequate landscape on area of 988.01sq.m. (20.50% of the plot area) inside the project site will be developed.
14. **Solid Waste Management**: The total municipal solid waste generation is 332 kg/day from which organic solid waste is 150 kg/day which is will be composted by vermi composting micro plant and the inorganic solid waste is 182.5kg/day which will be given to BMC.
15. The total population of project will be 105 persons.
16. The estimated project cost is ` 50 Crores and cost for EMP is 152 lakhs.
17. The project proponent along with the consultant **M/s Global Tech Enviro Experts PVT. LTD., Bhubaneswar, Odisha** made a detailed presentation on the proposal.
18. The SEAC in its meeting held on Dt: 24.09.2021 decided to take decision on the proposal after receipt of the following information / documents from the proponent followed by visit of the sub-committee of SEAC to the site.
19. The project proponent has furnished compliances as desired by the committee and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
i)	Layout of drainage system and exact distance of project site to nearest drain and outfall of drain.	Layout of drainage system and exact distance of project site to nearest drain and outfall of drain map is submitted as Annexure - I.	Exact distance of the project site to nearest drain not indicated are sought, including the ROW/Ownership of the land to cover the said distance. Hence partially complied.
ii)	Status of NOC from BMC/ appropriate authority for the above drain for sewage disposal to be submitted.	NOC from BMC/ appropriate authority for the above drain for sewage disposal is submitted as in Annexure-II	Executive Engineer PHD has regretted to take the load of Sewage at present no communication from BMC is available to the said affect as advised by PHD. Hence not complied.
iii)	Proposal to increase in usage of treated waste water in premises and thereby reducing quantity of discharge to drain. Revised water balance to be submitted to meet the zero discharge of water from premises.	Waste water generated from the project has been estimated to be 88KLD. This will be treated in 100KLD STP and 34KLD will be recycled back to flushing system, 6KLD will be used in Landscape and gardening and 39KLD will be discharged to nearest drain. As per Reference letter No- 18241 dated 31.12.2020 from office of	No Permission from the authority of Nala is available. How far is Nala from the project side? And the ownership of the said land also in favor of PP is required provided the authority of Nala agree to take the load.

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td></td><td></td><td>Executive Engineer, PHED, Bhubaneswar to M/s. Urbanyx Infra Pvt. Ltd. No effluent from septic tank will be discharged into existing natural Nallah/water body. M/s. Urbanyx will construct 100KLD STP and effluent will meet the standard stipulated by CPCB. This treated water will be discharged to the nearest public Nallah as existing sewerage system is inadequate to take the sewage load at present. When public sewage system of PHED will be adequate adjacent to project site in future, sewage shall can be discharge into it.</td><td></td></tr>
<tr><td>iv)</td><td>Adequate parking in terms of ECS for dwelling units with locations including compatibility with the proposed parking space provided needs to be submitted in tabular form with % and number.</td><td>
<table>
<tr><th>Sl No.</th><th>Description</th><th>Area in Sq.m</th><th>No. of parking @15 sq.m/ ECS</th></tr>
<tr><td>1.</td><td>Open Parking area</td><td>190.34</td><td>12</td></tr>
<tr><td>2.</td><td>Silt floor Parking</td><td>1817.09</td><td>121</td></tr>
<tr><td>3.</td><td>Basement Parking</td><td>3387.57</td><td>225</td></tr>
<tr><td></td><td>Total</td><td>5395.00</td><td>358</td></tr>
</table>
4-wheeler 4125m^2 = 76%, 2-wheeler 1084m^2=20% and cycle=186 m^2=4%
</td><td>Taken at the rate of 15 sq.m/ECS uniformly, stilt and basement for ECS Calculation. Basis and reference document to be submitted. Besides, parking to be shown in layout map for four wheelers, two wheelers and bicycles separately with demarcation. ECS need to be compatible with space provided. Hence not complied.</td></tr>
<tr><td>v)</td><td>Basis/norm of space provided for two wheeler and four wheeler in sub-chapter 10.6 of EMP.</td><td>It has submitted the corrected table</td><td>------</td></tr>
<tr><td>vi)</td><td>Fire clearance from the appropriate authority need to be obtained and their observations is to be submitted.</td><td>Fire safety recommendation has already been obtained from concerned authority as on date 24.12.2020 with Memo No-8988. As per rule Final Fire clearance</td><td>------</td></tr>
</table>

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td></td><td></td><td>from the authority will be obtained after Completion of Construction and submission of compliance report with evidence as per Rule-13 (1) of Odisha Fire Prevention and Fire Safety Rules. Fire recommendation is enclosed as Annexure – III.</td><td></td></tr>
<tr><td>vii)</td><td>Plan for solar power with exact calculations to be submitted item wise with % of total power to be used.</td><td>Detailed calculation furnished. 5% of solar power to be used.</td><td>Not submitted as sought.
Hence not complied.</td></tr>
<tr><td>viii)</td><td>Breakup percentage of green belt i.e. tree cover and landscape area in absolute value and percentage of the total area. Green belt need to be all sides of the boundary alongside the boundary instead of only North side as indicated. This is to be confirmed and revised layout to be submitted accordingly.</td><td><table><tr><td>Total plot Area (m^2)</td><td>Tree cover area (m^2)</td><td>Landscape area (m^2)</td></tr><tr><td>4940.074</td><td>997.89</td><td>40</td></tr><tr><td>Percentage of total area (%)</td><td>20.2%</td><td>0.8%</td></tr></table>Revised layout map showing green belt on the all sides of the boundary is submitted in Annexure-IV. Separate greenbelt and landscape area is shown in revised layout map and the percentage of greenbelt and landscape area is given above.</td><td>------</td></tr>
<tr><td>ix)</td><td>Analysis of E.Coli content in treated water and fresh water.</td><td>Enclosed As Annexure – IV.</td><td>------</td></tr>
<tr><td>x)</td><td>DG set location including installation layout and drawing of the chimney its height be submitted.</td><td>DG set location including installation layout and drawing of the chimney its height map is submitted in Annexure-IX.
Stack height of the D.G Set: H = h +0.2 √KVA
Where, H = height of the stack attached to the DG set in meter.
h = height of the building (39.90 m)
KVA = Capacity of the DG set (200 KVA)
H = 39.90+0.2√200
= 42.73m</td><td>------</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
xi)	Details of rainwater harvesting and recharge pit designs.	Details of rain water harvesting and recharge pit design layout plan is submitted, which is enclosed as **Annexure - V.**	Rainfall calculated with 100mm/hr and RWHP Calculated accordingly. This needs to be revisited, taking maximum rainfall in 24 hrs in past 30 years based on logical climate data.
xii)	Traffic study by domain expert need to be undertaken at intersecting point with public road.	Traffic study by domain expert is carried out at intersecting point with public road and details are given below- Traffic study was done on 09.11.2021 which was a working day on the Cosmopolis road which is a public road which joins NH-16 on the eastern side of project area. The study location point is on latitude 20º14'56.82" N and longitude on 85º47'23.79" N and the road width is around 7.14m.	Traffic study is not undertaken by any domain expert as advised and findings not compare with IRC norms as to LOS. Hence not complied.
xiii)	Status of NOC from CGWA and permission from WR department, Govt. Of Odisha to submitted for drawl of required quantity of ground water.	NOC from CGWA for drawl of required quantity of ground water has already been received and the same is enclosed as **Annexure-VI.**	------
xiv)	Letter from BMC/ appropriate authority to be submitted that they cannot provide water so that ground water Drawl is unavoidable.	Letter from BMC/appropriate authority is submitted that they cannot provide water so that ground water Drawl is unavoidable which is enclosed as **Annexure-VII.**	------

20. The proposed site was visited by the sub-committee of SEAC on 15.12.2021. The views of the Sub-Committee are as follows:

    i) The Sub-Committee of SEAC, Odisha verified the Environment setting and special features at site as per the Project Proponent is claim through EDS and ADS submitted to Secretary SEAC, Odisha. The Components of the Checklist for Building Projects was verified on ground.

    ii) The PP has now Two (02) options for disposal of Treated Waste water i.e. to Drain number Nine (09) of BMC (Around 10 feet wide) on the Northern direction of the Project and newly constructed 2 mtr wide RCC Drain on the Western side along the public road having RCC slab cover. Since BMC has given Conditional NOC for disposal of Waste water, we may give special condition of disposal of Waste water in the newly constructed RCC Drain after obtaining specific NOC from WATCO/BMC.

iii) The Project Proponent have agreed to provide Water Treatment Plant, Waste Water Treatment Plant, STP and basic treatment of Storm Water in a OIL Water separated pit in the Project layout.

iv) Similarly the Treated Sewerage Water can be connected to the 450 mm dia, newly Constructed Sewerage line on the Western Side along the public Road after obtaining specific NOC from WATCO/BMC.

v) Since all other major Environmental norms are being adhered to by the PP, the Sub-Committee suggests the SEAC for recommendation of EC to the Project.

21. The SEAC observed that the proponent has not complied fully to the information / documents as sought above. They have to comply the following information / documents:

a) Exact distance of the project site to nearest drain not indicated are sought, including the ROW/Ownership of the land to cover the said distance.

b) Executive Engineer PHD has regretted to take the load of Sewage at present no communication from BMC is available to the said affect as advised by PHD.

c) No Permission from the authority of Nala is available. How far is Nala from the project side? And the ownership of the said land also in favor of PP is required provided the authority of Nala agree to take the load.

d) Taken at the rate of 15 sq.m/ECS uniformly, stilt and basement for ECS Calculation. Basis and reference document to be submitted. Besides, parking to be shown in layout map for four wheelers, two wheelers and bicycles separately with demarcation. ECS need to be compatible with space provided.

e) Plan for solar power with exact calculations to be submitted item wise with % of total power to be used. Exact calculation has not been given.

f) Rainfall calculated with 100mm/hr and RWHP Calculated accordingly. This needs to be revisited, taking maximum rainfall in 24 hrs in past 30 years based on logical climate data.

g) Traffic study is not undertaken by any domain expert as advised and findings not compare with IRC norms as to LOS.

After detailed discussion, the SEAC decided to take decision on the proposal after receipt of the information / documents as pointed out at para 21 above.

ITEM NO. 02

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S STALWART PROJECTS PVT. LTD. FOR PROPOSED CONSTRUCTION OF B+S/G+8 COMMERCIAL-CUM-RESIDENTIAL APARTMENT & B+S+5 STORIED RESIDENTIAL APARTMENT BUILDING OVER AN AREA OF 4912.80SQM./1.214AC./0.4912HA., LOCATED AT MOUZA-BARAMUNDA BHUBANESWAR, DIST – KHURDA WITH TOTAL BUILT UP AREA-22555.99SQM. OF SRI SHARAT KUMAR SAHU (MANAGING DIRECTOR) - EC

1. M/s Stalwart Projects Pvt. Ltd. for proposed construction of B+S/G+8 Commercial-cum-Residential Apartment & B+S+5 storied Residential Apartment building over an area of 4912.80sqm./1.214Ac./0.4912Ha., located at Mouza-Baramunda Bhubaneswar, Dist – Khurda with total built up area-22555.99sqm. of Sri Sharat Kumar Sahu.

2. The project falls under category “B” or activity 8 (a)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.

3. The proposed project comprises of B+S/G+8 floors building (Block-A) is coming under “Commercial-Cum-Residential Building” as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Mixed occupancy of “Mercantile-Cum-Residential” building as per NBCI-2016 and the proposed B+S+5 floors building (Block-B) is coming under “Residential Building” as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Residential Apartment (Group-A, Sub-Division A-4) as per NBCI-2016.

4. The proposed building plan (Existing) has been approved by Bhubaneswar Municipal Corporation vide letter no. 89618, dtd. 10.12.2020 having built-up area 19,489.69 sqm (20,000 sqm as per 2006 EIA Notification, Environmental Clearance is not required). Now the proponent is willing to increase the built-up area from 19,489.69 sqm to 22,555.99 sqm. for which Environment Clearance is mandatory.

5. The Environmental Clearance (EC) application has been submitted in line with the MoEF&CC Notification No. S.O 804(E) dtd. 14.03.2017.

6. **Location and Connectivity** - The project will be constructed over Revenue Plot No. – 1483, 1119, 1120, 1118/3115, 1118/2940/5188, 1118, 1118/2950, 1118/2940, 1118/2562, 1484/2563, 1104/2241/6460, 1105/3493, 1105/2619/3401, 1105/3400, 1105, 1105/2285, 1103/2984, 1105/3400/6171, 1105/2619/3401/6172, 1105/2285/3900, 1106&1105/2619 located at - Soubhagyanagar, Mouza- Baramunda, Bhubaneswar, Dist-Khordha. The Geographical co-ordinates of the project site are: Latitude 20°16'10.90"N to 20°16'11.15"N & Longitude 85°48'10.04"E to 85°48'9.26"E and is in Toposheet No - F45T11, F45T12, F45T15 & F45T16. The project site is at a distance of 1.16 KM-N from NH-16/NH-5. Bhubaneswar Railway Station at a distance of about 4.16 Km in E direction from the project site. Project Site is well connected to a network of existing University-Agriculture-Farm Road (S), connected to Jagamara Road and Jagamara –Bramunda Road (W) and connected to Azad Marg Road at a distance of 0.35 km (E). The project site has two gates that serve the dual purpose of entry and exit. The same service road acts as connecting link between one part of the city with the other which is used by the visitors and tenant. Biju Patnaik International Airport at a distance of about 2.08 Km in SSE direction from the project site. Nearest protected forest is Bharatpur PF – 2.07 km (NE). Nearest Reserve forest is Dasapur RF – 9.91 km (NW). Nearest River is Kuakhai River – 8.80 km (NE) Nearest canal is Daya Canal – 5.04 km (ESE).

7. The Total plot area- 4912.80 sqm or 1.21 Acres or 0.9412 Ha and total super built-up area- 22555.99 sqm. The Building Details of The Project:

Particular	Proposed
Project Name	M/s. Stalwart Projects Pvt. Ltd
Plot Area	4912.80 Sqm.
Ground Coverage	2833.32 sqm (57.7 %)
FAR (Floor Area Ratio)	Block A – 13476.64sqm and Block B – 4068.58sqm = 17605.05sqm
Built up Area	22555.99sqm
Total Parking Area	5037.3sqm

Green Belt Area	725.74 sqm (14.8 %)
Power/Electricity Requirement & Sources	Total - 1167 KW
No. of DG sets	1x400 KVA + 1x320 KVA Transformers – 1x630 KVA + 1x400 KVA + 1x315 KVA
Water requirement	71 KLD (Fresh)
Sewage Treatment Plant	STP Capacity - 100 KLD
Total Dwelling Units	116 nos.

8. **Water requirement**: Water will be sourced from Ground Water sources (Public Health Department).Total Fresh Water requirement will be 72 m3/day, whereas Flushing Water requirement will be 39 m3/day. Therefore, Total water requirement will be 111 m3/day. The quality of water is good conforms to the desirable drinking water standards as per IS 10500. Raw water will treat & recycle the waste water generated from this project. Recycled water will be used within the project area. The treated water recovered from STP will be (70 KLD) recycled and will be used for toilet flushing, for horticulture in the project site and excess 8 KLD of water will be discharged into the Drain.
9. **Power requirement**: The total power requirement for the purpose project is 1167kW. The power will be entirely supplied by Tata Power Central Odisha Distribution Limited (TPCODL). For this purpose a diesel generator having 400KVA (1 Nos.) & 320KVA (1 nos.) capacity will be provided and Stack height of the D.G Set is 34. 15kW of solar power will be used for common purpose out of 60 kW meant for common use.
10. **Rain Water Harvesting**: The 3 Nos. of recharge pit is required for harvesting rain water from terrace are, hard paved area and natural ground.
11. **Parking Requirement**: Total parking area required 5037.3sqm will be provided.
12. **Fire fighting Installations**: All controls and monitoring of fire alarm systems, pressurization systems, smoke management systems shall happen from this room. Fire Command Centre shall have provisions in accordance with Clause-3.4.12 of Part-4, NBCI-2016. Fire Suppression as per NBC-2016.
13. **Green Belt Development**: An adequate landscape on area of 725.74 sqm (14.8 %) of the plot area) inside the project site will be developed.
14. **Solid Waste Management**: Solid waste generated from the project shall mainly be MSW (Municipal Solid Waste) approx. 557 kg/day. Total biodegradable waste generated will be 330.5 kg/day & non-biodegradable waste generated will be 227 kg/day. These will be collected in separate coloured bins. Proper waste management practices will be adopted during the collection, storage, and disposal of the generated solid waste, construction and demolition waste.
15. The total population of project will be 116 persons.
16. The estimated project cost is ` 45.06 Crores and cost for EMP is 69.7 lakhs.
17. The project proponent along with the consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar, Odisha** made a detailed presentation on the proposal.

18. The SEAC in its meeting held on Dt: 24.09.2021 decided to take decision on the proposal after receipt of the following information / documents from the proponent followed by visit of the sub-committee of SEAC to the site.

19. The project proponent has furnished compliances as desired by the committee and same has been verified as follows:

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td>i)</td><td>Layout of drainage system and exact distance of project site to nearest drain and outfall of drain.</td><td>Layout map showing drainage line and Google map shows natural drainage line is attached as Annexure-1. In rainy season the storm water along with excess treated waste water will be discharge to nearby existing municipal Drain which connects to main drain system of Bhubaneswar (Drain no. –VIII) near Sidhivihar at a distance of 1 km from project site. Elevation measures at the point of discharge is 35 m and confluence point of
Drain no. -8 is 30 m.</td><td>Ownership/ROW of the land between project side and the drain is not submitted. Hence partially not complied.</td></tr>
<tr><td>ii)</td><td>Status of NOC from BMC/ appropriate authority for the above drain for STP treated water disposal to be submitted.</td><td>We are already applied to BMC for discharge treated waste water to nearby Municipal Drain.
Application letter to BMC is attached as Annexure-2.</td><td>No “NOC” or permission from BMC is available.</td></tr>
<tr><td>iii)</td><td>Proposal to increase in usage of treated waste water in premises and thereby reducing quantity of discharge to drain. Revised water balance to be submitted to meet zero discharge of water from premises.</td><td>Revised water balance is attached as Annexure-3.</td><td></td></tr>
<tr><td>iv)</td><td>Adequate parking in terms of ECS for dwelling units with locations including compatibility with the proposed parking space provided needs to be submitted in tabular form with number and %.</td><td>
<table>
<tr><th>PARKING REQUIRED</th><th>AREA IN SQM</th></tr>
<tr><td>SHOPPING (40% OF 3848.36 SQM)</td><td>1537.34</td></tr>
<tr><td>RESIDENTIAL BLOCK (A)-MIG (25% OF 8852.99 SQM)</td><td>2213.24</td></tr>
<tr><td>RESIDENTIAL BLOCK (A) (30% OF 780.29 SQM)</td><td>234.08</td></tr>
<tr><td>RESIDENTIAL BLOCK (B)-MIG (25% OF 4068.58 SQM)</td><td>1017.14</td></tr>
<tr><td>TOTAL PARKING REQUIRED</td><td>5001.80</td></tr>
<tr><td>PARKING PROVIDED</td><td>5037.3</td></tr>
</table>
TOTAL ECS PROVIDED – 420 NOS</td><td>Parking for four wheelers, two wheelers and bicycles with demarcation in layout map not submitted including calculation of ECS compatible with the proposed parking space.</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
v)	Parking space calculated in terms of ECS (both two and four wheelers need to be checked and confirmed. This need to be compatible with the number of dwelling units, commercial complex visitors for both floating population.	Same as Sl. No. IV of above.	
vi)	Fire clearance from the appropriate authority need to be obtained and their observations is to be submitted.	The Fire Safety Recommended for the Proposed B+S/G+8 Commercial –cum-Residential Apartment & B+S+5 storey Residential Apartment building over Rev plot no-1483, 1119, 1220 & others, Mouza-Baramunda under Bhubaneswar Municipal Corporation, Bhubaneswar, Dist – Khordha of M/s. Stalwart Projects Pvt Ltd is attached as **Annexure-5.**	
vii)	Increase percentage of solar power with exact calculations to be submitted item wise and as % of total power consumption.	❖ Maximum Demand in KW = I) 528+II)362+III)277(KW) =1167 KW ❖ DG Selected =1 no. of 400KVA+1 no. of 320 KVA DG Sets ❖ Recommended Transformer Capacity = 1 Nos x 630 KVA +1 Nos x 400 KVA + 1 Nos x315 KVA Transformer ❖ Power will be sourced from TPCODL. ❖ On Block –A, 5 KVA Rooftop solar inverter backup will be provided for emergency lighting of basement, common area and CCTV power supply, Details of power calculation and solar power provided in **Annexure-6**.	Detailed calculation of solar power consumption Vs the generation is not submitted as sought.
viii)	Breakup percentage of green belt i.e. trees and landscape area.	Total green area measures 725.74 sqm (approx.14% of total plot area). Two patched of land provided for green belt: 242 sqm & 198m2 in periphery of the project. Total greenbelt area : 1165 sqm (23.7 % of the Total plot area) Details of greenbelt and landscape plan area attached as **Annexure – 7**.	
ix)	Mitigation measures to prevent water logging.	We are taking adequate measures for water logging.	
x)	Separate entry and exit gates for commercial purpose and residential purpose with bifurcation in parking area.	There are two separate entry and exit gates provided for commercial purpose and residential purpose. Provided adequate parking area for commercial and residential purpose. Details of parking area provided in above point no.4.	
xi)	DG set location including installation layout and drawing of the chimney its	The proposed DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for	

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	height be submitted.	proper emission and dispersion. Proposed stack height as per norms-33m. Location of DG set with respect to annually average wind direction is attached as **Annexure-8**.	
xii)	Details of rainwater harvesting and recharge pit designs.	Details of Rainwater harvesting and recharge pit designs is attached as **Annexure – 9**.	RWHP requirement needs to be calculated taking in to consideration maximum rainfall in 24 hours in past 30 years based on logical climate data to avoid local flooding as sought.
xiii)	Letter from BMC/appropriate authority to be submitted and they cannot provide letter so that ground water drawl is unavoidable.	Requirement of water during operation phase will be sourced from PHD Supply. So there is no need of Ground water for met the requirement of water during operation phase.	-----
xiv)	Provision of Solar power with detail calculation submitted.	Same as above point no-7	-----
xv)	Status of NOC from CGWA and permission from WR department Govt. of Odisha for drawl of ground water of required quantity submitted.	Requirement of water during operation phase will be sourced from PHD supply. So there is no need of Ground water for met the requirement of water during operation phase.	-----
xvi)	Traffic study by domain expert to be undertaken at the intersection point with public road.	Traffic study report is attached as **Annexure-10**.	-----
xvii)	Since it is a low laying area, detail proposal and water logging management to be submitted.	We are taking adequate measures for water logging.	-----
xviii)	Structural stability certificate from authorized structural engineer of BDA/BMC for proposed additional floors to be submitted including permission from Airport authority of India for increasing tower height.	Structural stability certificate from authorized structural engineer of BDA/BMC is attached as **Annexure-11**.	-----

20. The proposed site was visited by the sub-committee of SEAC on 16.12.2021. Following are the observations of the sub-committee and proponent needs to submit relevant documents as below:

i) The project for B+S+5 has been progressed a lot at the back side blocks whereas in the front side blocks only basement is in progress.

ii) The proponent could not show the fire clearance NOC for the composite construction (Old building of B+S+5 Residential and new B+G+8 Commercial cum Residential). Composite NOC or permission is required and to be complied (Proponent informed that they have applied).

iii) The plot has drain in front of it which will be connected by the drains of apartments. However, Proponent needs to submit the drain layout with permission from BMC for discharging the treated excess water.

iv) While the front B+G+8 blocks have 20-27 ft road (varying) surrounding the sides, the back side blocks (B+S+5) whose construction is already progressed has 8-10 ft road at both sides and back side. Further, they need to keep 3-4 ft for green belt surrounding both blocks (excepting the portion like- Gate).

v) Green belt calculation could not be shown (there is no tree in site at present), needs to submit the plan with percentage in the revised map considering point 4.

vi) DG set and stack location could not be shown. Details of stack height vis-à-vis maximum building height, direction of emission and DG set location to be shown in the revised map and submitted.

vii) All 3 sides of the project are surrounded by residential buildings and the front road is traffic intensive. Traffic study shown was having typo errors, signed by some individual. Traffic study needs to be carried out by a reputed institute and submitted with recommendation/summary at the end.

viii) Structural validation (as the additional floors are planned), from reputed structural authority may be submitted with regard to the safety and stability of apartment.

ix) Initial approval was for about 19489 sq mt and final (after expansion) is for 22555 sq mt with 116 dwelling units and G+2 commercial complex. The parking provided for Residential units (4 wheelers, 2 wheelers), Commercial Units and for visitors (both residents and commercial) needs to be submitted in a table with number as well as area for each. Also, to be shown in the revised map. Further, area of residential, commercial with percentage parking for each residential, commercial and for visitors to be submitted with norms and ECS vs norms. All area to be shown in the revised map and submitted.

x) The project is compact and traffic management inside the complex would be a concern. The proponent needs to separately provide parking for residential and commercial/visitors with separate entries and exits. Proponent was advised to reduce few commercial areas in GF to maintain more parking and movements of vehicle of floating population. Thus, proponent may address the mitigation measure and submit for safe movement of vehicles.

xi) Solar calculations could not be shown, needs to be submitted with % of total power planned from solar power generation.

xii) The compliances after submission needs to be examined for further recommendation.

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

i) The project for B+S+5 has been progressed a lot at the back side blocks whereas in the front side blocks only basement is in progress. The proponent has to clarify why this will not be treated as a violation case.

ii) The proponent could not show the fire clearance NOC for the composite construction (Old building of B+S+5 Residential and new B+G+8 Commercial cum Residential). Composite NOC or permission is required and to be complied (Proponent informed that they have applied).

iii) The plot has drain in front of it which will be connected by the drains of apartments. However, Proponent needs to submit the drain layout with permission from BMC for discharging the treated excess water.

iv) While the front B+G+8 blocks have 20-27 ft road (varying) surrounding the sides, the back side blocks (B+S+5) whose construction is already progressed has 8-10 ft road at both sides and back side. Further, they need to keep 3-4 ft for green belt surrounding both blocks (excepting the portion like- Gate).

v) Green belt calculation could not be shown (there is no tree in site at present), needs to submit the plan with percentage in the revised map considering point 4.

vi) DG set and stack location could not be shown. Details of stack height vis-à-vis maximum building height, direction of emission and DG set location to be shown in the revised map and submitted.

vii) All 3 sides of the project are surrounded by residential buildings and the front road is traffic intensive. Traffic study shown was having typo errors, signed by some individual. Traffic study needs to be carried out by a reputed institute and submitted with recommendation/summary at the end.

viii) Structural validation (as the additional floors are planned), from reputed structural authority may be submitted with regard to the safety and stability of apartment.

ix) Initial approval was for about 19489 sq mt and final (after expansion) is for 22555 sq mt with 116 dwelling units and G+2 commercial complex. The parking provided for Residential units (4 wheelers, 2 wheelers), Commercial Units and for visitors (both residents and commercial) needs to be submitted in a table with number as well as area for each. Also, to be shown in the revised map. Further, area of residential, commercial with percentage parking for each residential, commercial and for visitors to be submitted with norms and ECS vs norms. All area to be shown in the revised map and submitted.

x) The project is compact and traffic management inside the complex would be a concern. The proponent needs to separately provide parking for residential and commercial/visitors with separate entries and exits. Proponent was advised to reduce few commercial areas in GF to maintain more parking and movements of vehicle of floating population. Thus, proponent may address the mitigation measure and submit for safe movement of vehicles.

xi) Solar calculations could not be shown, needs to be submitted with % of total power planned from solar power generation.

xii) Ownership/ROW of the land between project side and the drain is not submitted. Hence partially not complied. No “NOC” or permission from BMC is available.

xiii) Parking for four wheelers, two wheelers and bicycles with demarcation in layout map not submitted including calculation of ECS compatible with the proposed parking space.

xiv) Detailed calculation of solar power consumption Vs the generation is not submitted as sought.

xv) RWHP requirement needs to be calculated taking in to consideration maximum rainfall in 24 hours in past 30 years based on logical climate data to avoid local flooding as sought.

ITEM NO. 03

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S JAI PRAKASH HOSPITAL AND RESEARCH CENTRE PVT. LTD FOR REGULARIZATION OF B+G+5 HOSPITAL BUILDING & AMPHITHEATRE LOCATED AT – BRAHMANI TARANG, TAHASIL – LATHIKATA, DIST – SUNDARGARH, ODISHA OF SRI SANJAY BANSAL – EC

1. The proposal is for Environmental Clearance of M/s Jai Prakash Hospital and Research centre Pvt. Ltd for Regularization of B+G+5 Hospital Building & Amphitheatre located located at – Brahmani Tarang, Tahasil – Lathikata, Dist – Sundargarh, Odisha of Sri Sanjay Bansal.

2. The project falls under category “B” or activity 8 (a)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.

3. M/s Jai Prakash Hospital & Research Centre Pvt. Ltd. has applied for Regularization of B+G+5 Hospital Building & Amphitheatre., located at Dayanand Nagar, Dandiapali, Rourkela on the bank of river Brahmani.

4. **Location and Connectivity** - The Project Site is located at - Brahmanitarang, P.S-Brahamanitarang, Tahasil- Lathikata, Dist-Sundargarh, Odisha and part of the Survey of India Toposheet No. F45G11, F45G12, F45G15 & F45G16. And is on Plot No: No’s-3486, 3477, 3480, 3501, 3477/4089, 3482, 3499, 3447/4084, 3500, 3485, 3484, 3483, 3483/3957, 3481, 3498, 3474/4086, 3477/4062 & 3447/P Khata No. 1708/703 & 535 of Area – 28.447 Acres. The Geographical coordinate of the project site is: Latitude – 22º 13′ 28.78” N & Longitude – 84º 47′ 48.64” E. National Highway-143 is about 0.26 Km away from the project site. The Panposh Railway Station at a distance of about 1 Km from the project site. The Rourkela Airport at a distance of about 8.00 Km from the project site.

5. The site is coming under Rourkela Development Authority. The total plot area is 15195.94 Sqmt with total built-up area 21992.01 Sq.mt. and Kissam of land is Gharabari.

6. The Building Details of The Project:

PARTICULARS	**DETAILS**		
	Existing	**Expansion**	**Total**
Hospital Bed	307	218	**525**
Plot Area	15195.94 SQ.M	-	15195.94 SQ.M
Built up Area	21992.01 SQ.M	-	21992.01 SQ.M
Water Requirement	138 KLD	98 KLD	236 KLD
Bio-medical Waste	460.0 Kg/day	327.0 Kg/day	787.0 Kg/day
Solid Waste Generation	--	555 Kg/day	555 Kg/day
Power Requirement	--	1782 KVA	1782 KW
DG set	--	2x750 KVA	2x750 KVA

7. **Chronological Order of Activities**

   i. The Building Plan of M/s Jai Prakash Hospital & Research Centre Pvt. Ltd. over (B+G+3+Service) was approved on 24.04.2015. This area does not required EC.as the total built up area was approx. 18,564 sq.m.

   ii. Consent to Establish was granted by SPCB, Odisha on 12.10.2018, vide letter no. 2629 for 307 bedded hospital.

   iii. Consent to Operate was granted by SPCB, Odisha on 26.04.2019, vide letter no. 1397 for 307 bedded hospital, which is valid upto 2023.

iv. Authorisation under Biomedical Waste Rule, 2016 was granted by SPCB, Odisha on 15.05.2019 vide letter no. 4621/SPCB/Authorization (Biomedical Waste), which is valid upto **31.03.2023** for 307 beds.

v. The Hospital becomes operational on 13.12.2019 vide letter no. 3935/CE, RGH of Dist. Collector-cum-Supervising Authority under Clinical Establishment Act, Sundargarh.

vi. Rourkela Development Authority approves regularisation of B+G+5 Hospital Building & Amphitheatre on 09.04.2021 with total build up area over 21,992.01sq.m.

vii. So, now Project proponent have applied for Environmental Clearance for 525 bedded hospital, as build up area comes under the purview of EC.

8. **Water requirement**: The Jaiprakash Hospital has 307 beds & PP wants to expand it to 525 beds without addition of staff & doctors. The existing water use is 163 KLD which will be increased to 240 KLD by a quantity of 77 KLD for the extra nos. of beds.

9. **Waste water details**: The project will generate approx. 292 KLD (sewage load) of wastewater. The wastewater will be treated in the ETP of capacity 29 KLD & STP of capacity 330 m3/day provided within the complex. Out of which 227 m3/day will be recycled within the project for Flushing (105 m3/day), HVAC (94 m3/day) & discharged to drain is 25 KLD in Non-Monsoon Season.

Water Requirement during Operation Stage (Existing + Expansion)
Fresh Water requirement (Existing + Expansion)

Sl. No.	Description	Total Population	Per Capita Consumption (ltr/day)	Total Water Requirement (KLD)
1.	Existing- 307 beds	307 nos	450	138.0
2.	Expansion- 218 beds	218 nos	450	98.0
			TOTAL	**236.0**

10. **Power requirement**: The daily power requirement for the hospital is preliminarily assessed as 1782 KW (Existing & Expansion) source from NESCO of Odisha State Electricity Board. In order to meet emergency power requirements during the grid failure, there is provision of 2 nos. of DG sets of 750 KVA capacities for power back up in the Hospital Project. Energy Saving by Solar Power/ Light =92.57/1782=0.051x 100 =5.1 %.

11. **Rain Water Harvesting**: Rain Water will be harvested and recharge through 4 recharge pits from the plot area and volume of storm water is 179cum.

12. **Parking Requirement**: Total parking area required 6201.08 m^2 Sq.mt./240 ECS and open area and basement parking area will be provided.

13. Fire fighting Installations: Fire fighting system will be installed as per recommendation of the Fire fighting Officer, Odisha and as per the guideline of NBC (part-4).

14. **Green Belt Development**: Out of the total area, green belt will be developed over an area of 1519.59 sqm (20.50% of the plot area).

15. **Solid Waste Management**: From the existing project solid waste has been generated about 555 kg/day. RMC has collecting & treatment of Solid waste.

16. **Biomedical Waste Management**: Bio-medical waste generation from Existing 307 beds is 460.0 Kg/day and Bio-medical waste generation from Proposed 218 beds is 327.0 Kg/day.
17. The total population of project will be 2825 persons.
18. The estimated project cost is ` 93 Crores and cost for EMP is 41.7 crores.
19. The project proponent along with the consultant **M/s Centre for Envotech & Management Consultancy Pvt. Ltd., Bhubaneswar** made a detailed presentation on the proposal on 01.09.2021.
20. The SEAC in its meeting held on Dt: 01.09.2021 decided to take decision on the proposal after receipt of the following information / documents from the proponent.
21. The project proponent has furnished compliances as desired by the committee and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
i)	Copy of approved building plan along with approval letter approved by Rourkela Development Authority of M/s Jai Prakash Hospital & Research Centre Pvt. Ltd. over (B+G+3+Service) as approved on 24.04.2015. for 18,564 sq.m.	Copy of approved building plan along with approval letter approved by Rourkela Development Authority is attached in **Annexure-1.**	-------
ii)	Copy of Consent to Establish granted by SPCB, Odisha on 12.10.2018, vide letter no. 2629 for 307 bedded hospitals.	Copy of Consent to Establish granted by SPCB, Odisha on 12.10.2018 is attached in **Annexure-2**.	-------
iii)	Copy of Consent to Operate granted by SPCB, Odisha on 26.04.2019, vide letter no. 1397 for 307 bedded hospital, which is valid upto 2023.	Copy of Consent to Operate granted by SPCB, Odisha on 26.04.2019 is attached in **Annexure-3.**	-------
iv)	Copy of Rourkela Development Authority approval letter for regularisation of B+G+5 Hospital Building & Amphitheatre on 09.04.2021 with total build up area over 21,992.01sq.m.	Copy of Rourkela Development Authority approval letter for regularization of B+G+5 Hospital Building & Amphitheatre on 09.04.2021is given in **Annexure-4**.	-------
v)	Detailed write up as to why the proposal will not be considered as violation case.	**Chronological Order of Activities** • The Building Plan of M/s Jai Prakash Hospital & Research Centre Pvt. Ltd. over 1,99,821.17 sq. feet (B+ G+3+Service) was approved on 24.04.2015. This much build - up area (approx. 18,564 sq.m.) does not require	This will be treated as a violation case as they have already completed the Hospital Building with a total Builtup area of

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		EC.	21992.01 m^2 without EC as per EIA Notification, 14^{th} Sept, 2006 and amendment thereafter.

After detailed discussion, the Committee recommended to return the proposal to SEIAA, Odisha with a request to intimate the proponent that the proposal cannot be considered as the proposal is a violation case and they have not applied through violation portal within the Time period as stipulated by MoEF&CC, Govt. of India.

ITEM NO. 04

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S KHUSI REALCON PVT. LTD. FOR PROPOSED RESIDENTIAL / COMMERCIAL APARTMENTS TOWER-1 (2B+G+9), TOWER-2 (2B+G+22) & TOWER-3 (2B+G+23) OVER AN AREA 2.44 ACRES AT MOUZA- PAHALA, BHUBANESWAR, DIST- KHURDA, ODISHA OF SRI VIKASH KUMAR JAIN (PROJECT HEAD) WITH TOTAL BUILT UP AREA - 63215.5 SQM - EC

1. The proposal is for Environmental Clearance of M/s. Khusi Realcon Pvt. Ltd. for Proposed Residential/ Commercial Apartments Tower-1 (2B+G+9), Tower-2 (2B+G+22) & Tower-3 (2B+G+23) over an area 2.44 acres at Mouza- Pahala, Bhubaneswar, Dist- Khurda, Odisha of Sri Vikash Kumar Jain (Project Head) with total built up area - 63215.5sqm.
2. The project falls under category “B” or activity 8 (a)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. M/s Khusi Realcon Pvt. Ltd. proposes to construct Residential / Commercial Apartments Tower-1(2B+G+9), Tower-2 (2B+G+22) & Tower-3(2B+G+23). The project is in Plot No.:- 210, 199,208/1244, 126, 125/1242,123/1243/1844, 124,211/1746, 211, and Khata No.:-352/1205, 352/1206, 56/98,352/1226, 56/102, 352/122 and Kissam – Gharabari of Mouza- Pahal, Bhubaneswar, Dist- Khurda, Odisha.
4. **Location and Connectivity** - The Project Site is a part of the Survey of India Toposheet No. 73H/15 & 73H/16. The proposed site is located at Mouza - Pahala, Tahashil - Bhubaneswar, Dist - Khurda, Odisha. The Geographical co-ordinates of the project site is: Latitude –20^0 20’ 2.27” N & Longitude - 85^0 52’ 57.78” E. The project site is well connected with National Highway NH-16 at a distance of approx 0.2 Km in East direction. The nearest railway station is Vani Vihar Railway station at a distance of approx 6.8 Km in South-West direction & Bhubaneswar Railway Station at a distance 10.3 Km in South-west direction. The nearest airport is Biju Patnaik International Airport at a distance of approx. 13.7 Km in South-west direction from project site.
5. The site is coming under Bhubaneswar Development Authority. The project comprises of Tower 1 2B+G+9, Tower 2 2B+G+22, Tower 3 2B+G+23.
6. The total plot area is 9877.92 Sqmt with total built-up area 63,215.5 sqm Sq.mt.

7. The Building Details of The Project:

Particular	Proposed
Project Name	Khushi Realcon Pvt. Ltd.
Plot Area	9877.92 Sqm
Ground Coverage	3225.0 sqm (32.65 %)
FAR (Floor Area Ratio)	4.52
Built up Area	63,215.5 sqm
Maximum Height	78.85 m
Total Parking Area	13,847.8 sqm
Green Belt Area	2181.25 sqm (22.08%)
Maximum No. of Floor	Tower 1 2B+G+9, Tower 2 2B+G+22, Tower 3 2B+G+23
Power/Electricity Requirement & Sources	Total - 1543 KW Solar – 82.6 KW CESU – 1460.4 KW
No. of DG sets	3x500 KVA
Water requirement	156.0 KLD (Fresh)
Sewage Treatment Plant	STP Capacity - 250 KLD
Estimated Population-Residential, Commercial, Floating/visitors	1970 nos.

8. **Water requirement**: The total water requirement for the project will be approx.235 KLD, out of which domestic water demand is 148.5 KLD and commercial is 7.5 KLD. The fresh water requirement will be 156 KLD. Fresh water will be extracted from ground water through borewell.

9. **Waste water details**: The project will generate approx. 200 KLD (sewage load) of wastewater. The wastewater will be treated in an onsite STP of 250 KLD capacity. Out of which 190.0 m3/day will be recycled within the project for flushing (79.0 m3/day), landscaping (8.7 m3/day), dust suppression (3.3 m3/day) and 99.0 m3/day will become surplus which will be discharged to drain.

10. **Power requirement**: The daily power requirement for the proposed complex is preliminarily assessed as 1543 KW (Solar System- 58 KW & CESU – 1485 KW). In order to meet emergency power requirements during the grid failure, there is provision of 3 nos. of DG sets having 500 KVA capacities for power back up in the Residential/Commercial Building Project. Total Energy saving from renewable energy = (72.5+10.1) KW = 82.6 KW i.e 5.3 % is contributed from solar energy.

11. **Rain Water Harvesting**: Rain Water will be harvested and recharge through 11 recharge pits from the plot area.

12. **Parking Requirement**: Total parking area required 13847.8 m^2 Sq.mt./497 ECS and basement parking area will be provided.

13. Fire fighting Installations: Fire fighting system will be installed as per recommendation of the Fire fighting Officer, Odisha and as per the guideline of NBC (part-4).

14. **Green Belt Development**: Out of the total area, green belt will be developed over an area of 2181.25 sqm (22.08% of the plot area).

15. **Solid Waste Management**: From the residential complex solid waste inform of food wastes from kitchen and miscellaneous wastes will be generated @ 0.45 kg/person/day, which will be about 729.0 kg/day. The generated solid wastes from the residential complex will be segregated as biodegradable and non-biodegradable. This will be collected in separate-coloured bins. Proper waste management practices will be adopted during the collection, storage and disposal of the generated solid wastes and construction and demolition wastes. Around 100 kg/day of STP sludge will be generated.

S. No.	Category	Counts (heads)	Waste generated (kg/day)
i)	Residents	1620 @ 0.45 kg/day	729.0
ii)	Commercial	50 @ 0.15 kg/day	7.5
iii)	Club	100 @ 0.15 kg/day	15.0
iv)	Floating Population	200 @ 0.15 kg/day	30.0
v)	STP sludge		100.0
Total Solid Waste Generated			**881.5 kg/day**

16. The total population of project will be 1970 persons.

17. The estimated project cost is ` 95 Crores and cost for EMP is ` 2.17 crores.

18. The project proponent along with the consultant **M/s Centre for Envotech & Management Consultancy Pvt. Ltd., Bhubaneswar** made a detailed presentation on the proposal on **10.08.2021**.

19. The SEAC in its meeting held on dated **10.08.2021** decided to take decision on the proposal after receipt of certain information / documents from the proponent followed by visit of the Sub-Committee of SEAC to the site.

20. The project proponent has furnished compliance as desired by SEAC and same has been verified by the SEAC on **05.10.2021** as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
(i)	Detailed land schedule with kissam of land in tabulated form. Whether land kissam has been converted to "Gharabari", if so, detailed document to be submitted.	Total Land Area of proposed project is 9,877.92 Sqm/106325.04 Sqft. (2.44 Acres) and the Kissam of land is Gharabadi. Detail Land documents with kissam of land are attached in **Annexure-1.**	-------
(ii)	Layout of drainage system and exact distance of project site to nearest drain and outfall of drain.	Layout plan showing drainage system is attached in **Annexure-2.** The nearest drain is Municipal Drain which is approx. 50m from the project site. The Municipal Drain Photo is attached in	Needs verification during site visit

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		Anenxure-3.	
(iii)	Status of NOC from BMC/ appropriate authority for the above drain for sewage disposal.	Drainage Plan of the proposed building has been approved by Bhubaneswar Municipal Corporation (BMC) vide letter no. 66690, dated 19.08.2021. BMC letter is attached in **Annexure-4.**	-----
(iv)	Proposal to increase in usage of treated waste water in premises and thereby reducing quantity of discharge to drain. Revised water balance to be submitted.	Total Domestic and Flushing Water Requirement of the proposed project are 156.0 KLD and 79.0 KLD respectively. The treated water is re-used for flushing purpose, car washing purpose and gardening purpose (in non-monsoon period) and surplus treated water is discharged into BMC drain adjacent to site. The detailed Water Balance during Non-monsoon & monsoon season is given in **Annexure-5.**	-------
(v)	Surface runoff management plan with details of surface water to be used in the project.	Instead of traditional percolation pits, we are providing bore well of 200mm dia. With percolation allowed at the aquifer level. Where we are drawing water for residential use. 06 Nos. of 16.24 Cu.mtr. each Rainwater Percolation pits are proposed. Hence total proposed volume of pit is 91.0 Cu.mtr. Detailed design calculations with section of percolation pit as per BDA and BMC norms provided in **Annexure-6.**	-------
(vi)	Percentage of Rain water Harvesting /recharging vis-à-vis fresh water consumption according to norms of CGWA be submitted.	We have recharge almost 91 cum/day water through 06 nos. of recharge pits to ground which is equivalent to 43% of total fresh water withdrawal.	-------
(vii)	Details of DG sets to be installed at the suitable places after due consideration of pre-dominant wind direction to	For required backup power, 2 nos. of DG Sets are proposed. The exhaust shall be provided as per pollution norms laid by CPCB. Since	-------

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	avoid air pollution from entering the dwelling house of the colony. DG set location w.r.t wind direction, stack height with layout / installation and drawing of the stack / exhaust pipe be submitted, considering cumulative capacity(s) of all DG sets and height of the tallest tower.	our DG Sets location are along the compound wall, we proposed the vent pipe along the building wall to highest point of the building & vent is 4.5 m in highest point. H = 78.85 + 0.2√500 = 78.85 + 0.2 x 22.36 = 78.85 + 4.5 = 83.35 m ≈ 83 m Height of the DG Set stack is 83m. Layout drawing of DG Sets is attached in **Annexure-7.**	
(viii)	Adequate parking in terms of ECS for dwelling units, floating population & visitors with locations including compatibility with the proposed parking space provided needs to be submitted in tabular form.	As per BDA, the parking requirement for Residential housing is 30%. Accordingly the parking space required for residential area is 13670.1 sqm which is equivalent to 497 ECS. So the total ECS is required for residential building is 488 ECS. Remaining 9 ECS for floating population like visitor to residential houses & visitor. Detail Parking area calculation in ECS is attached in **Annexure- 8.**	Needs to be ascertained during site visit with drawings and plan
(ix)	Fire clearance from the appropriate authority need to be obtained and their observations is to be submitted.	Recommendation letter for Fire Safety Clearance is given in **Annexure-9.**	-------
(x)	Plan for solar power with exact calculations to be submitted.	The electricity installed capacity for this project is 1543.0 KW, accordingly to adhere to the 5.3% (82.6 KW) norms of solar energy we have planned to install Photovoltaic cell Frame shape of 80.0 sqm to be located on the terrace area. The solar power will be mainly used for open area lighting, common corridor lighting & corridor lighting. Total Energy saving is 5.3% which is generated from solar System. Detail Calculation is attached in	Norm is not 5.3%. Further proponent to explain the details calculation during site visit.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		Annexure-10.	
(xi)	Since, this being a flood prone/ water lodging zone, detailed SOP for proper management of the same to be submitted.	The nearest gauging station in the upstream is Naraj (IB). The HFL at Naraj is 27.60m which is recorded in 31-Aug-82, Flood data of Naraj (IB) is given in **Annexure-11**. The project site is in the downstream, but as per the flood vulnerability Map, the site is not located in the flood prone area. (Source - BMTPC).	-------
(xii)	Permission status from Water Resources Deptt. for usage of ground water.	Application has already submitted to Central Ground Water Authority vide application no. 21-4/2832/OR/INF/2021, dated 03.06.2021; Application copy is attached in **Annexure- 12.**	-------
(xiii)	Details of solid waste management.	Total 881.5 kg/day Solid Waste will be generated for proposed project. Solid Waste will be collected in Color bins and it will be segregated in Organic Waste Converter. Detail Solid Waste proposal is given in **Annexure-13.**	-------
(xiv)	Separate compartments for storing of storm water and sewage water.	Two separate drain will be provided for Storm Water & Sewage Water. Storm Water & Treated Water will be discharge different location. Drainage Plan is already given in **Annexure-2.**	-------
(xv)	Findings of traffic study undertaken at point of intersection with NH Vis-a vis the norm in terms of PCU and traffic decongestion measures recommended if any be submitted.	The traffic study report is attached in **Annexure-14.**	-------

21. The SEAC in its meeting held on dated **05-10-2021** decided to take decision on the proposal after a site visit by Sub-Committee of SEAC.

22. The Sub-Committee of SEAC visited the site on 07.10.2021 and the observations of the Sub-Committee are as below:

    i) The environment consultant was not present during the visit and hence some of the documents could not be shown and explained. However, the proponent was

present for deliberation.

ii) The drain map (inside till connecting the main drain) could not be exhibited, hence proponent may be informed to submit the same showing the ETP, drain layout, rain water harvesting charge pits etc.

iii) The Chimney positioning although is at one corner of the land, the height is less (as informed about 30 mt compared to the building height which is much more. This is a point of concern as smoke and dust movements would be there towards the nearer residents. The proponent needs to make changes to increase the height of outlet to overcome the above or change the position of Chimney.

iv) The existing drain is about 200 mts away from the site and as per BMC letter, the proponent needs to construct the drain after the design is approved by BMC. In this regard, the proponent needs to submit: Letter from appropriate authority having the ownership of land and giving right for the same construction and use for discharging the treated effluent. Clear letter of using for discharge of treated effluent is required.

v) Parking: The proponent is having both commercial and residential units. Thus, parking and entry needs to be separate. Proponent needs to send documents in support of the same. Also, a table showing the ECS, no of apartments, 2-wheeler and 4-wheeler parking slots, floating and visitors parking etc for both residential and commercial provided by them. There should not be mix-up of place marked for residential and commercial parking. There should be Minimum 10% of total ECS for Addl parking for visitors and floating population.

vi) Details of calculation of solar energy to be used to arrive the % of total power consumption needs to be submitted.

vii) Traffic study needs to be carried out by a reputed institute and submitted.

viii) Although the land level is not much down than the road level, proponent may submit an explanation about mitigation measure for water ingression in case of heavy rainfall considering the location of the area.

23. The SEAC in its meeting held on dated **08-11-2021** decided to take decision on the proposal after receipt of the information/ documents from the proponent as desired by the Sub-Committee of SEAC as per **Para - 22** above.

24. The project proponent has furnished compliance as desired by SEAC and same has been verified by the SEAC as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
i)	The environment consultant was not present during the visit and hence some of the documents could not be shown and explained. However, the proponent was present for deliberation.	The environment consultant was suffering from COVID & Hence was not present during the site visit.
ii)	The drain map (inside till connecting the main drain) could not be exhibited, hence proponent may be informed to submit the same showing the ETP, drain layout, rain	The drainage map showing STP Area, Rain Water Harvesting Structure, Internal Drain Layout & Final Discharge point the Main Drain is attached in **Annexure-1.**

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	water harvesting charge pits etc.	
iii)	The Chimney positioning although is at one corner of the land, the height is less (as informed about 30 mt compared to the building height which is much more. This is a point of concern as smoke and dust movements would be there towards the nearer residents. The proponent needs to make changes to increase the height of outlet to overcome the above or change the position of Chimney.	For required backup power, 2 nos. of DG Sets are proposed. The exhaust shall be provided as per pollution norms laid by CPCB. Since our DG Sets location are along the compound wall, we proposed the vent pipe along the building wall to highest point of the building & vent is 4.5 m in highest point. H = 78.85 + 0.2/500 = 78.85 + 0.2 x 22.36 = 78.85 + 4.5 =83.35m:83m Height of the DG Set stack is 83m.
iv)	The existing drain is about 200 mts away from the site and as per BMC letter, the proponent needs to construct the drain after the design is approved by BMC. In this regard, the proponent needs to submit: Letter from appropriate authority having the ownership of land and giving right for the same construction and use for discharging the treated effluent. Clear letter of using for discharge of treated effluent is required.	Drainage Plan of the proposed building has been approved by Bhubaneswar Municipal Corporation (BMC) vide letter no. 66690, dated 19.08.2021. The existing drain is 200 m away from the proposed project site. The ownership of the land (200 m) is belongs to National Highway Authority of India (NHAI). The copy of their Record of Eights along with the map is attached in **Annexure-2** and Copy of permission from NHAI to BMC drainage division for construction of required drain is attached in **Annexure-3**. "NOC/letter" from BMC is not submitted as sought. NHAI has sent a common letter to BMC to which no response is available on record from the later.
v)	Parking: The proponent is having both commercial and residential units. Thus, parking and entry needs to be separate. Proponent needs to send documents in support of the same. Also, a table showing the ECS, no of apartments, 2-wheeler and 4-wheeler parking slots, floating and visitors parking etc for both residential and commercial provided by them. There should not be mix-up of place marked for	As per BDA, the parking requirement for Residential housing is 30yo. Accordingly the parking space required for residential area is 12674.58 sqm which is equivalent to 422 ECS. So the total ECS is provided for residential building is 459 ECS. Parking requirement for Commercial Building is 40o/o. Accordingly the parking space required for commercial area is 995.52 sqm which is equivalent to 25 ECS. So the total ECS is provided for commercial building is 38 ECS. ECS provided for floating population like

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	residential and commercial parking. There should be Minimum 10% of total ECS for Addl parking for visitors and floating population.	visitor to residential houses & visitor is 45 ECS. Detail Parking area calculation in ECS is attached in **Annexure-4** & Parking Layout is attached in **Annexure-5**.
vi)	Details of calculation of solar energy to be used to arrive the % of total power consumption needs to be submitted.	The electricity installed capacity for this project is 1543.0 KW, accordingly to adhere to the 5.3% (82.5 KW) norms of solar energy we have planned to install Photovoltaic cell Frame shape of 80.0 sqm to be located on the terrace area. The solar power will be mainly used for open area lighting, common corridor lighting & corridor lighting. Detail Calculation is attached in **Annexure-6**.
vii)	Traffic study needs to be carried out by a reputed institute and submitted.	Traffic Study report has been vetted by M/s Kalinga Institute of Industrial Technology (KIIT) and the Traffic Study Report is attached in **Annexure-7**.
viii)	Although the land level is not much down than the road level, proponent may submit an explanation about mitigation measure for water ingression in case of heavy rainfall considering the location of the area.	The roof of the Upper Basement is above the existing road level. Project internal road level is approx. 1.0 m above the existing public road. All basement entry will be covered above. The project will have storm water collection & discharge network pipelines, Storm water collecting drain at the entry, sumps & pump out arrangement as well.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Centre for Envotech & Management Consultancy Pvt. Ltd. Bhubaneswar** on behalf of the project proponent, the SEAC recommended for grant of Environmental Clearance valid for a period of 7 years with following specific conditions and as per condition at **Annexure-A.**

a) The existing drain is about 200 mts away from the site and as per BMC letter, the ownership of the land (200 m) belongs to National Highway Authority of India (NHAI). The proponent shall construct the drain after the design is approved by BMC on getting their permission. Further, the proponent shall also obtain “NOC/permission” from BMC for discharge of excess treated water to the same drain.

ITEM NO. 05

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S FERRO ALLOYS CORPORATION LTD. FOR EXPANSION OF EXISTING OSTAPAL CHROMITE MINES FOR INCREASE IN PRODUCTION FROM 0.2 MTPA TO 0.240 MTPA CHROMITE ORE (ROM) WITH MAXIMUM EXCAVATION OF 0.579 MILLION CUM PER ANNUM AND BENEFICIATED CHROME ORE OF 0.1 MTPA THROUGH OPENCAST MINING METHOD OVER AN MINING LEASE AREA: - 72.84HA., AT VILLAGE – KALARANGIATTA, TAHASIL – SUKINDA, DIST – JAJPUR, ODISHA OF SRI. BISWANATH SAHOO, (AUTHORIZED SIGNATORY) – 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. As per EIA Notification dated 14th Sep, 2006 as amended from time to time, the project falls under Category "B", Project or Activity 1(a) – Mining of Minerals.

3. M/s Ferro Alloys Corporation Ltd. for Expansion of existing Ostapal chromite Mines for increase in production from 0.2 MTPA to 0.240 MTPA Chromite Ore (ROM) with maximum excavation of 0.579 Million cum per annum and beneficiated Chrome Ore of 0.1 MTPA through opencast mining method over an mining lease area: - 72.84Ha., at village – Kalarangiatta, Tahasil – Sukinda, Dist – Jajpur, Odisha of Sri. Biswanath Sahoo, (Authorized Signatory).

4. **Site Location and Connectivity -** The Ostapal Chromite Mine Lease is spread over an area of 72.843 Ha and it falls in Survey of India Topo Sheet Open Series Map No. F45N16, F45T09, F45T13 & F45U1 (earlier 73G/16). The area is bounded by Latitude 21° 3'26.60" N to 21° 04'00.98" N and Longitude 85° 47'4.39" E to 85° 47' 34.29" E. Ostapal Chromite Mine is situated in Jajpur district of Odisha. Tomka Mangalpur State Highway passes 0.35 km away from mine lease in S-direction. Tomka Railway Station is situated about 19.06 km (aerial distance) in E-direction from lease area. Biju Patnaik International Airport is about 89.02 km (aerial distance) in S-direction from lease area. Lease area partly falls in Daitari Protected Forest. Gurujanga is the adjacent village in the Southern side.

5. **Topography** - The entire lease area is a flat terrain having a gentle slope of 2° from North to South. Maximum elevation: 158 mRL in the Northern Part. Minimum elevation: 135 mRL in the Southern Part. There is no seasonal or perennial surface water body in the mine lease area. Damsal nala, flows at 0.27km away from the ML area in South direction, forms the major drainage of the study area. HFL is at 125mRL and minimum elevation of the surrounding lease area is 135mRL.

6. Mining lease over 72.843 Ha. area was granted to M/s Ferro Alloys Corporation Limited ("FACOR") on 13/08/1985. The Mining lease was granted for a period of 20 years only i.e from 13/08/1985 to 12/08/2005.

7. In compliance to Rule-24A (1) of the Mineral Concession Rules-1960, application for First Renewal of Mining Lease has been filed on dtd. 02.08.2004 i.e prior to one year of expiry of the mining lease period, however, mining operations in the said lease area was going on under the deemed extension provisions of Rule-24 A (6) of the Mineral

Concession Rules, 1960 till 21/08 2016. Thereafter, as per the MMDR amendment act, 2015, under Sec. 8A the lease period has been extended for a period of fifty years i.e. from 13/08/1985 to 12/08/2035.

8. The Supplementary Lease Deed has been executed on 22/08/2016 for extension of lease period upto 2035.
9. In the year 2020, Hon'ble National Company Law Tribunal (NCLT) Cuttack Bench under the provisions of Insolvency and Bankruptcy Code (IBC) -2016 vide its order dated 30.01.2020, has approved the resolution plan of M/s. Sterlite Power Transmission Limited (a group of Vedanta Ltd.). Pursuant to the said order of NCLT Cuttack, the Board of Directors of M/s. Ferro Alloys Corporation Ltd. have also been changed with effective from dated 21.09.2020.
10. Based on the recent exploration activity, updated mine reserve & resource data geotechnical study on slope stability and updated mine plan, this expansion proposal was submitted to IBM for approval under Rule 17(3) of MCR, 2016 including Progressive Mine Closure Plan under Rule 23 of MCDR, 2017 on the account of ROM production enhancement by 20%. IBM has approved the modification of Review of Mining Plan Vide Letter. No. MRMP/A/16-ORI/BHU/2020-21, Dated. 05.08.2021.
11. **Environmental Clearance** is received for production of 0.2 MTPA Chromite Ore and 0.1MTPA beneficiated chrome ore vide letter no. J-11015/38/2006-IA.II(M) dated 06.12.2006.
12. **Modified Review of Mining Plan** was approved by IBM, Bhubaneswar dated 05.08.2021 with letter no. . MRMP/A/16-ORI/BHU/2020-21.
13. **Consent to Operate** from SPCB, Odisha vide letter no. 5320/IND.I CON.1163 dated 27.03.2021 Valid till 31.03.2022.
14. **Hazardous Waste Authorization** from SPCB, Odisha vide letter no.: IND-IV-HW-337/6381,dated 16.04.2021,Valid till 31.03.2022
15. **Ground water withdrawal permission (NOC)** was obtained from CGWA, Vide Ref No. CGWA/NOC/MIN/ORIG/2018/3957, Dated 29.08.2018. Renewal of NOC is under Process.
16. **Forest Clearance** has been obtained from Government of India Ministry of Environment & Forest (F.C Division) New Delhi, Vide Letter No. F.No. 8-86/1996/F.C. (Vol. II) Dated 7th February 2006. Out of total lease area of 72.843 Ha., 68.424 Ha. is forest land & 4.419 Ha. is non forest land. **Out of total Forest Land of 68.424 Ha, 64.354 Ha. is diverted for mining purpose, rest 4.070 Ha has been left for safety zone.**
17. **Surface right:** Out of the total lease area of 72.843 Ha., surface right for 68.668 Ha. is granted by State Government. Balance area has been left as safety zone (4.070Ha.) / Debastali (0.105 Ha.).
18. **Reserves** - Geological Reserves is 10.559 Million Tonnes and Mineable Reserves is 1.536 Million Tonnes (as on 31.05.2021). Based on the present reserve estimates and proposed production program, the life of mine is estimated to be about 10 years, which will increase with planned future exploration, road diversion and slope steepening as well as changing the mining operation to underground method.

19. **Method of Mining** - Fully mechanized Open cast mining is proposed to be carried out during the plan period. The operations like digging, excavation and removal of ore will be done with the help of heavy earth moving machineries. Deep hole drilling and blasting is being carried out as & when required. Control blasting is being practiced.

20. **Production Details:** 0.240 Million TPA Chrome Ore (ROM), max excavation of 0.579 Million CuM per annum. Year wise production details is:

Year	Total Excavation (Tonnes)	ROM (Tonnes)	Waste Generation OB/SB/IB	ROM:Waste Stripping Ration
2021-22 (June onwards)	1023358	197958	825400	1:4.2
2022-23	1230000	240000	990000	1:4.1
2023-24	1240000	240000	1000000	1:4.2
2024-25	1240000	240000	1000000	1:4.2
2025-26	1220000	240000	980000	1:4.1
Total	**5953358**	**1157958**	**4795400**	1:4.1

21. **Water Requirement:** 750 KLD, (650 KLD from Mine dewatering For Industrial Use & 100 KLD from Borewell for domestic consumption). Permission for 3300 KLD pit dewatering and 100 KLD from borewell has been obtained from CGWA vide ref no. Vide Ref No. CGWA/NOC/MIN/ORIG/2018/3957, Dated 29.08.2018. Renewal of NOC is under Process.

22. **Power Requirement:** Currently, 33 KV power is stepped down through 11 KV substations and distributed throughout the mines. Power contract demand is available for 600 KVA.

23. **Employment Potential** - The project will generate 595 manpower for the proposed expansion in the mine.

24. Baseline Environmental Monitoring for Air, water, Noise and Soil has been carried out during Pre Monsoon season (Mar 2021 - May 2021).

25. Total Cost of the proposed project will be ` Rs 88.85 Crores.

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

27. The project proponent had made a submission before the SEAC to exempt Public Consultation as the increase in production is only 20% with an overall excavation impact of about 6% and there are instances of mining projects being considered by MoEF&CC, Govt. of India for issuance of Environment clearance under clause 7(ii) of EIA Notification 2006.

28. **Clause 7(ii) of** EIA notification 2006 and its amendment stipulates "*All applications seeking prior environmental clearance for expansion with increase in the production capacity beyond the capacity for which prior environmental clearance has been granted under this notification or with increase in either lease area or production capacity in the case of mining projects or for the modernization of an existing unit with increase in the total production capacity beyond the threshold limit prescribed in the Schedule of this notification through change in process or technology or involving a change in the product mix shall be made in Form I and they shall be considered by the concerned Expert Appraisal Committee or* ***State Level Expert Appraisal Committee within sixty days, who will decide on the due diligence necessary including preparation of Environmental Impact Assessment and public consultations and the application shall be appraised accordingly for grant of environmental clearance****".*

29. The MoEF&CC, Govt. of India had issued Office Memorandum vide no. J-11013/41/2006-IA.II(I), dated 03.06.2009, which stipulates "In order to enhance the transparency in decision making when the provisions of clause 7(ii) of EIA Notification, 2006 are invoked for exempting Public Hearing for any project, it is requested that this exemption should be applied judiciously, based on the available data on incremental pollution load and use of additional natural resources vis-a-vis sustainable development without compromising on environmental integrity. The reasons for invoking clause 7 (ii) while granting exemption from public hearing should also be appropriately recorded in the minutes of the EAC/SEAC Meeting"

30. The project proponent had intimated the following to the SEAC during presentation.

    a) Earlier EC of 2.0 Lac tonne/Annum ROM production is obtained through EIA Notification 2006 dated 06.12.2006 by following all the steps & guidelines along with Public Hearing.

    b) Comparison Statement:

        i. **Production enhancement between 'Existing EC' & 'Proposed EC enhancement Plan'**

EC comparison	Ore production plan as per approved EC (lakh MT)	OB quantity as per approved EC (lakh m^3)	Total Handling (lakh m^3)
As per approved EC	2.00	4.80	5.46
Present proposal of EC enhancement	2.40	5.00	5.79
Difference (%)	20%	4%	6%

        ii. So, increase in total mine excavation is about 6% only.

    c) There is no major impact in water consumption as the change in total handling volume is minimum.

    d) Impact of Diesel consumption will also be minimum considering the above change in handling volume.

31. The SEAC in its meeting held on 08-10-2021 recommended the following:

A. The proponent may be requested to furnish the following for taking a decision on request of the proponent for exemption of public hearing as per clause 7(ii) of EIA Notification, 2006.

i) Copy of Environmental Clearances and minutes of the meeting of EAC of the Similar type of cases, which have already been considered by MOEF&CC, Govt. of India in recent past under clause 7(ii) of EIA Notification, 2006 and amendment thereafter for exemption of public hearing.

ii) Detailed justification that there will be no increase in pollution load and use of additional natural resources vis-à-vis sustainable development due to the proposed expansion.

B. The decision on issue of Terms of Reference for the proposal will be decided after receipt of clarification from the proponent. However, following specific Terms of References may be issued for conducting EIA study, while recommending for issue of Terms of Reference for EIA study.

i) EC conditions wise detailed compliance duly certified by MoEF&CC, Govt. of India, Regional office, Bhubaneswar be given in EIA/EMP along with Consent to Establish, Consent to Operate and Authorization under Hazardous Waste Rules conditions compliance report duly certified by the State Pollution Control Board.

ii) The following information to be submitted in the compliance report:

a) Compliance of mining plan, including waste and OB dump management, mine closure plan etc.

b) Compliance to Common cause judgment

c) Status of R&R

d) Compliance of plantation

e) Compliance of public hearing issues

f) Compliance to CTO for the existing mines.

g) Status of complaints/ court cases/legal action.

h) Effluent, garland drain, soil quality including hexavalent chromium

i) Any other relevant environmental issue / parameter.

iii) The following studies be undertaken by domain experts, viz:

a) Blast vibration study

b) Socio economic study of the neighbouring habitation

c) Biodiversity study with audit mechanism.

d) Slope stability study for both mines and OB /waste dumps.

e) Surface runoff management along with rainwater harvesting and ground water recharge including the design of drainage structures.

f) Traffic density study, both inside the mines and at haulage roads, intersecting points of haulage road with public road.

g) Hydrology study: The study findings and the mitigation measures thereof to be submitted

iv) The Project Proponent shall undertake the peripheral plantation and closed areas as well as gap plantation within 6 months with the seedling of 4-6 ft height having atleast 90% survival rate. An undertaking for the same also needs to be submitted by Project Proponent.

v) Cost of the CER calculated shall be utilized for the concerns of the people in terms of health, education, and infrastructure and environment protection. Project Proponent also shall include the budget for the betterment of schools nearby and to facilitate the online education system by providing Wi-Fi connectivity and desktops/tablets.

vi) The project proponent should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.

vii) The project proponent should submit the revenue plan for mining lease, revenue plan should be imposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.

viii) The project proponent should submit the real-time aerial footage & video of the mining lease area and of the transportation route. The project proponent should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The project proponent should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this the project proponent should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted. Presently in India there are many agencies which are developing forest in short interval of time. Thus, for the plantation activities details of the experts/agencies to be engaged needs to be provided with budgetary provisions.

ix) The project proponent should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle needs to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.

x) The project proponent should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this the project proponent should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.

xi) The project proponent should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility. The capital and recurring expenditure to be incurred needs to be submitted.

xii) The project proponent should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral. The project proponent should submit the detailed mineralogical and chemical composition of the mineral from a NABL/MoEF&CC accredited laboratory.

xiii) The project proponent should submit the detailed mineralogical and chemical composition of the different grades of mineral and percentage of elements from a NABL/MoEF&CC accredited laboratory. Also, management of different grades need to be explained with mass balance. Also the analysis of wastes including presence of chromium, finally to be discarded and dumped with dumping plan.

xiv) The project proponent should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modelling and isopleth. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The project proponent should provide the source of equations used and complete calculations for computing the emission rate from the various sources.

xv) The project proponent should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted, if such objective is planned.

xvi) The project proponent should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.

xvii) The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC conditions. After perusal of Standard EC conditions if agreed the project proponent should also submit an undertaking by the way of affidavit for Compliance of Standard EC conditions already prescribed by the Ministry vide O.M. No and Specific condition if prescribed by the SEAC/SEIAA, Odisha.

xviii) The project proponent should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. The project proponent shall ensure that accreditation of consultant shall be valid during the collection of baseline date, preparation of EIA/EMP report and during the appraisal process. The project proponent and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the SEIAA, Odisha are factually correct and the project proponent and consultant are fully accountable for the same.

xix) The project proponent should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude

of the monitoring station/sampling location. In addition to this the project proponent should submit the original test reports and certificates of the labs which will analyze the samples.

xx) Internal roads, drain management with network of the drain, retaining walls and settling tanks with ETPs be submitted.

xxi) Details of air quality monitoring stations of the area and additional stations at entry and exit of mines and haulage roads, habitation to be considered.

xxii) Construction and perennial maintenance of haulage road with details of plantation and the species thereof to be submitted.

xxiii) Parking plaza layout with maximum no. of vehicles and types of vehicles that can be parked with basic amenities and facilities.

xxiv) Forest Clearance details with copy of all Forest Clearance.

xxv) Status of complaints/ court cases/legal action regarding to lease along with a detailed write up indicating case no., purpose of the case etc.

xxvi) Copy of lease document.

i) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage and mitigation measures.

xxvii) Comparative statement for increase in pollution load for existing production vis-à-vis proposed production (taking all parameters like water consumption, waste water generation, air pollutants, OB management, greenbelt, haulage roads, settling ponds, ETP etc.) in comparative form on environmental parameter including all forms of chromium and superimposing in layout on physical features.

xxviii) Project Proponent shall consider developing a good nursery in nearby village for production of saplings of 4-6 feet height for planting in safety zone, sides of external haulage roads and distribution among villagers for planting in their private land/ community land. The nursery may be developed by company on their own or in collaboration with forest department. A detailed proposal to this effect shall be submitted. The proponent shall ensure to use organic fertilizer in the nursery.

xxix) Comprehensive water management, water balance with water harvesting and its reuse both monsoon and non-monsoon period. Detailed proposal for Zero Liquid Discharge.

xxx) STP plan with design with location in the layout map for domestic waste water treatment.

xxxi) Provision of solar power (percentage wise) with detail plan.

xxxii) To submit the network with dimension of concrete cement roads inside the mining lease area and haulage road.

xxxiii) Plan and SoP to be submitted for water sprinkling inside the mines and outside in haulage road including regular vacuum cleaning and Zero Dust Re-suspension system to completely mitigate and arrest fugitive dust emission.

xxxiv) Comparative data for previous and proposed production w.r.t overburden, green belt, water balance, haulage roads, settling ponds, ETP, runoff management etc. including chromium of different forms.

xxxv) Additional environmental measures taken for expansion of the project be submitted.

xxxvi) Total water management including domestic use w.r.t sourcing from bore-well, rain water harvesting and recycling of waste water from ETP/STP, both for monsoon and non-monsoon be submitted of the existing mines and propose expansion.

xxxvii) Measures taken and proposed to be taken further for arresting and mitigation of occupational health hazard including identification of the same, both for employees and nearby/surrounding habitation.

xxxviii) Test report on Cr+6 content in surface water, ground water and underground soil. Technology used for removal of Cr+6 from surface run-off as well as mines drainage water. Proponent should explore using of latest membrane-based technology to mitigate hexavalent chromium

xxxix) Since the mine is located at Seismic Zone III (Moderate risk zone), slope stability study of mineral benches, OB dumps and mine sumps is envitable.

xl) "No settling Pond" exists. A write up to be submitted why it is not required and how wash off / run off from OB / mineral waste / mineral are treated & disposed.

xli) Is the existing & proposed expansion is / will be "ZLD"? Whether any treated waste water is discharged to any outside water body including "Damsala Nala" located at 270 mtr from lease boundary? If so, the permission from the authority of Nala has been later including additional land due to proposed expansion? Existing and proposed measures to protect Damsala nala from getting contaminated due to mining due to mining activity.

xlii) Treatment and disposal of mines seepage water of 3300 KLD with SOP be submitted.

xliii) Permission for ground water drawal from WR Deptt, Govt of Odisha be submitted.

xliv) Tomka – Mangalpur State highway is only 340 mtrs south of lease boundary and primary schools are located at 100 mtrs only from the lease boundry. So, safety precautions due to movement of vehicle and blasting be submitted.

xlv) About 0.105 Ha land is "Debasthali" Statue of it is to be submitted.

32. The proponent has furnished the compliance to the clarification sought at para 31 A as follows:

Query No. (i) : Copy of Environmental Clearance and minutes of the meeting of EAC of the similar type of case, which have already been considered by MoEF & CC, Govt of India in recent past under the clause 7(ii) of EIA Notification, 2006 and amendment thereafter for exemption of public hearing,

Compliance furnished: They have submitted details of 5 mines (including EC letter and Minutes of Meetings) for which public hearing have been exempted under clause 7 (ii) of EIA Notification 2006 and amendment thereafter. Out of these 5 mines, some of have been exempted very recent past. The details are given below:

Sl. No.	Name of Mine	EC letter	MoM
i)	Sanu-I Limestone Mine	F No.J-11015/42/2006-IA- ll(M) dated 23,a June 2021 for enhancement in production capacity of SMS grade limestone from 1.25 to 1.50 MTPA	EAC (non-coal mining) held during 6-8 April 2021
ii)	Zawar Lead-Zinc Mines	F No.J-11015/259/2012- IA-II(M) dated 16th October 2020 for expansion in production from 4. 0 to 4.8 MTPA	EAC (non-coal mining) held during 19-21 August 2020
iii)	Sindesar Khurd underground Mines	F.No.J-11015/10/2014- IA.II(M) dated 15th January 2020 for enhancement in production from 2.0 to 3.75 MTPA	EAC (Impact Assessment Division) Non- Coal Mining Sector held during 24-25 October, 2016
iv)	Rajpura Dariba Lead-Zinc underground Mines	F.No.J-11015/84/2018- IA.II(M) dated 13th April 2020 for enhancement in production from 1.08 to 2.0 MTPA	EAC (Impact Assessment Division) Non- Coal Mining Sector held during 19-20 December, 2019
v)	Kayad Lead-Zinc Mines	F No J-11015/47/2012- IA.II(M) dated 05.02.2018 for enhancement in production from 1.0 to 1.2 MTPA	EAC (Impact Assessment Division) Non- Coal Mining Sector held during 21-22 December, 2017

Query No. (ii) : Detailed justification that there will be no increase in pollution load and use of additional natural resources vis-à-vis sustainable development due to the proposed expansion.

Compliance furnished:

- For mining operation, major sources of pollution are

  - Dust due to excavation and transport of material/ore.
  - Dust due to drilling and blasting
  - Emissions due to movement of vehicles and machinery
  - Emissions due to generator sets for power generation.
  - Water pollution from surface runoff and mine drainage.
  - Noise pollution due to drilling blasting and movement of vehicles

In the current proposal, production of chromite ore (ROM) is for 0.240 MTPA. This is a mere 20% increase in production from previous EC which was of 0.2 MTPA

- Air Environment -

Emission Rate Values comparison existing vis-a-vis proposed expansion (as per M. K. Chakraborty et all) per ton of ore in ton/ton of ore,

Activity	Values for proposed 0.240 MTPA production	Values for existing 0.200 MTPA production	Difference %
Drilling	$5.019*10^{-5}$	$6.022*10^{-5}$	19.98 decrease
OB loading	$4.562*10^{-6}$	$5.475*10^{-6}$	20.01 decrease

Mineral loading	$8.06*10^{-5}$	$9.673*10^{-5}$	20.01 decrease
Haul Road	$9.581*10^{-7}$	$1.149*10^{-6}$	19.92 decrease
Transport Road	$1.379*10^{-4}$	$1.642*10^{-4}$	19.07 decrease
OB unloading	$3.041*10^{-7}$	$3.650*10^{-7}$	20 02 decrease
Mineral unloading	$1.216*10^{-7}$	$1\ 460*10^{-7}$	20.00 decrease
Exposed OB dump	$3.041*10^{-9}$	$3\ 650*10^{-9}$	20.02 decrease
Stock yard	$4.562*10^{-9}$	$5\ 475*10^{-9}$	20.01 decrease
Exposed Pit Surface	$7.604*10^{-9}$	$9.125*10^{-9}$	20.00 decrease
Overall SPM	$5.856*10^{-4}$	$5.847*10^{-4}$	0.15 increase
Overall SO_2	$4.152*10^{-4}$	$4.320*10^{-5}$	4.04 decrease
Overall NOx	$2.325*10^{-5}$	$2.633*10^{-5}$	13.2 decrease

In the above table, it can be seen that the ton per ton value of emission decreases because the overall mining methodology is improving for the lease area. Therefore, it is safe to assume that the pollution levels will not increase

- Water Environment -

Water requirement for the mines shall be reduced from 850 KLD to 750 KLD by utilizing water resource management measures such as regular Water Conservation Programme for Employees, regular inspection of piping and hoses to reduce accidental losses, rainwater harvesting and recycling of tailings water The tailing water will be treated in the ETP (capacity upgrade from 400 cum/hr to 550 cum/hr). The water will be treated with Ferrous Sulphate or Sodium bisulphate. Hexavalent chromium is reduced to trivalent chromium by dosing Ferrous Sulphate. Sulphuric acid will be used to bring down the pH between 3 to 4. Chromium is precipitated as chromium hydroxide by dosing with alkali (NaOH). Chromium hydroxide is then separated in a Clariflocculator. The flocculant system will be enhanced by dosing with polyelectrolyte. This water is treated in the filtration system (sand bed) and Iron exchange removal. The chromium hydroxide precipitate will be disposed off to an authorised Treatment, Storage and Disposal facility (TSDF). The treated water will be used in sprinkling, plantation and beneficiation plant. Surplus water will be discharged into Damsal Nala. In the table below, water requirement per ton of ore has been listed:

Parameter	Existing (ton/ton of Ore)	Proposed (ton/ton of Ore)
Water Consumption	1.12(1.147 KL/ton)	1.11 (1.140 KL/ton)

- *Noise Environment -*

As there no increase in blasting and drilling activity, noise pollution increase is not envisaged.

- **Other Parameters**

Other parameters like waste generation, diesel consumption and power requirement has also been compared below:

Parameters	Existing	Proposed
Waste generation	4.5 (Ton / Ton of Ore)	4.1 (Ton / Ton of Ore)
Diesel Consumption	0.007 (0.008 KL/ton)	0.004 (0.005 KL/ton)
Power Requirement	0.002 kW/ton	0.002kW/ton

There is a reduction in waste generation by 9 percent. Diesel consumption is also being reduced by 30 percent. It will be done by using bigger capacity equipment (Eicher Pro 8028 XM, Bharat Benz 3128 etc., optimizing lead distance and using advanced high-tech equipment like excavator with D-7 Diesel Engine, Auto engine shutdown, operating modes, increased fuel efficiency with safety features like ROPS, climate control, automatic fire suppression system etc.

33. Based on the information / documents furnished, the Committee opined that the public hearing may be exempted under clause 7(ii) of EIA Notification, 2006 and amendment thereafter.

Considering the information / documents furnished by the proponent and presentation made by the consultant, the SEAC recommended the following:

A. Conducting public hearing for the proposal may be exempted under clause 7(ii) of EIA Notification, 2006 and amendment thereafter as there will be no increase in pollution load due to mere 20% increase in production capacity and in similar situation EAC of MoEF&CC, Govt. of India has exempted for conducting public hearing many such mines.

B. Following specific Terms of References in addition to standard ToRs as per **Annexure – B** may be issued for conducting detailed EIA study.

i) EC conditions wise detailed compliance duly certified by MoEF&CC, Govt. of India, Regional office, Bhubaneswar be given in EIA/EMP along with Consent to Establish, Consent to Operate and Authorization under Hazardous Waste Rules conditions compliance report duly certified by the State Pollution Control Board.

ii) The following information to be submitted in the compliance report:

j) Compliance of mining plan, including waste and OB dump management, mine closure plan etc.

k) Compliance to Common cause judgment

l) Status of R&R

m) Compliance of plantation

n) Compliance of public hearing issues

o) Compliance to CTO for the existing mines.

p) Status of complaints/ court cases/legal action.

q) Effluent, garland drain, soil quality including hexavalent chromium

r) Any other relevant environmental issue / parameter.

iii) The following studies be undertaken by domain experts, viz:

a) Blast vibration study

b) Socio economic study of the neighbouring habitation

c) Biodiversity study with audit mechanism.

d) Slope stability study for both mines and OB /waste dumps.

e) Surface runoff management along with rainwater harvesting and ground water recharge including the design of drainage structures.

f) Traffic density study, both inside the mines and at haulage roads, intersecting points of haulage road with public road.

g) Hydrology study: The study findings and the mitigation measures thereof to be submitted

iv) The Project Proponent shall undertake the peripheral plantation and closed areas as well as gap plantation within 6 months with the seedling of 4-6 ft height having atleast 90% survival rate. An undertaking for the same also needs to be submitted by Project Proponent.

v) Cost of the CER calculated shall be utilized for the concerns of the people in terms of health, education, and infrastructure and environment protection. Project Proponent also shall include the budget for the betterment of schools nearby and to facilitate the online education system by providing Wi-Fi connectivity and desktops/tablets.

vi) The project proponent should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.

vii) The project proponent should submit the revenue plan for mining lease, revenue plan should be imposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.

viii) The project proponent should submit the real-time aerial footage & video of the mining lease area and of the transportation route. The project proponent should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. The project proponent should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this the project proponent should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted. Presently in India there are many agencies which are developing forest in short interval of time. Thus, for the plantation activities details of the experts/agencies to be engaged needs to be provided with budgetary provisions.

ix) The project proponent should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle needs to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.

x) The project proponent should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this the project proponent should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.

xi) The project proponent should submit the year-wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & Corporate Environmental Responsibility. The capital and recurring expenditure to be incurred needs to be submitted.

xii) The project proponent should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral. The project proponent should submit the detailed mineralogical and chemical composition of the mineral from a NABL/MoEF&CC accredited laboratory.

xiii) The project proponent should submit the detailed mineralogical and chemical composition of the different grades of mineral and percentage of elements from a NABL/MoEF&CC accredited laboratory. Also, management of different grades need to be explained with mass balance. Also the analysis of wastes including presence of chromium, finally to be discarded and dumped with dumping plan.

xiv) The project proponent should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the center line of the road on either side should be clearly brought out supported with the line source modelling and isopleth. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The project proponent should provide the source of equations used and complete calculations for computing the emission rate from the various sources.

xv) The project proponent should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted, if such objective is planned.

xvi) The project proponent should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.

xvii) The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC conditions. After perusal of Standard EC conditions if agreed the project proponent should also submit an undertaking by the way of affidavit for Compliance of Standard EC conditions already prescribed by the Ministry vide O.M. No and Specific condition if prescribed by the SEAC/SEIAA, Odisha.

xviii) The project proponent should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. The project proponent shall ensure that accreditation of consultant shall be valid during the collection of baseline date, preparation of EIA/EMP report and during the appraisal process. The project

proponent and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the SEIAA, Odisha are factually correct and the project proponent and consultant are fully accountable for the same.

xix) The project proponent should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this the project proponent should submit the original test reports and certificates of the labs which will analyze the samples.

xx) Internal roads, drain management with network of the drain, retaining walls and settling tanks with ETPs be submitted.

xxi) Details of air quality monitoring stations of the area and additional stations at entry and exit of mines and haulage roads, habitation to be considered.

xxii) Construction and perennial maintenance of haulage road with details of plantation and the species thereof to be submitted.

xxiii) Parking plaza layout with maximum no. of vehicles and types of vehicles that can be parked with basic amenities and facilities.

xxiv) Forest Clearance details with copy of all Forest Clearance.

xxv) Status of complaints/ court cases/legal action regarding to lease along with a detailed write up indicating case no., purpose of the case etc.

xxvi) Copy of lease document.

ii) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage and mitigation measures.

xxvii) Comparative statement for increase in pollution load for existing production vis-à-vis proposed production (taking all parameters like water consumption, waste water generation, air pollutants, OB management, greenbelt, haulage roads, settling ponds, ETP etc.) in comparative form on environmental parameter including all forms of chromium and superimposing in layout on physical features.

xxviii) Project Proponent shall consider developing a good nursery in nearby village for production of saplings of 4-6 feet height for planting in safety zone, sides of external haulage roads and distribution among villagers for planting in their private land/ community land. The nursery may be developed by company on their own or in collaboration with forest department. A detailed proposal to this effect shall be submitted. The proponent shall ensure to use organic fertilizer in the nursery.

xxix) Comprehensive water management, water balance with water harvesting and its reuse both monsoon and non-monsoon period. Detailed proposal for Zero Liquid Discharge.

xxx) STP plan with design with location in the layout map for domestic waste water treatment.

xxxi) Provision of solar power (percentage wise) with detail plan.

xxxii) To submit the network with dimension of concrete cement roads inside the mining

lease area and haulage road.

xxxiii) Plan and SoP to be submitted for water sprinkling inside the mines and outside in haulage road including regular vacuum cleaning and Zero Dust Re-suspension system to completely mitigate and arrest fugitive dust emission.

xxxiv) Comparative data for previous and proposed production w.r.t overburden, green belt, water balance, haulage roads, settling ponds, ETP, runoff management etc. including chromium of different forms.

xxxv) Additional environmental measures taken for expansion of the project be submitted.

xxxvi) Total water management including domestic use w.r.t sourcing from bore-well, rain water harvesting and recycling of waste water from ETP/STP, both for monsoon and non-monsoon be submitted of the existing mines and propose expansion.

xxxvii) Measures taken and proposed to be taken further for arresting and mitigation of occupational health hazard including identification of the same, both for employees and nearby/surrounding habitation.

xxxviii) Test report on Cr+6 content in surface water, ground water and underground soil. Technology used for removal of Cr+6 from surface run-off as well as mines drainage water. Proponent should explore using of latest membrane-based technology to mitigate hexavalent chromium.

xxxix) Since the mine is located at Seismic Zone III (Moderate risk zone), slope stability study of mineral benches, OB dumps and mine sumps is envitable.

xl) "No settling Pond" exists. A write up to be submitted why it is not required and how wash off / run off from OB / mineral waste / mineral are treated & disposed.

xli) Is the existing & proposed expansion is / will be "ZLD"? Whether any treated waste water is discharged to any outside water body including "Damsala Nala" located at 270 mtr from lease boundary? If so, the permission from the authority of Nala has been later including additional land due to proposed expansion? Existing and proposed measures to protect Damsala nala from getting contaminated due to mining due to mining activity.

xlii) Treatment and disposal of mines seepage water of 3300 KLD with SOP be submitted.

xliii) Permission for ground water drawal from WR Deptt, Govt of Odisha be submitted.

xliv) Tomka – Mangalpur State highway is only 340 mtrs south of lease boundary and primary schools are located at 100 mtrs only from the lease boundry. So, safety precautions due to movement of vehicle and blasting be submitted.

xlv) About 0.105 Ha land is "Debasthali" Statue of it is to be submitted.

ITEM NO. 06

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF 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) – 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. 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).
3. 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.
4. 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.
5. First RML application was filed on 04.02.2005 (one year before the expiry of the lease) for 20 years (form 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.
6. 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.
7. 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).
8. The application for EC was made by the lessee and Public hearing for the said project was conducted on 10.04.2010
9. 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.

10. 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.
11. State Pollution Control Board, Odisha accorded Consent to Establish vide their letter No 22809/Ind-II-5429 dated 12.11.2012.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. 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.
18. Recent mining plan approved by Indian Bureau of Mines, Bhubaneswar vide letter no: RMP/A/04-ORI/BHU/2021-22, dated 17.06.2021.

19. **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 21^0 52' 15.58"N and Longitude 85^0 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 – Bhadrasahi 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.

20. **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.

21. 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.

22. **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 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.

23. **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

24. **Waste management** - A total quantity of 145245 m3 waste (generated from the lease area + Rehandled 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

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.

25. **Green Belt** - The plant species which preferably will be nitrogen fixers, pollution abaters, fruit bearing shall be taken up for plantation. During the plan period afforestation programme (23000 nos.) will be carried out over an area of 15.381 hectares of safety zone area and backfilled and reclaimed area.
26. **Water Requirement** - Water consumption will be limited to 10 KLD which consist of 2.5 KLD for domestic, 5 KLD for dust suppression, 2.5 KL For green belt development purpose. Water for drinking / domestic use will be sourced from the tankers while water for non-domestic use such as plantation, water sprinkling etc. will be sourced from water harvesting ponds.
27. **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.
28. A total of 100 workers (Direct - 68nos., Indirect - 32nos.) will be employed during mining operation.
29. The cost of Project is ` 295 lakh.
30. The Environment Consultant **M/s Kalyani Laboratories Pvt. Ltd. Bhubaneswar** along with the proponent made a detailed presentation on the proposal before the Committee.
31. The project proponent has made an appeal before the committee for exemption of public hearing as per MoEF&CC O.M 22-4/2020.IA.III and MoEF&CC O.M 22-28/200.IA.III due to the following reasons:
    (i) The public hearing for the said project was already conducted on 10.04.2012.
    (ii) There is no increase in lease area or production capacity for which public hearing has already been conducted.
    (iii) There is no proposed change in mining activity or method.
    (iv) No mining activities carried out in the lease area after public hearing.
32. The SEAC in its meeting held on dated 08-10-2021 recommended the following:

A. Proposal to be considered for issue of ToRs under violation case after receipt of the following information / documents from the proponent.

i) Permission for new or expansion of manganese ore mine is terms of NEERI recommendations to be submitted from Steel & Mines Deptt., Govt. of Odisha.

ii) Documentary evidence that the proposal had been submitted in violation portal of MoEF&CC, Govt. of India.

iii) Detailed write up with justification along with copy of OMs of MoEF&CC, Govt. of India for exemption of public hearing.

B. Following specific ToRs may be issued while issue of ToRs for EIA study for the proposal.

i) EC conditions wise detailed compliance duly certified by MoEF&CC, Govt. of India, Regional office, Bhubaneswar be given in EIA/EMP along with Consent to Establish, Consent to Operate and Authorization under Hazardous Waste Rules conditions compliance report duly certified by the State Pollution Control Board.

ii) One village road is stated to have been passing through in between quarries and to be diverted. Details of existing road and proposed diversion in the lay out map to be submitted.

iii) Details of STP design and capacity to be submitted since employee strength is100 besides floating population.

33. The mine has furnished the compliance as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
i)	Permission for new or expansion of manganese ore mine is terms of NEERI recommendations to be submitted from Steel & Mines Deptt., Govt of Odisha.	The Project is an existing project and there is no proposal for enhancement in production for the lease area.
ii)	Documentary evidence that the proposal had been submitted in violation portal of MoEF&CC, Govt. of India.	The application has been made under case of violation. Copy of the ToR application attached.
iii)	Detailed write up with justification along with copy of OMs of MoEF&CC, Govt. of India for exemption of public hearing.	The Public hearing for the said project was already conducted on 10.04.2012. There is no increase in lease area or production capacity for which public hearing has already been conducted. There is no proposed change in mining activity or method for the present proposal.

The SEAC after detailed presentation by the project proponent along with consultant noted that 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. The SEAC, after detailed deliberations on the proposal in terms of the provisions of the MoEF&CC, Govt. of India Notification dated 14th March, 2017, confirmed the case to be of violation of the EIA Notification, 2006 and **recommended for issuing Standard Term of Reference as per Annexure- C along with the following specific Term of Reference and additional specific conditions as recommended by CSIR-NEERI on carrying capacity study as per Annexure - D** for undertaking EIA and preparation of Environmental Management Plan (EMP):

(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 shall be

recommended by the SEAC 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) Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.

(iv) Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.

(v) The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter in the EIA report by the accredited consultants.

(vi) 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.

(vii) One season fresh base line data to be generated for EIA/EMP preparation.

(viii) To submit the lease sketch approved by DMG, at the time of presentation before SEAC.

(ix) Fund allocation for Corporate Environment Responsibility (CER) shall be made as per Ministry's O.M. No. 22-65/2017-IA.III dated 1st May, 2018 for various activities therein. The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.

(x) Detailed hydrological study to be carried out in core and buffer zone of the project as per the recent GEC guidelines 2015.

(xi) Approved mining plan is to be submitted.

(xii) Recent compliance report from the regional office of MoEF&CC, Govt. of India, Bhubaneswar for the existing Environmental Clearance, if any.

ITEM NO. 07

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S ADISH MINERALS PVT. LTD. FOR PROPOSED CHROME ORE BENEFICIATION PLANT OF CAPACITY 1,20,000 TPA THROUGHPUT OVER AN MINING LEASE AREA 13.43 ACRES AT MOUZA- BAUNSAMALI, PS- BADACHANA, DIST-JAJPUR, ODISHA OF SRI NRUSINGHA CHARAN PARIDA (DIRECTOR) – EC

1. The proposed project is for Environmental Clearance of M/s Adish Minerals Pvt. Ltd. for proposed chrome ore beneficiation plant of capacity 1,20,000 TPA throughput over an mining lease area 13.43 acres at Mouza- Baunsamali, PS- Badachana, Dist-Jajpur, Odisha of Sri Nrusingha Charan Parida (Director).

2. M/s Adish Minerals Private Limited has proposed for installation of greenfield Chrome Ore Benefication Plant of capacity 1, 20, 000 TPA throughput located at - Mouza- Baunsamuli, Thana- Badachana, District Jajpur, Odisha.

3. As per EIA Notification dated 14th Sep, 2006 as amended from time to time, the project falls under Category "B", Project or Activity 2(b) – Mineral Beneficiation Unit.

4. The Company "Adish Minerals Private Limited" (AMPL) is incorporated under Companies Act 2013 on 25th April 2018. The Company is a private limited company with Corporate Identity Number- U14298OR2018PTC028769. The Major Objective of the Company is to Beneficiate Low Grade Chrome to Chrome concentrate and sell to various industries of Odisha & other states of India. The Project will have an 100% capacity of beneficiation 120000 TPA of Siliceous Chrome ore material. The concentrated chrome ore output is envisaged as 74400 TPA with conc. Of Cr2O3 between 46 to 54%.

5. **Site Location and Connectivity -** The site is located at Mouza- Baunsamuli, Thana- Badachana, District- Jajpur of Odisha bounded by Latitude 20°41'49.3" N and Longitude 86°00'04.1" E which falls under the Survey of India Toposheet No.F45T13, F45T14,F45U1,F45U2. Total Area of the plant is 13.43 acres. Out of Total land, 5.38 acres (5.435 Ha.) had been acquired at Village- Salapada, Tehsil- Darpan, Thana- Badachana, District- Jajpur of Odisha State. There is no habitation in the proposed area. Nearest habitation is Salapada which is at a distance of 0.30 km from project site. The site is well connected with the road. NH-5 is at a distance of 12- 15 Km from the project site. The nearest railway facility is Barithengarh Railway Station which is 7.5 km. The Nearest airport is Bhubaneswar at 53 km and nearest seaport is Paradeep at a distance of 84 km (SE) from the project site. Water Bodies: Kumaria Nadi- 8.2 Km & Mahanadi River- 17 Km. Nearest town Chandikhol located at a distance of 10.0 Km from the project site. NH- 5 connects the factory site with major cities like Jajpur ,Dubri ,Sukhinda ,Kailpani in order to get their raw materials transported to the factory site . It also connected the States like West Bengal, Andhra Pradesh, therefore the end processed products can easily be transported to the buyers site with the convenient connecting Conveyance Facilities.

6. No National Park / Wildlife Sanctuary /Biosphere Reserve /Tiger reserve have been reported to be located in the core & buffer Zone of the project and the area does not report to form corridor for schedule-1 Fauna.

7. There is no forest land involved in the proposed site. No rehabilitation and resettlement is required for the proposed project.

8. ToR was granted on 20th August 2019 vide letter no. 231/SEAC-4/19.

9. Baseline Study was conducted during the period 1st March 2019 – 31th May 2019 (Pre-Monsoon Season)

10. Public Hearing was conducted in 15th December 2020.

11. **Water Requirement:** Total Water requirement for the plant– 2,880 m3/day. Water will be kept in closed circuit & will be recycled and hence, conservation of freshwater to about 30% of the total requirement. Thus fresh make water requirement is envisaged to be 46 m3/hr or 1,104 m3/day and source is borewell. Total Circulation Water: 120 m3/hr

or 2,880 KLD. The unit has applied to CGWA for drawl of water vide Application Number: 21-4/2404/OR/IND/2020, Dated: 07.01.2020. Treated water from STP will be used for plantation activities and greenbelt development.

12. **Power Requirement:** There will be an installation of a 315 KVA Transformer and it has been estimated that approximately 292 KVA will be used for running the motors of the Plant & Machinery if all machines work at full capacity and there will be utilization of the rest 24 KVA for the Office administrative & Staff Quarters . The Power connection will from CESU. In future, if there will be an expansion of the plant capacity from current 100% capacity of 1, 20,000 tons, accordingly the power connectivity for 33 KVA transformer will be installed . In Case of Power Failure situation, it is envisaged that a D.G Set of 320 KVA, of Kirloskar make will be installed which will operate the plant at full load even there is a power cut.

13. Fuel: Diesel as a fuel is required for running the Tipper & JCB Loader. And there will be requirement of 115 litres per Day.

14. The Raw Material used will be Chrome Ore of below 40% Grade Cr_2O_3 with 10% moisture with recovery rate of 62%. The finished products generated will be Chrome Concentrate Cr_2O_3 with 8% moisture.

15. The project will generate 90 nos. of manpower, out of which 70 nos. Labourer's skilled & unskilled employees and the rest 20 nos. will be recruited as Administrative & operating facilities.

16. Safeguard Measures like, as regular water sprinkling shall be carried out in critical areas prone to pollution, like haul road, loading & unloading points. It shall be ensured that the ambient Air Quality Parameters conform to the norms prescribed by the central pollution control board in his regard.

Sl. No.	Source of Pollution	Pollutants	APC measures
1	Raw material handling yard (Unloading, Stacking)	Fugitive Dust	Dust suppression system such as water sprinkling
2	Screening	Fugitive Dust	Dry Fog system
3	Internal Roads	Fugitive Dust	Mobile Tanker, Internal Roads will be made Black topped
4	Fines stock yard of COB Plant	Fugitive Dust	Will kept under a shed
5	Product discharge system (finished product)	Fugitive Dust	Water sprinkling
6	Movement of vehicles	Fugitive Dust	Water sprinkling

17. **Solid waste and management:** The estimated Tailing generation from the process would be 45,600 Ton/Yr. Considering the life of plant 6 years, total tailing generation worked out to be 2,73,600 Tons. The tailings discharged through beneficiation process will be treated with ferrous sulphate to minimize the hexavalent chromium in the tailings. The tailings will be processed in filter press and the cake disposed off in TSDF.Garland drains will be constructed to collect the discharges and the same will be drained down to

re-circulation pond. To control the dust handling of feed ore and finished product, water sprinklers in Raw material yard and finished product yard have been recommended. In addition adequate plantations are recommended. ETP Sludge – 1200 TPA will be disposed off in TSDF. Waste oil in small quantities will be generated from gear box and other machineries and will be disposed off to authorized recyclers registered with Pollution Control Board.

18. **Greenbelt / plantation** will be done in 33% (i.e. 4.43 acres) of the total plant area. The entire plant is set up at an area of 1.30 acres. Plantation will be done in and around the plant premises. 80% survival rate will be maintained with all possible efforts. The trees will be planted at suitable grid spacing to encourage proper growth. Local plant species will be preferred.

19. Total Cost of the proposed project will be ` 984.81 Lakhs.

20. The project proponent along with the environment consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** made a detailed presentation before the SEAC.

21. The SEAC in its meeting held on dated 01-09-2021 decided to take decision on the proposal after receipt of the certain information / documents from the proponent followed by visit of the sub-committee of SEAC to the site.

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

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
i)	Complete material balance of the whole process occurring in Plant.	Material balance has been attached as **Annexure -1**.	------
ii)	Detailed description on utilization/disposal of tailings from process till end users using the treated tailings and related documents i.e. copy of agreement made with end users for disposal of treated tailings commensuration with disposal SOP of tailings.	The project is currently at conceptual stage and there is no tailing generation at the moment. However, the company is in discussion with registered CHTSDF and final MoU shall be submitted shortly.	------
iii)	Content of E. coli in treated water is more than norm. Justify the result and mitigation measures to be undertaken to	Neither this point was raised during the presentation nor it does have any relevance for the proposed project.	------

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td></td><td>control the same.</td><td></td><td></td></tr>
<tr><td>iv)</td><td>Source of chromite ore and copy of agreement made with mine owners.</td><td>Undertaking has been attached as Annexure -2.</td><td>------</td></tr>
<tr><td>v)</td><td>Detailed to the scale plant layout map (in A1 size) with legend indicating location of the beneficiation plant, office building, rainwater harvesting pond, ETP, tailing pond, raw material storage yard and green area etc.</td><td>Plant layout has been attached as Annexure -3.</td><td>------</td></tr>
<tr><td>vi)</td><td>Tailing pond design and specification along with tailing utilization and disposal plan year wise for 5 years. In case of storage plan the land area and storage plan to be elaborated. The design capacity of the tailing pond need to include the waste water associated with tailings. The material of construction including matting material to leachate be submitted. The ETP design and capacity need to be made in reference to treatment of waste water of a tailing pond to arrest overflowing at any point of time suitably.</td><td>The tailing shall be built as per downstream method. Year wise disposal of tailings has been tabulated below:
<table><tr><th>Year</th><th>Quantity in Ton</th></tr><tr><td>1st year</td><td>45,600</td></tr><tr><td>2nd year</td><td>45,600</td></tr><tr><td>3rd year</td><td>45,600</td></tr><tr><td>4th year</td><td>45,600</td></tr><tr><td>5th year</td><td>45,600</td></tr><tr><td>Total</td><td>2,28,000</td></tr></table>
Tailing pond will be constructed progressively using tailing and natural borrow materials. Semi –crystalline thermoplastics such as High Density Ployethene (HDPE) shall be used as liner. ETP design and capacity will be made in reference to waste water from tailing pond.</td><td>------</td></tr>
<tr><td>vii)</td><td>Analysis of Nickel and Cobalt content in Tailings and Mines waste</td><td>The tailing water will be analysed for Nickel and Cubalt content and results shall be submitted along with EC compliance report. There are no mine wastes as the proposal is only for beneficiation plant.</td><td>Tailings are not water. Tailing analysis is required along with analysis of OB generated for Ni, Co.</td></tr>
<tr><td>viii)</td><td>The report has in</td><td>The deviation found was sporadic samples</td><td>Mitigation measure</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	many places' hexavalent chromium more than norms or close to norm (page-32, SW-3, SW-1. Similarly, E-coil in SW-2, SW-7, SW-8 etc are more than norm. Mitigation plan to be reworked and submitted.	are drawn from adjacent location, the results of same has been given in **Annexure -4.** The present results conform to the norms. E-coil was not raised during the presentation nor it does have any relevance for the proposed project.	(plan) is essential for Cr+6 wherever applicable. E-coil might not have relevance but it was analyzed and presented and found to be abnormal. Being a pollutant, mitigation measures required and proponent needs to submit action plan with revised report.
ix)	Separate chapter on monitoring Study of cumulative effect on soil, air, water due to establishment of chrome ore beneficiation unit for 3 months.	A separate chapter shall be prepared and submitted after 3 months from the installation of the unit.	------
x)	Distance of agricultural land from beneficiation unit.	Agriculture land is about 200 m from the beneficiation unit towards north.	------
xi)	Details of existing units near to the Chrome Ore Beneficiation Plant.	There are no existing Chrome Ore Beneficiation plants within 10 km buffer of the project site.	------
xii)	Study of Disaster Management for this new Chrome Ore Beneficiation unit.	On-site Disaster Management plan shall be submitted shortly.	------
xiii)	Detailed proposal to adopt Zero Liquid Discharge (ZLD) concept.	Water balance for Zero Liquid Discharge (ZLD) has been shown below:	??? This needs to reflect in water balance for both rainy and other season
xiv)	Source of waste water and details of Effluent Treatment Plant for treatment of waste water containing hexavalent chromium. Cost of ETP with breakup.	Waste water will be generated from tailings in the beneficiation plant. Same shall be treated in ETP. Cr (VI) shall be reduced to Cr (III) by dosing it with Ferrous Sulphate. After reduction, the chromium will be precipitated as chromium hydroxide by dosing with alkali (NaOH). It will be separated in clariflocculator enhanced with polyelectrolyte. It will be further treated by filtration system (sand bed) and ion exchange removal system. Proposed ETP construction cost is `2.0 Crore with an operational cost of `30 Lakhs.	It is necessary to visit the plant during operation to ascertain the functioning of ETP for mitigating Cr+6

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td></td><td></td><td>Treatment units that will be installed are Screen chamber (2 nos), Equalisation tank (2 nos), Clariflocculator (2 nos), Aeration tank (2 nos), Clarifier (2 nos), Sludge beds (20 nos).</td><td></td></tr>
<tr><td>xv)</td><td>Water balance diagram along with compensating water balance from rain harvesting pond.</td><td>Potential rainwater that will be harvested per annum = 12636 CUM (1.44 CUM/hr) water balance diagram with compensating water balance is given below:</td><td>------</td></tr>
<tr><td>xvi)</td><td>Design and dimensions along with capacity of rain harvesting pond.</td><td>Total leased area taken as 404700sq. meter. Average annual rainfall is 1536.7 mm. Rain water potential of the project area can be computed as below.
Using rational formula, Q=CiA, Q in cum.
Where C=Run-off Coefficient,
I=intensity of rainfall (m/s)
A=catchment area in sq.m.
<table><tr><th>Particulars</th><th>Area (Sq. m)</th><th>Runoff Coefficient</th><th>Rainfall (M)</th><th>Rainwater harvesting potential (cum)</th></tr><tr><td>Green Belt</td><td>17928</td><td>0.15</td><td>1.143</td><td>3074</td></tr><tr><td>Open Land</td><td>31024</td><td>0.15</td><td>1.143</td><td>5319</td></tr><tr><td>Road and Paved Area</td><td>2023</td><td>0.5</td><td>1.143</td><td>1156</td></tr><tr><td>Roof Top</td><td>3376</td><td>0.8</td><td>1.143</td><td>3087</td></tr><tr><td>Total</td><td>54351</td><td></td><td></td><td>12636</td></tr></table>
To accommodate total harvested rainwater of 12636 m^3 / year, it is proposed to construct a water conservation tank having 30000 m cubic meter storage capacity.
The tank dimension will be L=40 m, W=35m & Depth = 3 m Thus, storage capacity of water conservation structure would be 4,200 cubic meter.

Rainfall during monsoon season = 1143 mm
No. of rainy days = 60</td><td>------</td></tr>
</table>

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td></td><td></td><td>Average rainfall per day = 19 mm
Every 15 days pond will be filled, hence = 4,200 cum*4 = 16,800 cum
Therefore, total storage capacity is 16,800 cum.</td><td></td></tr>
<tr><td>xvii)</td><td>How much quantity of total water requirement (1104 kld) to be sourced from ground water will be reduced on use of ground water harvested and stored in rain water harvesting pond (with detail calculations).</td><td>Total lease area = 404700sq m
Average rainfall = 1536.7 mm
Rainwater harvesting potential:
Green belt = 3074 m^3
Open land = 5319 m^3
Road and paved area = 1156 m^3
Rooftop = 3087 m^3
Total recharge = 12636 m^3
Harvested water per day = 34.6 – 34 KLD
Reduction in water usage = 1104-34 = 1070 KLD</td><td>------</td></tr>
<tr><td>xviii)</td><td>Mitigative measures to be taken for serious occupational health hazards due to hexavalent chromium- SOP of measures to be undertaken for employees and local habitation including adoption of ISO 14001 and OHSAS be submitted.</td><td>Periodical medical check-up for employees & surrounding habitations shall be carried out half yearly. We will adopt OHSAS & IS-14001 after the plant is commissioned.</td><td>------</td></tr>
<tr><td>xix)</td><td>Detailed cost breakup towards pollution control measures for this Chrome Ore Beneficiation Plant.</td><td>Cost of Environment Monitoring
<table><tr><th>Particulars</th><th>Cost / year (` in Lacs)</th></tr><tr><td>Air Monitoring</td><td>35.45</td></tr><tr><td>Water Monitoring</td><td>1.07</td></tr><tr><td>Noise Monitoring</td><td>6.48</td></tr><tr><td>Total</td><td>43.0</td></tr></table></td><td>------</td></tr>
<tr><td>xx)</td><td>Surface runoff management and detailed treatment facility for surface runoff.</td><td>Garland drains will be constructed to collect the discharge and the same will be drained down to re-circulation pond.</td><td>------</td></tr>
<tr><td>xxi)</td><td>Analysis result of surface and ground water and soil within study area w.r.t. hexavalent chromium.</td><td>The deviation found was sporadic. Samples are drawn from adjacent location, the results of same has been given in Annexure-4. The present results conform to the norms. E.Coli was not raised during the presentation nor it does have any relevance for the proposed</td><td>------</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		project.	
xxii)	Detailed land schedule with kissam of land in tabulated form. Whether land kissam has been converted to "Industrial Use", if so, detailed document to be submitted.		------
xxiii)	Report has several mistakes with regard to process reactions (Chapter-IV, Chapter-X and other places) given by the Consultant. It is necessary that the report needs to be revised and resubmitted as the corrections are many. The consultant and proponent are required to understand the impact of the process and reaction and be serious in providing environmentally friendly solution with regard to hexavalent chromium and other pollutants.	Revised report shall be submitted to SEAC shortly.	Revised report to be submitted to SEAC by the proponent.
xxiv)	Minutes of Meeting of Public Hearing conducted and mitigation measure on the concerns of the public in physical terms be submitted.	Minutes of meeting of the Public Hearing conducted has been attached as **Annexure-6.** Compliances of Public Hearing with timeline and budget have been attached as **Annexure-7**.	------
xxv)	Maintenance of Biodiversity register.	Biodiversity Register shall be maintained with the plant.	------
xxvi)	Findings of traffic study undertaken at point of intersection with NH Vis-a vis the norm in terms of PCU and traffic	It is recommended that quick development of road condition, proper street lights and parking area near to the main road are of utmost importance for the safety of life as well as development of nearby villages/towns. Road signs and road marking	------

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	decongestion measures recommended if any be submitted.	area main guiding factors for the road users which is essential required to be adequate and placed at appropriate places on the road. In all most all intersections road markings not provided/dilapidated condition. Hence it is immediate requirement to install the signboards and marking at all intersections and maintenance of existing roads of good condition.	
xxvii)	How DG set height of 30 mtr is arrived for 24 KVA DG set including installation layout and drawing of the chimney be submitted.	It is a typographical error; the chimney height calculation is given below: Height of Chimney = height of building *0.2 KVA Height of Chimney = 12*0.2*4.89 = 11.736-12 m	------
xxviii)	Conversion of land "to industrial use" and submission of the relevant document thereof from the appropriate revenue authority be submitted.	Same has been attached as **Annexure-8.**	------

After detailed discussion, the SEAC decided to take decision on the proposal after site visit by the sub-Committee of the SEAC and receipt of revised report from the proponent as stated above.

ITEM NO. 08

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR GREENFIELD TEXTILE PROJECT UNIT ESTABLISHMENT OVER AN AREA 60 ACRES LOCATED IN VILLAGES - PAHIMAHURA & HELPUR, TAHASIL - BHANDARIPOKHARI, DIST – BHADRAK, ODISHA OF M/S. PARADEEP REFINERY INDIAN OIL CORPORATION LTD. – EC.

1. This is a proposal for Environmental Clearance of M/s Paradeep Refinery Indian Oil Corporation Ltd. for Greenfield Textile project unit Establishment over an area 60 acres located in villages - Pahimahura & Helpur, Tahasil - Bhandaripokhari, Dist – Bhadrak, Odisha.
2. The project falls under category "B" or activity Category - 5(d) Man-made fibres manufacturing in the 'Project or Activities' projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. IOCL is proposing the Greenfield Textile project unit establishment in Villages Pahimahura & Helpur, Tahasil Bhandaripokhari, Dist. Bhadrak, Odisha, Odisha on a land measuring 59.625 acres or 2,41,292 m^2.
4. Standard ToR was issued by MoEFCC vide letter no. IA-J-11011/57/2019-IA-II(I) dated 24.03.2019. Now, as the project is 'B' category project, further application was made at SEAC/SEIAA, Odisha.

5. Public hearing was conducted on 30.12.2020 at Bhandaripokhari Higher Secondary School High School of Naguan Panchayat under Bhandaripokhari Tahasil in the district of Bhadrak (Odisha).

6. **Location and Connectivity** - The plot area of the project site is 2,41,292 m2 (or 59.625 acres). The coordinates of the area is Latitude - 20° 59' 2.00"N to 20° 59' 20.60"N and Longitude - 86° 23' 48.05"E to 86°24' 13.61"E. The nearest Railway station is Manjuri Railway station located at an aerial distance of 5.1 km in NW direction & Kenduapada Railway station at an aerial distance of 5.0 km in NNW direction & Bhadrak Railway station at an aerial distance of 18 km in E direction from the site. Bhubaneshwar airport located at an aerial distance of 102 km in SW direction. NH 5 & AH 45 at an aerial distance of 0.84 km in SE direction. Reba river is at 0.1km. Akhuapada High Level Canal is at 0.65km.

7. The Detailed Area Statement of the project is mentioned in the table:

Sl. NO.	PARTICULARS	AREA (SQ.M.)
i)	Total Plot area	2,41,292
ii)	C.P. Building With Slurry Preparation	1,176
iii)	POY/FDY SPG	**9,600**
iv)	POY/FDY LAG Area & Trolley Area	3,640
v)	Paper Tube & Packaging	520
vi)	DTY	39,476
vii)	PSF Spinning	2,214
viii)	PSF Storage	3,450
ix)	PTA Bag Storage	4,784
x)	Admin Area & Parking Area	**2,500**

8. Details of production capacity is given as:

S. No.	Name of Products	Total Production Capacity (TPA)
i)	Polyester Staple Fibre	1,00,000
ii)	Draw Texturized Yarn	1,67,000
iii)	Fully Drawn Yarn	33,000
	Total	**3,00,000**

9. Project will comprise of:

- Continuous Polymerization (CP) units,
- Fibre/Yarn manufacturing units in one block and
- Associated downstream units in another block

S. No.	Raw Materials	Consumption (MT/Annum)	Means of Storage	Capacity of storage Means	No. of Storage means/ Numbers	Total Capacity
i)	Purified Terephthalic Acid (PTA)	257143	Warehouse	Silos & Bags	2	4,000 MT
ii)	Monoethylene Glycol (MEG)	99800	Tank	1,250 m^3	2	2,500 m^3

iii)	Diethylene Glycol (DEG)	1199	Tank	100 m^3	1	100 m^3
iv)	HSD	29368	Tank	600 m^3	1	600 m^3
v)	Heat Transfer Fluid (HTF)	15	Tank	600 m^3	1	600 m^3
vi)	Impure MEG	included in MEG	Tank	100 m^3	1	100 m^3
vii)	TiO_2	0.024	Warehouse	-	-	-
viii)	Catalyst	0.024	Warehouse	-	-	-
ix)	Modifyer	0.024	Warehouse	-	-	-

10. **Process** - Polymer enters the spinning beam which discharges polymer through the spinneret into the quench chamber where the heated polymer is solidified by flow of cool dry air. Further, Tows are sent for drawing. The metering pump regulates the flow of polymer to spinneret. After this, the polymer goes through the spin pack which acts as a reservoir and filter that removes any contamination. Further, the polymer passes through spinneret plate that has several holes, imparting cross-sectional shape to the filaments.

11. **Green Belt -** Greenbelt Area at site is 59,900 m2 i.e. 14.81 acre (33% of total plant area of 2,41,292 m2 with not less than 1,500 trees per hectare). Approximately 12,035 Nos. of Trees will be planted. Plantation will be carried out in the three layers. Capital Cost: Rs. 12,00,000 /- and Recurring Cost / annum: Rs. 2,40,000 /-.

12. **Power Requirement** - Permission has been taken from Odisha Industrial Infrastructure Development Corporation (IDCO) for 47 MW Power supply.

13. **Water Requirement** - Water will be supplied from IDCO from nearby Baitarini River. Permission Letter from IDCO has already taken. Total Water requirement is 9,674 KLD, 2289 KLD recycled water from RO & MEE. Hence, Total Fresh water requirement will be 7,385 KLD.

14. **Wastewater Generation**: Total wastewater generation will be 2,306 KLD (2,245 KLD Industrial + 61 KLD Domestic) will be treated in ETP (Capacity 2,400 KLD) followed by UF & RO (Capacity 2,500 KLD) & MEE & ATFD (Capacity 600 KLD). 2289 KLD treated water will be completely recycled and reused in cooling tower make up. The domestic sewage will also be treated in ETP.

15. **Hazardous waste Generation**: The details of the solid and hazardous waste generation, quantification, classification, collection, transportation and disposal facility as per Hazardous Waste Rules 2016 and its amendment are mentioned below:

S. No.	Hazardous Waste Category No.	Description of Hazardous Waste	Quantity	Source	Method of Collection	Treatment & Disposal
i)	5.1	Used Oil	5.5 TPA	Gear boxes, agitators, transformers, etc	Will be collected in drums and stored in	Will be sold to authorized parties.

S. No.	Hazardous Waste Category No.	Description of Hazardous Waste	Quantity	Source	Method of Collection	Treatment & Disposal
			51 TPA	DTY conning oil waste	designated area	
ii)	24.1	Floor waste, sweeping Purified Teriphthalic Acid (PTA) powder & all other chemical waste	10 TPA	Sampling, floor sweeping, damaged bags, etc.	Will be packed in bags and stored at a designated area	Will be sold to authorized parties for reuse & recycle
iii)	24.1	Polyester polymer lump, chips, yarn waste, fibre waste, etc.	3,000 TPA	Sampling, breakdown, floor waste	This solid non harmful plastic material will be collected and stored	Recycled in house or sold to recycling parties
iv)	20.2	Spent Solvent (Tri Ethylene Glycol)	6 TPA	Filter cleaning bath	Will be collected in drums and stored in designated area	Will be sold to authorized parties for reuse & recycle
v)	35.3	ETP Sludge	7,590 TPA	ETP	Solid and soil type material	Will be sent to TSDF
vi)	1.3	FDY SFO Waste	7 TPA	Process	Emulsion type material which will be collected in drums	Will be sold to authorized parties
vii)	33.1	Empty Liners / Bags	233 TPA	PTA empty bags, Sb_2O_3 bags, TiO_2 bags, POY bobbins cover PE bags	Will be stored at a separate storage area	Will be sold to authorized Scrap Vendor
		Empty Drums	1,665/7,929 Nos/ (TPA)	PP Drums	Will be stored at a separate storage area	Will be sold to authorized reconditioner

16. Rain water harvesting facility will be provided of 2800 m2 for collection of estimated run off rainwater of 4350.30 cum & its storage in rainwater harvesting tank will constructed.

17. Baseline data collection for the project has been conducted from period 1st December, 2019 to 29th February, 2020.

18. Employment generation from the project will be 2000 persons.

19. The estimated project cost of the proposed project is ~ INR 1,971 Crore. Capital cost on environmental matters will be ~ INR 31.0 Crore and recurring cost on environmental matter will be ~ INR 64.0 Crore per year. According to the CER office memorandum dated 01st May, 2018 of MoEFCC the CER budget for 5 years comes to INR 17.855 crores i.e. 1.5% of project cost INR 1,971 crores.

20. The consultant **M/s Kadam Environmental Consultants, Gujurat** along with the proponent have made a detailed presentation on the EIA/EMP report.

21. The SEAC in its meeting held on dated 02-08-2021 decided to take decision on the proposal after receipt of certain information / documents from the proponent. Simultaneously a prior site visit by SEAC Sub-committee since it is a potentially sensitive hazardous project and flood prone site.

22. The project proponent has furnished compliances as requested by the SEAC and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	Clarification regarding category:	• As per EIA Notification dated 14th September 2006 amended till date the project is falling in 5(d)-B i.e. Manmade fibres manufacturing- • However at time for Form-1 application, SEAC/SEIAA, Odissa committee was dissolved so application was done by IOCL at MoEF&CC, Delhi. Hence, standard ToR Letter was issued by MoEFCC vide letter no. IA-J-11011/57/2019-IA-II (I) dated 24.03.2019. • Public hearing has been carried out on 30th December 2020. As the project is 'B' category project so application of EC with final EIA report is done at SEAC/SEIAA, Odisha.	-----
i)	The "Kisam" of the land is Agricultural lands and hence, needs to be converted to Industrial use before starting the construction of the project. An undertaking to this effect shall be submitted.	• Land Possession document was received from Odisha Industrial Infrastructure Development Corporation (IDCO) vide letter no. IDCO/P&A/LAE-7655/19-20/9646 on 01.07.2020. • It has been mentioned on **Page number 1 Point No. 3** in the letter that the land shall be utilized for establishment of Industries in village: Pahimahura (Acre: 8.665) & Helpur (Acre: 50.960) under Bhandaripokhari Tahasil in the district of Bhadrak only and shall not be sub-leased for any purpose to any other institution / individual. • Land Allotment Letter is attached as **Annexure 1.**	In the land allotment letter, khata number/plot wise area has been given but kissam has not been mentioned. Hence, khata/plot wise kissam of land as in ROR duly certified by Tahsildar shall be furnished.
ii)	Separate chapter for water balance and	• Separate chapter (Refer 2.11 of EIA report) has been provided in EIA Report for water consumption, wastewater generation & disposal. Summary of the same is as follows: • Total Water requirement is 9,674 KLD, 2289 KLD	-----

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td></td><td>management including waste water.</td><td>recycled water from RO & MEE. Hence, Total Fresh water requirement will be 7,385 KLD.
• Water Balance is given in Annexure 2.
• Total wastewater generation will be 2,306 KLD (2,245 KLD Industrial + 61 KLD Domestic) will be treated in ETP (Capacity 2,400 KLD) followed by UF & RO (Capacity 2,500 KLD) & MEE & ATFD (Capacity 600 KLD). 2289 KLD treated water will be completely recycled and reused in cooling tower make up.
• Design Inlet & Outlet Characteristics of ETP
<table>
<tr><th>Sr No.</th><th>Name of plant</th><th>Unit</th><th>Design Inlet Characteristics for ETP</th><th>Design Outlet Characteristics of ETP</th></tr>
<tr><td>1.</td><td>Effluent quantity</td><td>m^3/ day</td><td>2,400</td><td>2,400</td></tr>
<tr><td>2.</td><td>COD</td><td>mg/l</td><td>4,000</td><td><100</td></tr>
<tr><td>3.</td><td>BOD</td><td>mg/l</td><td>1,000</td><td><30</td></tr>
<tr><td>4.</td><td>TDS</td><td>mg/l</td><td>5,000</td><td>5,500</td></tr>
<tr><td>5.</td><td>TSS</td><td>mg/l</td><td>250</td><td><100</td></tr>
<tr><td>6.</td><td>pH</td><td>--</td><td>5.5-7.11</td><td>6.5-7.5</td></tr>
<tr><td>7.</td><td>Oil & Grease</td><td>mg/l</td><td>50</td><td><5</td></tr>
</table>
• ETP treatment with ZLD are mentioned in Annexure – 2.</td><td></td></tr>
<tr><td>iii)</td><td>Justification of 340 KLD water usage.</td><td>• As per EIA report, the Total water consumption is 9674 KLD (7385 KLD Fresh Water and 2289 KLD is recycled water).
• Detailed Water Balance is attached as Annexure-2.</td><td>-----</td></tr>
<tr><td>iv)</td><td>Provision for STP for domestic purpose needs to be incorporated.</td><td>• A separate network and pumping mechanism will be in place to transfer the Domestic Effluent into the Effluent Treatment Plant coming up under the project. Thus, one centralized ETP will be designed to cater for Domestic as well as Industrial effluent.
• Detailed Water Balance showing treatment of Domestic & Industrial effluents in common ETP is attached as Annexure-2.</td><td>Common ETP-cum-STP is not acceptable. Hence, a proposal for STP for domestic purpose needs to be submitted.</td></tr>
<tr><td>v)</td><td>Details of treatment of colored materials (toxic-dyes etc.)</td><td>• Based on the Raw material and additives summary for the Textile project, no colored materials (toxic–dyes etc.) are proposed to be used in the Process Facility.
• Raw material and additives summary is attached as Annexure-3.</td><td>1. Function of Activated carbon Filter, 4 NOS may be explained?
2. MEG and DEG are both organic toxic chemicals used as raw materials. How their uses are</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
			managed to avoid Contamination with effluent and chemical reactions involved during operation to be furnished.
vi)	Separate chapter for Hazardous waste with chemical composition/ spent catalyst/ generation, management and disposal practice including warehousing/ packaging/ inventory holding, management and disposal practice/SOP from time to time along with agreement copies with authorized vendors for reprocessing of hazardous waste/ end use and disposal of the waste residues thereof.	• Separate chapter (Refer 11.4.6 of EIA report) has been provided in EIA Report for Hazardous waste generation & disposal. The details are also provided as **Annexure 4**. • Membership from TSDF facility will be taken in due course prior to commissioning of the unit.	Specific Condition to be stipulated.
vii)	Details of storage of explosive items/ HSD, Storage locations in	• Storage of explosive items/ HSD are given in **Annexure 5**. • The overall layout plan including the storage locations of HSD tanks is attached as **Annexure 6**. • Post grant of EC/CTE, the PESO license for storage of HSD and construction approval for the HSD storage tanks shall be obtained.	-----

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	the layout and explosives license thereof from appropriate authority.		
viii)	Plan for solar power usage with exact calculations to be submitted.	• 5% (2.35 MW) of the Total Power requirement of 47 MW will be generated from Solar Power.	Calculation of solar energy item wise to be submitted to show the usage of 47MW
ix)	Details of DG sets to be installed at the suitable places after due consideration of predominant wind direction to avoid air pollution from entering the dwelling house of the colony. Plant layout along with DG set location w.r.t wind direction, stack height with layout / installation drawing of the stack / exhaust pipe be submitted.	• First Predominant wind direction is from N followed by ESE and NNE. • As per the Stack Height Formula given in EPA Rule 96 = 14XQ0.3, Q=Total SO2 emission from the plant in kg/hr. It is checked for DG set, considering 0.001% Sulphur content in fuel (HSD - BS VI specification of 10 mg/Kg), Sulphur emission = 0.016 kg/hr SO2 emission= 0.032 kg/hr Required Stack height = 14 (0.032) 0.3 = 5m As per EPA Rule 96 (Annexure 7), DG Set stack height of 30 m is proposed • Plant Layout along with DG set location is given as Annexure 6.	-----
x)	Details of Catalyst usage and quantity to be used. Details of generation of	• The Catalyst used in the process becomes a part of the Finished Product, thus there is no spent catalyst generation and further no disposal requirement.	-----

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	spent catalyst and its disposal practice.		
xi)	Mitigation measures to be undertaken to limit PM10 pollutant and fluoride.	**For PM10** • Adequate stack height will be provided to boilers, thermic fluid heaters and DG sets as per EPA rule 96. • Effective water spraying/ Mechanized Road cleaning will be done on the access roads to control PM • Based on Natural gas (NG) availability in the region, NG will be used as fuel in the Boilers/ heaters thereby minimizing PM emissions. **For Fluoride** • Based on the emission summary of the unit, no fluoride emissions are envisaged.	-----
xii)	Occupational health study report for employees and nearby villagers and setting up a barricaded occupational Health centre with experts	• OHC with qualified professionals will be set up for employees/ workers operating in high risk area. • As a part of the CSR activity heath camps and checkups will be periodically carried out in nearby villages.	-----
xiii)	Physical measures towards issues raised in public hearing	• Physical measures to address issues raised in public hearing attached as **Annexure-8.**	-----
xiv)	Drainage pattern of land and details of surface runoff management during monsoon period.	• Two river namely Reba and Kaneri present in NE direction within the study area. Both the river flows form NW to SE direction and follow the general surface topography. Drainage map is attached as Annexure 9. • Based on the Rainfall intensity, storm water drainage facilities will be designed suitably to dispose the surface run-off water. • The engineering of the Storm water drainage facility will be carried out by the detailed engineering contractor. • The storm water drainage will be hooked up with the overall drainage facilities of the textile park being developed by IDCO.	Needs to be ascertained during site visit
xv)	Details of Rainwater Harvesting System	• Storm water generated from Admin building area is proposed to be used for recharging ground water. • As per CGWA data average rainfall of Balasore is 1.706 m/annum). The estimated runoff quantum using different run off coefficient applicable for roof top, Green belt and Roads is given below:	Details of ground water recharging with no. of recharging pits and its design be submitted w.r.t. rain

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>S. No.</th><th>Title</th><th>Area, M^2</th><th>Rainfall Intensity (m)</th><th>Runoff coefficient</th><th>Runoff generated (m^3)</th></tr>
<tr><td>1</td><td>Roof top (admin building)</td><td>3000</td><td>1.706</td><td>0.85</td><td>4350.30</td></tr>
<tr><td></td><td>Total</td><td></td><td></td><td></td><td>4350.30</td></tr>
</table>
• From the above it is inferred that ~4350.30 m3 effective run off water will likely be available and can be used for ground water recharge.
</td><td>water harvesting and storm water/run off water after treatment generation.</td></tr>
<tr><td>xvi)</td><td>Regular monitoring of water in Akhuapada High Level Canal and dewatering management in case of water logging due to HFL and surface water bodies inside the proposed plant premises.</td><td>• Regular monitoring of water in Akhuapada High Level Canal shall be carried out as per surface water monitoring philosophy.
• In order to avoid waterlogging due to flood or rainfall, “plant FGL (Finished Ground Level) will be 0.6 m above the design flood level (HFL) of the area or based on drainage outfall level”.</td><td>-----</td></tr>
<tr><td>xvii)</td><td>Plantation needs to be increased from 1500 nos./ha to 2500 nos./ha. Under supervision of specialized persons.</td><td>• Shall be complied and the proposed project area will have a plantation of approximate 20,055 trees (8.0223 Ha x 2500 trees).</td><td>-----</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
xviii)	Parking in terms of ECS for employees, floating population & visitors with locations needs to be submitted in tabular form and layout plan for parking area.	• Provision for parking has been provided in the overall plot layout attached as **Annexure 6.**	-----
xix)	Details of discharge of treated waste water need to be submitted.	• The unit ETP is designed to follow the concept of Zero Liquid Discharge System (ZLD) as a step towards prevention of water pollution and helps in water conservation. Treated effluent will be reused in the unit to minimize fresh water consumption. • ETP Salt will be sent to TSDF site. Therefore, no treated waste water discharge is anticipated.	1. An affidavit is required that the Plant will operate with ZLD 2. Force major plan needs to be in place.
xx)	Chemical composition of ETP sludge and disposal thereof with SOP to be submitted.	• Zero Liquid Discharge System (ZLD) facility is proposed under the Project. • The ETP sludge mainly comprises of salt on account of the High TDS content of RO reject. • ETP Sludge will be sent to nearest TSDF site in Odisha.	1. TSDF site needs to be identified with copy of agreement. 2. Composition of salt is required and to be furnished.
xxi)	To indicate Boilers emissions standard visa-vis PM10 projected value.	• Expected PM10 emission from Boilers is 4.95 mg/Nm3 against the standard norms of 50 mg/Nm3.	-----
xxii)	Documentary evidence regarding the status of the plant i.e. whether this will be consider as IOCL unit or a joint venture project on PPP mode.	• The proposed unit will be considered as an IOCL Unit.	Documentary evidence as sought be submitted

23. The SEAC in its meeting held on dated 05-10-2021 decided to take decision on the proposal after receipt of the compliance to the observations / views of the SEAC at para 22 above and compliance to the observations of the Sub-Committee of SEAC during the site visit.

24. The SEAC Sub-Committee visited the proposed Greenfield Textile Project site on Dt.04.10.2021 of M/s. Paradeep Refinery of IOCL. The observations and recommendations of the Sub-Committee are as follows:

A. Observations:

1.0 <u>Geography of the site:</u>

1.0.1 The site is surrounded by:

(i) NH-5 / AH 45 is proximately adjacent to the site in South East direction of the IDCO site where in the project site of 60 Acre is located and both are separated by a Canal / Nala of approximate 200 meter with full with water now, the starting and fallout of which is not known.

(ii) Reba River in North direction of the project site, may be approximate 500 meters or little more away from the project boundary with one / two villages in between and small patches of agriculture lands.

(iii) Akhuapada High Level Canal is flowing in West side of the project may be around 100 meters from the project boundary, the start and fallout of which is not known. One or two villages are located on the other side (West side) of the canal Bank.

(iv) A Sub-Canal originated from Akhuapada High Level Canal is flowing (may be 100 meters width) along side the boundary of the project side in South direction and flowing towards East crossing NH through culvert the fallout of which is not known and this Sub-Canal may be only 50 meters away from the project site boundary in its entire South side.

So, ***<u>it may be concluded that, the proposed project site is like an Island surrounded with water bodies in all its 04 sides.</u>***

(v) As was informed by the local people there, the ground water is available in about 20 meters (60 feet) approximate depth.

(vi) The Village road is very narrow and curvy.

(vii) It is a very-very low lying area and therefore, water logging can't be ruled out.

2.00 <u>Water requirement generations of waste water and its discharge:</u>

2.01 The project is stated to have total water requirement of 9674 KLD, out of which 7385 KLD is total fresh make up water and 2289 KLD is recycled water after treatment the proposed ETP.

Thus, the project is a highly water intensive industry. But it is claimed to have been a 'ZLD' i.e. Zero Liquid Discharge Unit.

But 'ZLD' completely may sound theoretical since seepage of leachate underground and surrounding water bodies in all 4 sides and contaminating the same may not be ruled out.

3.00 Vehicular Traffic:

Congestion and conflict of vehicular traffic of the project with NH / AH and village road is not ruled out.

B. Recommendations:

(i) Start and fallout of all water bodies surrounding the project site to be communicated.

(ii) Need to have a garland drain alongside the project boundary to arrest possibility of infiltration of waste water / treated waste water to the surrounding water bodies indicated above. To be confirmed with design, drawing, dimensions and material of construction (Must be impervious) so that, any possibilities of seepage to underground or to surrounding water bodies is ruled out. This is to be done by a domain expert.

(iii) Network of internal drains with design, drawing and dimensions to be submitted along with their connectivity to the garland drain and material of construction (Must be impervious) to be submitted and this needs to be done by a domain expert.

(iv) Specific pond (Impervious) to be designed to accumulate this treated waste water (If any) through garland / internal drains and arrangement for its recycling / reuse.

(v) Design of the entire surface land of the project need to be poured with such construction of material so that no ingress of runoff / wash off water to the underground happens.

(vi) Level of the project to be confirmed in connection with subject expert to avoid water logging including rainy season and with reference to height / level of NH / AH.

(vii) The authorities of the surrounding water bodies need to be communicated about this project.

The above measures are required since even treated waste water to have trace of chemical additives, organic wastes, different hazardous wastes, BOD/COD/Low pH are not ruled out.

(viii) If the village road will be used for movement of vehicles during the construction of the project and after commissioning the said road to be constructed and maintain perennially by the project proponent and with the permission of the concerned BDO.

But, due to threat of safety, use of village road need to be avoided.

(ix) The root map with dimension (Internal) till intersecting NH/AH along with entry / exit gate (Vehicular) be submitted.

(x) Traffic density study with necessary decongestion plan (If, necessary) by domain expert to be undertaken at intersecting points with public road / NH / AH including proposed internal traffic junctions.

25. The proponent has furnished the compliance to the queries raised by the SEAC at para 22 above as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC	Compliance furnished by the proponent
i)	The "Kisam" of the land is Agricultural lands and hence, needs to be converted to Industrial use before starting the construction of the project. An undertaking to this effect shall be submitted.	• Land Possession document was received from Odisha Industrial Infrastructure Development Corporation (IDCO) vide letter no. IDCO/P&A/LAE-7655/19-20/9646 on 01.07.2020. • It has been mentioned on **Page number 1 Point No. 3** in the letter that the land shall be utilized for establishment of Industries in village: Pahimahura (Acre: 8.665) & Helpur (Acre: 50.960) under Bhandaripokhari Tahasil in the district of Bhadrak only and shall not be sub-leased for any purpose to any other institution / individual. • Land Allotment Letter is attached as **Annexure 1**.	In the land allotment letter, khata number/ plot wise area has been given but kissam has not been mentioned. Hence, khata/ plot wise kissam of land as in ROR duly certified by Tahsildar shall be furnished.	• Type of kissam is mentioned in the Land registration document attached as **Annexure-A**
ii)	Provision for STP for domestic purpose needs to be incorporat	A separate network and pumping mechanism will be in place to transfer the Domestic Effluent into the EffluentTreatment Plant coming up under the project. Thus, one centralized ETP will be designed to cater for Domestic as well as Industrial effluent. Detailed Water Balance showing	Common ETP-cum- STP is not acceptable. Hence, a proposal for STP for domestic purpose needs to be submitted.	As an industry practice, domestic effluent from the industrial unit is generally treated in the biological section of the ETP. This contributes for better

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC	Compliance furnished by the proponent
	ed.	treatment of Domestic & Industrial effluents in common ETP is attached as Annexure-2.		performance of Aeration section by providing the essential nutrients. The domestic effluent is only 2.6% of the total effluent to ETP. Moreover, having a single ETP will help in optimal utilization of the available industrial plot area.
iii)	Details of treatment of colored materials (toxic-dyes etc.)	• Based on the Raw material and additives summary for the Textile project, no colored materials (toxic-dyes etc.) are proposed to be used in the Process Facility. • Raw material and additives summary is attached as Annexure-3.	1. Function of Activated carbon Filter, 4 NOS may be explained? 2. MEG and DEG are both organic toxic chemicals used as raw materials. 3. How their uses managed and chemical reactions involved during operation to be furnished.	• Activated Carbon Filter is provided as part of tertiary treatment for removal of residual organics, odour and colour. The filter will consist of different gradations of gravel and sand sub bed over which an activated carbon bed of high iodine value is provided. • MEG and DEG are stored in separate dedicated tanks with containment walls. MEG & DEG required in esterification reaction is supplied through closed piping to the reactor. • The recovery of unreacted MEG/DEG also takes place in closed systems. • Moreover, the system is designed to recover the unreacted MEG / DEG completely

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC	Compliance furnished by the proponent
				using high vacuum at high temperature, so that the finished product does not contain any MEG/DEG. • The main reactions taking place in the unit are esterification reaction, poly-condensation reaction and polymerization reaction. • Details of the reactions are provided as **Annexure-B**.
iv)	Separate chapter for Hazardous waste with chemical composition/ spent catalyst/ generation, management and disposal practice including warehousing/ packaging/ inventory holding, management and disposal practice/SOP from time to time along with	• Separate chapter (Refer 11.4.6 of EIA report) has been provided in EIA Report for Hazardous waste generation & disposal. The details are also provided as **Annexure 4**. • Membership from TSDF facility will be taken in due course prior to commissioning of the unit.	Specific Condition to be stipulated.	• Specific EC condition will be complied with.

<table>
<tr><th>Sl. No.</th><th>Information Sought by SEAC</th><th>Compliance furnished by the proponent</th><th>Views of SEAC</th><th>Compliance furnished by the proponent</th></tr>
<tr><td></td><td>agreement copies with authorized vendors for reprocessing of hazardous waste/ end use and disposal of the waste residues thereof.</td><td></td><td></td><td></td></tr>
<tr><td>v)</td><td>Plan for solar power usage with exact calculations to be submitted.</td><td>• 5% (2.35 MW) of the Total Power requirement of 47 MW will be generated from Solar Power.</td><td>Calculation of solar energy item wise to be submitted to show the usage of 47MW</td><td>Generation of Solar energy in the plant is calculated based on the major Roof top area available for Solar PV installation and considering about 13m2 area required per KW of power generation. The solar power generated will be synchronized with the Textile unit's power network. Indicative Electrical load breakup attached as Annexure – C.</td></tr>
<tr><td>vi)</td><td>Details of Rainwater Harvesting System</td><td>• Storm water generated from Admin building area is proposed to be used for recharging ground water.
• As per CGWA data average rainfall of Balasore is 1.706 m/annum). The estimated runoff quantum using different run off coefficient applicable for roof top, Green belt and Roads is given below:
• From the above it is inferred that ~4350.30 m3 effective run off water will likely be available and can be used for ground water recharge.
<table>
<tr><th>Sl. No</th><th>Title</th><th>Area in</th><th>Rainfall inte</th><th>Runoff co</th><th>Runoff generated (m3)</th></tr>
</table>
</td><td>Details of ground water recharging with no. of recharging pits and its design be submitted w.r.t. rain water
harvesting and storm water/run off water after treatment generation.</td><td>Ground water recharging: Rainwater harvesting pits will be provided for all buildings as per the prevailing guidelines. The no. of pits and design will be finalized during detailed engineering phase of the project.</td></tr>
</table>

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC	Compliance furnished by the proponent
		. m2 nsity (m) efficient 1 Roof top (Admin building) 3000 1706 0.85 4350.30 Total 4350.30		
vii)	Details of discharge of treated waste water need to be submitted.	• The unit ETP is designed to follow the concept of Zero Liquid Discharge System (ZLD) as a step towards prevention of water pollution and helps in water conservation. Treated effluent will be reused in the unit to minimize fresh water consumption. • ETP Salt will be sent to TSDF site. Therefore, no treated waste water discharge is anticipated.	1. An affidavit is required that the Plant will operate with ZLD 2. Force major plan needs to be in place.	1. Specific EC condition will be complied with 2. Standby equipment philosophy will be followed to ensure reliability in ETP operation. 3. The site is designed for ZLD and the treated water shall be reused back in the facility itself. In case of any intermittent failure of section of ETP plant, about 3 days hold up effluent sump will be provided. 4. Further, in case of any operational upsets of ETP/ZLD, upstream unit's throughput will

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC	Compliance furnished by the proponent
				be regulated accordingly.
viii)	Chemical Composition of ETP sludge and disposal thereof with SOP to be submitted	• Zero Liquid Discharge System (ZLD) facility is proposedunder the Project. • The ETP sludge mainly comprises of salt on account of theHigh TDS content of RO reject. ETP Sludge will be sent to nearest TSDF site in Odisha.	1. TSDF site needs to be identified with copy of agreement. 2. Composition of salt is required and to be furnished.	• Membership from TSDF facility at Jajpur, Odisha will be taken in due course prior to commissioning of the unit in accordance with specific condition stipulated as per previous point no. (i) • The salt from ZLD operation comprises mostly of mixed Sulfate, Chloride, Carbonate salts etc. and is disposed of to TSDF as per industry practice. Exact composition of salt will be available during detailed engineering phase of the project.
ix)	Documentary evidence regarding the status of the plant i.e. whether this will be consider as IOCL unit or a joint venture project on PPP mode.	• The proposed unit will be considered as an IOCL Unit.	Documentary evidence as sought be submitted	IOCL is yet to identify a suitable JV partner for its Textile project. Hence the proposal is being put for investment approval as a fully owned IOCL entity. Documentary evidence can only be made available once the Investment approval is obtained from the IOCL Board which is expected by Mar-April 2022.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC	Compliance furnished by the proponent
				The same shall be provided thereafter.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kadam Environmental Consultants, Gujarat** on behalf of the project proponent, the SEAC recommended for grant of Environmental Clearance valid for a period of 7 years with following specific conditions in addition to the conditions as per **Annexure-E.**

i) The "Kisam" of the land is Agricultural lands and hence, kisam of land shall be converted to Industrial use before starting the construction of the project.

ii) The proponent shall explore the possibility of providing a separate STP for domestic purpose if centralized Common ETP for industrial and domestic purpose will not adequate to treat the domestic effluent.

iii) Specific mitigative measures shall be adopted while handling of very hazardous / toxic substances like spent catalyst and other hazardous waste. A detailed SOP shall be prepared and keep ready at the site to educate the workers at the site, who will handle these hazardous / toxic substances. Spent catalyst and other hazardous waste to be generated from the unit shall also be disposed off in accordance with the Hazardous and Other Wastes Handling an Management Rules, 2016.

iv) 5% (2.35 MW) of the Total Power requirement of 47 MW shall be used from Solar Power as proposed.

v) The proponent shall adopt the concept of Zero Liquid Discharge System (ZLD) as a step towards prevention of water pollution and helps in water conservation. Treated effluent shall be reused in the unit to minimize fresh water consumption.

vi) The proponent shall provide documentary evidence regarding the status of the plant i.e. whether this will be consider as IOCL unit or a joint venture project on PPP mode within six months from the date of issue of Environmental Clearance.

vii) Start and fallout of all water bodies surrounding the project site shall be communicated to the SEIAA within 6 months from the date of issue of Environmental Clearance.

viii) The proponent shall provide a garland drain alongside the project boundary to arrest possibility of infiltration of waste water / treated waste water to the surrounding water bodies. The proponent shall take adequate measures to avoid any possibilities of seepage to underground or to surrounding water bodies.

ix) The proponent shall provide an impervious guard pond to accumulate the treated waste water (If any) through garland / internal drains and shall make necessary arrangement for its recycling / reuse.

x) The entire surface land of the project shall be poured with such construction of material so that no ingress of runoff / wash off water to the underground happens.

xi) The project site shall be leveled properly to avoid water logging including rainy season and with reference to height / level of NH / AH.

xii) The authorities of the surrounding water bodies shall be communicated about this project.

xiii) If the village road will be used for movement of vehicles during the construction of the project and after commissioning of the project, the said road shall be constructed and maintained properly by the project proponent and with the permission of the concerned BDO.

xiv) Traffic density study with necessary decongestion plan (If, necessary) by domain expert to be undertaken at intersecting points with public road / NH / AH including proposed internal traffic junctions and shall take adequate measures as per the recommendation of the Traffic Density Study Report.

xv) Biodiversity Register shall be prepared for the total plant area of approximately 60 acre through an expert organization like RMNH, MoEF&CC, GoI, Bhubaneshwar or any other capable University. This study to be repeated once in every 5 years thereafter to assess the impact as per Biodiversity Conservation Act,2003.

xvi) As per the provisions of Energy Conservation Act, 2002, all Plant, Machinery, Equipments, Instruments & appliances shall be procured, installed & operated for the purpose of Energy Conservation.

xvii) Various project specific studies within 10 KM study area once in every 10 years like- Socio-Economic survey by, NIRD, Hyderabad, Flora-Fauna study by ICAR-OUAT, Bhubaneshwar, Epidemiological Study by ICMR-RMRC, Bhubaneshwar, Animal Health Survey of all Cattle, Bovines& Domesticated animals by OVC-OUAT/ARD, Govt. of Odisha etc. to assess the impact.

Approved

11.01.2022

Chairman

Secretary

ANNEXURE – A

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR PROPOSED RESIDENTIAL / COMMERCIAL APARTMENTS TOWER-1 (2B+G+9), TOWER-2 (2B+G+22) & TOWER-3 (2B+G+23) OVER AN AREA 2.44 ACRES AT MOUZA- PAHALA, BHUBANESWAR, DIST- KHURDA, ODISHA OF SRI VIKASH KUMAR JAIN (PROJECT HEAD) WITH TOTAL BUILT UP AREA - 63215.5 SQM OF M/S KHUSI REALCON PVT. LTD. - EC.

PART A - SPECIFIC CONDITIONS:

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

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.

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

7. As proposed, fresh water requirement from Ground water through borewell shall not exceed 156 KLD.
8. 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.
9. 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.

10. 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.

11. 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.

12. 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.

13. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

14. 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. As proposed 11 (eleven) nos. of rain water harvesting recharge pits shall be provided.

15. 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 drawal of water.

SOLID WASTE MANAGEMENT

16. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.

17. 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.

18. 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.

19. 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.

20. 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

21. Sewage shall be treated in STP of capacity 250 KLD. The treated effluent from STP shall be recycled/re-used for flushing, gardening and washing purpose. As proposed, the proponent shall provide safety tank and soak pit of adequate capacity for storage

of surplus treated STP water. The septic tank will be evacuated intermittently by tankers for disposal in BMC sewerage line elsewhere. This arrangement will continue till the laying of sewerage line of the upcoming adjacent project road side drain is completed.

22. 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.

23. No sewage or untreated effluent water would be discharged through storm water drains.

24. 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.

25. 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.

ENERGY

26. 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.

27. 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.

28. 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.

29. 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.

30. 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.

31. 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

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

33. AII 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.

34. **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.**

35. 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.

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

37. 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

38. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m^2 of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and

wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed approx. 2181.25 sqm (22.08% of the plot area) shall be provided for green area development.

TOP SOIL PRESERVATION AND REUSE

39. 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

40. 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
41. 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.
42. 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.
43. 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.

ENVIRONMENT MANAGEMENT PLAN

44. 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

45. 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.
46. A First Aid Room shall be provided in the project both during construction and operations of the project.
47. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
48. 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(ll) 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.

Environmental Scientist, SEAC

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 EC 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, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

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

Environmental Scientist, SEAC

ANNEXURE – B

TERMS OF REFERENCE (ToR) FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR M/S FERRO ALLOYS CORPORATION LTD. FOR EXPANSION OF EXISTING OSTAPAL CHROMITE MINES FOR INCREASE IN PRODUCTION FROM 0.2 MTPA TO 0.240 MTPA CHROMITE ORE (ROM) WITH MAXIMUM EXCAVATION OF 0.579 MILLION CUM PER ANNUM AND BENEFICIATED CHROME ORE OF 0.1 MTPA THROUGH OPENCAST MINING METHOD OVER AN MINING LEASE AREA: - 72.84HA., AT VILLAGE – KALARANGIATTA, TAHASIL – SUKINDA, DIST – JAJPUR, ODISHA OF SRI. BISWANATH SAHOO, (AUTHORIZED SIGNATORY) – TOR.

A. ADDITIONAL TOR's:

i) Project proponent should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.

ii) Project proponent should submit the revenue plan for mining lease, revenue plan should be superimposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.

iii) Project proponent should submit the real-time aerial footage & video of the mining lease area and of the transportation route. Project proponent should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and greenbelt development in and around the mining lease. The Project proponent should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this project proponent should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted. Presently in India there are many agencies which are developing forest in short interval of time. Thus, for the plantation activities details of the experts/agencies to be engaged needs to be provided with budgetary provisions.

iv) Project proponent should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this project proponent should submit a detailed plan for rain water harvesting measures to be taken. Project proponent should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.

v) Project proponent should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this Project proponent should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.

vi) Project proponent Should submit the year- wise, activity wise and time bound budget

earmarked for EMP, occupational health surveillance & corporate Environmental Responsibility. The capital and recurring expenditure to be incurred needs to be submitted.

vii) Project proponent should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral. Project proponent should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.

viii) Project proponent should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the centre line of the road on either side should be clearly brought out supported with the line source modelling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The Project proponent should provide the source of equations used and complete calculations for computing the emission rate from the various sources.

ix) Project proponent should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.

x) Project proponent should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.

xi) The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC Conditions published by the MoEF&CC, Govt. of India. After perusal of Standard EC conditions if agreed, project proponent should also submit an undertaking by the way of affidavit for Compliance of Standard EC conditions already prescribed by the Ministry vide O.M. No and Specific condition if prescribed by the SEAC / MoEF&CC.

xii) The project proponent should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. Project proponent shall ensure that accreditation of consultant shall be valid during the collection of baseline date, preparation of EIA/EMP report and during the appraisal process. The Project proponent and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and Project proponent and consultant are fully accountable for the same.

xiii) The project proponent should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this Project proponent should submit the original test reports and certificates of the labs which will analyse the samples.

B. STANDARD TOR FOR MINING PROJECT

i) Year-wise production details since 1994 should be given; clearly stating the highest production achieved in anyone year prior to1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to1994.

ii) A copy of the document in support of the fact that the proponent is the rightful lessee of the mine should be given.

iii) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.

iv) All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery / top sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

v) Information should be provided in Survey of India Toposheet in 1: 50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.

vi) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from state land use board or the concerned authority.

vii) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.

viii) Issue relating to mine safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.

ix) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

x) Land use of the study area delineating forest area, agricultural land, gazing land wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

xi) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.

xii) 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.

xiii) Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.

xiv) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.

xv) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

xvi) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

xvii) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

xviii) 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.

xix) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.

xx) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

xxi) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need-based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report,

Environmental Scientist, SEAC

xxii) One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season); December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

xxiii) 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.

xxiv) 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.

xxv) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

xxvi) 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.

xxvii) 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.

xxviii) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

xxix) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.

xxx) Information on site elevation, working depth, groundwater table etc. should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.

xxxi) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase- wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native

species and the species which are tolerant to pollution.

xxxii) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

xxxiii) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

xxxiv) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

xxxv) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre- placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

xxxvi) 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.

xxxvii) 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.

xxxviii) Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

xxxix) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

xl) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

xli) The cost of the project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

xlii) A Disaster Management plan shall be prepared and included in the EIA/EMP report.

xliii) Benefits of the project if the project is implemented should be spelt out. The benefits of the project shall clearly indicate environmental, social, economic, employment potential etc.

xliv) Activity-wise time-bound action plan on the issues raised and commitment made during public hearing to be submitted as part of the final EMP Report in compliance of the Ministry's OM F.No.22-65/2017- IA.III dated 30th September, 2020

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

a) All documents to be properly referenced with index and continuous page numbering.

Environmental Scientist, SEAC

b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.

d) Where the documents provided are in a language other than English, an English translation should be provided.

e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006- IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

h) As per the circular no. J-11011/618/2010-IA.II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

D. The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP report.

Environmental Scientist, SEAC

TERMS OF REFERENCE (ToR) FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR 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) – ToR

A. STANDARD TOR FOR MINING PROJECT

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

issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the proposed safeguard measures in each case should also be provided.

10. The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

11. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

12. Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.

13. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.

14. Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.

15. Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.

16. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

17. A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

18. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

19. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer

zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

20. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.

21. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished.(Note: The Mining Projects failing under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

22. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs/STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine (ease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

23. One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season) ; December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM_{10}, particularly for free silica, should be given.

24. Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

25. The water requirement for the Project, its availability and source should be furnished. A

detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

26. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided,

28. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

29. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater, Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter- alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

30. Details of any stream, seasonal or otherwise, passing through the tease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.

31. Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.

32. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

33. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

34. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

35. Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

38. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

39. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

40. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

41. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

42. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

43. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

44. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

45. The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per MoEF&CC, Govt. of India O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report.

46. The Action Plan on the compliance of the recommendations of the CAG as per MoEF&CC, Govt. of India Circular No. J-11013/71/2016-IA.I (M), dated 25,10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.

47. Compliance of the MoEF&CC, Govt. of India Office Memorandum No. F: 3-50/2017-IA.III (Pt.), dated 30.05.2018 on the judgement of Hon'ble Supreme Court, dated the 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India needs to be submitted and included in the EIA/EMP Report.

B. <u>Specific TOR :</u> Recommendation of CSIR-NEERI Report on "Carrying Capacity Study for Environmentally Sustainable Iron and Manganese Ore Mining Activity in Keonjhar, Sundargarh and Mayurbhanj districts of Odisha State"

1. Department of Steel & Mines, Govt, of Odisha <u>should prepare 5 years regional</u> <u>plan for</u>

annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Joda, Koira.') in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.

2. The expansion or opening of new manganese ore mines may be considered only when the actual production of about 80% is achieved. Further, the mines that have not produced Mn ore for last two years and have no commitment in the current year as well: EC capacity in such cases may be reviewed. The Department of Steel & Mines. Govt, of Odisha shall submit the Annual Report on this issue to the MoEF&CC for further necessary action.

3. Analysis of baseline environmental quality data for the year 2014 and 2016 indicates that existing mining activities appear to have little / no potential impact on environmental quality, except on air environment, which was mainly due to re-suspension of road dust. Therefore, all the working mines can continue to operate with strict compliance to monitoring of environmental quality parameters as per EC and CTE/CTO conditions of the respective mine, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable acts.

4. Considering the existing environmental quality, EC capacity, production rate, iron ore resources availability and transport infrastructure availability, the share of Joda and Koira sector works out to be 70% and 30% respectively for the existing scenario for the year 2015-16. However, for additional EC capacity, it can be 50:50 subject to commensurate infrastructure improvement (viz. SOTM. pollution free road transport, enhancement of rail network etc.) in the respective regions.

5. Continuous monitoring of different environmental quality parameters as per EC and CTE/CTO conditions with respect to air, noise, water (surface and ground water) and soil quality in each region shall be done. The environmental quality parameters should not indicate any adverse impact on the environment. Monitoring within the mines should be done by individual mine lease holders, whereas outside the mine lease area, monitoring should be done by the Govt, of Odisha through various concerned departments/ authorized agencies. Various monitoring/ studies should be conducted through national reputed institutes, NABET/ MoEF&CC accredited laboratories/organizations. The reports submitted by individual mine lease holders and study reports prepared by other concerned departments/agency for each of the regions should be evaluated and examined by SPCB/ MoEF&CC.

6. Construction of cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road minimum 300 m inside the mine should be done. This should be done within one year for existing mines and new mine should have since beginning. The concerned departments should extend full support; wherever the land does not belong to the respective mine lease holders. The Department of Steel & Mines, Govt, of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement concrete road as suggested above.

7. In view of high dust pollution and noise generation due to road transport, it is proposed to

regulate/guide the movement of iron and manganese ore material based on the EC capacity of the mines. Accordingly, ore transport mode has been suggested, as given below in Table.

Table : EC Capacity based Suggested Ore Transport Mode (SQTM)

Code	EC	Suggested Ore Transport Mode
SOTM 1	> 5 MTPA	100% by private railway siding or conveyor belt up to public railway siding or pipeline for captive mines and 70% for non-captive mines
SOTM 2	Between 3 and <5 MTPA	Minimum 70% by public railway siding, through conveyor belt and maximum 30% by road - direct to destination or other public railway siding or above option
SOTM 3	Between 1 and < 3 MTPA	Minimum 70% by public railway siding and maximum 30% by road - direct to destination or by other public railway siding or above options
SOTM 4	<1 MTPA	100 % by 10/17 Ton Trucks or above options

It is mentioned by State Govt, of Odisha that currently about 45% of the iron ore is despatched using rail network and progressively it will be increased to about 60% by rail/slurry over a period of 5 years, taking into account time required to set up more railway sidings.

In view of present ore transport practices and practical limitations, all the existing mines should ensure adoption of SQTM within next 5 years. New mines or mines seeking expansion should incorporate provision of SOTM in the beginning itself, and should have system in place within next 5 years. However, the State Govt, of Odisha shall ensure dust free roads in mining areas wherever the road transportation of mineral is involved. The road shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species). Further, regular maintenance should also be ensured by the Govt. of Odisha.

Transportation of iron & manganese ore through river (jetty) to nearest Sea port (Sea cargo option) may be explored or connecting Sea ports witn Railway network from the mines to be improved further so that burden on existing road and rail network and also pollution thereof can be minimized. Progress on development of dust free roads, implementation of SOTM, increased use of existing rail network, development of additional railway network/conveyor belt/ pipelines etc. shall be submitted periodically to MoEF&CC and SEIAA, Odisha.

Responsibility: Department of Steel & Mines, Govt. of Odisha; Time Period: 5 Years for developing railway/ conveyor belt facilities

8. Development of parking plazas for trucks with proper basic amenities/ facilities should be done inside mine. This should be done within one year for existing mines and new mines should have since beginning. Small capacity mines (in terms of lease area or production) not having enough space within the mine lease areas should develop parking plaza at a common place within the region with requisite facilities. Responsibility: Individual Mine Lease Holders; Time Period: 1 Year

9. Construction of NH 215 as minimum 4 lane road with proper drainage system and plantation and subsequent regular maintenance of the road as per IRC guidelines. Construction of other mineral carrying roads with proper width and drainage system along

with road side plantation to be carried out. Responsibility: Department of Steel & Mines with PWD / NHAI Time Period: 2 Years.

10. Regular vacuum cleaning of all mineral carrying roads aiming at "Zero Dust Resuspension" may be considered. Responsibility: PWD / NHAI/ Mine Lease Holders; Time Period: 3 months for existing roads.

11. Expansion of existing mines and new mines should be considered after conducting recent EIA Study fas per the provisions of EIA Notification 2QQ6, as amended time to time1) with proper justification on demand scenario for iron ore requirement and availability of pollution free transport network in the region. Responsibility: IBM, Department of Steel & Mines and MoEF&CC, New Delhi.

12. **Mine-wise Allocation of Annual Production:** In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept, of Steel & Mines. Department of Steel and Mines in consultation with Indian Bureau of Mines-RO should prepare in advance mine-wise annual production scenario as suggested in Table, so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.

Table: Allocation of Production to Different Mines for 5 Years (as per approved Mining Plan)

Mine Lease	EC Capacity (MTPA)	Suggested Annual Production (MT)				
		2016-17	2017- 18	2018-19	2019-20	2020-21
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Mine 1	XI					
Mine 2	X2					
Mine 3	X3					
Mine n	Xn					
Total	160 +	105	129	153	177	201
Next year allocation = Average of EC Capacity and Last year production						

13. Expansion of Existing Mines having Validity up to 2020: In view of implementation of MMDR Act 2015, wherein many non-captive mines are expected to be closed by March 2020, total iron ore production scenario has been. It is expected that the non-captive mines having validity till 2020 shall try to maximize their production (limited to EC capacity) in the remaining period. Further, depending upon availability of iron ore resources, these mines may also seek expansion of EC capacity. It may be noted here that total EC capacity of existing 25 working mines having validity upto 2020 is about 85 MTPA, whereas actual production from these mines has been only 44.677 MT (52.6%) during 2015-16 and 57.07 MT (67.1%) during 2016-17. Also, it is expected that these mines would not even be able to achieve ore production as per existing EC capacity till March 2020. Therefore, these existing mines should go for production to the fullest extent to meet the requisite demand from the State. However, where EC limit is exhausted, application for expansion may be considered. Further, the EC process (i.e. Grant of TOR, Baseline data collection, Mining plan/ scheme approval, Public hearing, preparation of EIA/EMP Report. Appraisal by the EAC and grant of EC) takes about one year time. Under such circumstances, it is suggested that further applications for grant of TOR or grant of EC for expansion of production capacity of the mine should be considered for those

existing mines, which have exhausted their capacity subject to consideration of all environmental aspects. Responsibility: Department of Steel & Mines and MoEF&CC, New Delhi.

14. **Sustained Iron Ore Production beyond 2020:** Considering the implementation of MMDR Act 2015, total production of iron ore in Odisha State is anticipated to be about 111 MT during 2016-17 (actual production was - 102.663 MT), 136 MT during 2017-18, 146 MT during 2018-19 and 146 MT during 2019-20. Then there will be substantial drop in total production (to the tune of 73 MT during 2020-21 onwards) due to closure of mines, which are valid up to 2020. Therefore, in order to maintain operation/sustained growth of downstream industries, iron ore mining in the region needs to be continued at a sustainable rate. The State Govt. through Department of Steel and Mines should initiate appropriate action to ensure continued availability of iron ore from the region, as per suggested sustainable annual production

15. **Reserves Estimation**-Mining Plan and Exploration; Appropriate actions (geo- technical investigation for qualitative and quantitative resource estimation & other preparations for auction of mines), may be initiated taken into account the existing working mines, and the mines which were operational at some point of time (but closed presently due to various reasons). The total iron ore reserves/ resources available within the total lease area of each mine should be estimated by State Govt./NMET/ GSI (or any other approved agency) with respect to: (i) Total lease area of mine (surface), (ii) Maximum depth to which resources could be available, (iii) Resources below the ground water table (if intersected), (iv) Reserves are to be estimated as per UNFC code with respect to quantity and quality (% Fe content), (v) Maximum mining rate and area for auction (after 2020) will be calculated based on total resources available and proposed life of mine leading to closure of mine in a stipulated time period. Responsibility: Department of Steel & Mines, IBM and GSI; Time frame: 1 year for the mines to be auctioned for next 2 years. The above mentioned organizations shall ensure the compliance with respect to timelines for implementations.

16. Depending upon availability of extractable iron ore resources within a mine, mining below the ground water table may be permitted after conducting necessary geological and hydro-geological study by GSI and requisite approval from the CGWB/CGWA (Central Ground Water Board/Authority). This can be explored at least in few mines on trial/pilot basis. Further, within a mine, it will be desirable to operate one pit at a time, and next pit should be opened after extracting maximum possible resources from the first pit, so that the exhausted pit can be used for back filling/ storing of low grade iron ore. However, depending upon the quantity and/or quality of iron/ manganese ore, other mine pits in the same mine lease may also be opened for sustainable scientific mining, as per approved mining plan/scheme of mining by IBM. The Department of Steel & Mines, Govt. of Odisha should initiate the pilot project so that minerals are fully utilized.

17. **Commercial Utilization of Low Grade Ore:** R&D studies towards utilization of low-grade iron ore should be conducted through research/academic institutes like IMMT, Bhubaneswar, NML, Jamshedpur, and concerned metallurgical departments in IITs, NITs etc., targeting full utilization of low-grade iron ore (Fe content upto 45% by 2020 and upto 40% by 2025). In fact, life cycle assessment of whole process including environmental considerations should be done for techno-economic and environmental viability. R&D studies on utilization of mine wastewater having high concentration of Fe content for different commercial applications in industries such as cosmetics, pharmaceutical, paint industry should also be explored. Responsibility: IBM, Dept, of Steel & Mines, Individual

Mine Lease Holders.

18. The mining activity in Joda-Koira sector is expected to continue for another 100 years, therefore, it will be desirable to develop proper rail network in the region. Rail transport shall not only be pollution free mode but also will be much economical option for iron ore transport. The rail network and/or conveyor belt system upto public railway siding needs to be created. The total length of the conveyor belt system/ rail network to be developed from mines to nearest railway sidings by 11 mines in Joda region is estimated to be about 64 km. Similarly, in Koira region, total length of rail network/ conveyor system for 8 mines (under SOTM 1 & 2) is estimated to be around 95 km. Further, it is suggested to develop a rail network connecting Banspani (Joda region) and Roxy railway sidings in Koira region. Responsibility: Dept, of Steel & Mines, Govt, of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel & Mines. Govt, of Odisha should follow-up with the concerned Departments and railways so that proposed proper rail network is in place by 2025.

19. State Govt, of Odisha shall make all efforts to ensure exhausting all the iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Koira region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept, of Steel & Mines, Govt, of Odisha.

20. Large and medium mine leases contribute to better implementation of reclamation and rehabilitation plans to sustain the ecology for scientific and sustainable mining. The small leases do not possess scientific capability of environmentally sustainable mining. Therefore, new mine leases having more than 50 ha area should be encouraged, as far as possible. This will ensure inter-generational resource availability to some extent. Responsibility: Dept, of Steel & Mines, Govt, of Odisha.

21. **Mining Operations/Process Related:** (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste, e.g. drills should either be operated with dust extractors or equipped with water injection system, (ii) After commencement of mining operation, a study should be conducted to assess and Quantify emission load generation (in terms of air pollution, noise, waste water and solid wasted from each of the mining activity (Including transportation) on annual basis. Efforts should be made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders, (iii) Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/ equipment/ transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders, (iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis. This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by a private agency, the report shall be vetted/ authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by

the respective mine lease holders. Responsibility: Individual Mine Lease Holders.

22. **Air Environment Related:** (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and unloading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use water fogging system to minimize water consumption. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the GPCB in this regard, (ii) The core zone of mining activity should be monitored on daily basis. Minimum four ambient air quality monitoring stations should be established in the core zone for SPM, PM10. PM2.5, SQ2, NCb^ and CO monitoring. Location of air quality monitoring stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board (based on Emission Load Assessment Study). The number of monitoring locations may be more for larger capacity mines and working in larger area. Out of four stations, one should be online monitoring station in the mines having more than 3 MTPA EC Capacity, (iii) Monitoring in buffer zone should be carried out by SPCB or through NABET accredited agency. In addition, air quality parameters (SPM, PMiO, PM2.5, S02, NOx and CO) shall be regularly monitored at locations of nearest human habitation including schools and other public amenities located nearest to source of the dust generation as applicable. Further, 11 continuous air quality monitoring systems may be installed in Joida and Koira regions and one in Baripada/ Rairangpur region, (iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral, (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of 3 using closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate).Responsibility: Individual Mine Lease Holders and SPCB.

23. **Noise and Vibration Related:** (i) Blasting operation should be carried out only during daytime. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented, (ii) Appropriate measures (detailed in Section 5.4) should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of CPCB (CPCB, 2000) (iv) Similarly, vibration at various sensitive locations should be monitored atleast once in month, and mapped for any significant changes due to successive mining operations. Responsibility: Individual Mine Lease Holders.

24. **Water/Wastewater Related :** (i) In general, the mining operations should be restricted to above ground water table and it should not intersect groundwater table. However, if enough resources are estimated below the ground water table, the same may be explored after conducting detailed geological studies by GSI and hydro- geological

studies by CGWB or NIH or institute of national repute, and ensuring that no damage to the land stability/ water aquifer system shall happen. The details/ outcome of such study may be reflected/incorporated in the EIA/EMP report of the mine appropriately, (ii) Natural watercourse and/or water resources should not be obstructed due to any mining operations. Regular monitoring of the flow rate of the springs and perennial nallas should be carried out and records should be maintained. Further, regular monitoring of water quality of nallas and river passing thorough the mine lease area (upstream and downstream locations) should be carried out on monthly basis, (iii) Regular monitoring of ground water level and its quality should be carried out within the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out on monthly basis, (iv) In order to optimize water requirement, suitable conservation measures to augment ground water resources in the area should be undertaken in consultation with Central Ground Water Board (CGWB). (v) Suitable rainwater harvesting measures on long term basis should be planned and implemented in consultation with CGWB, to recharge the ground water source. Further, CGWB can prepare a comprehensive plan for the whole region, (vi) Appropriate mitigation measures (viz. ETP, STP, garland drains, retaining walls, collection of runoff etc.) should be taken to prevent pollution of nearby river/other water bodies. Water quality monitoring study should be conducted by State Pollution Control Board to ensure quality of surface and ground water sources on regular basis. The study can be conducted through NABL/ NABET approved water testing laboratory. However, the report should be vetted by SPCB. (vii) Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated in ETP so as to conform to the discharge standards applicable, (viii) Oil and grease trap should be installed before discharge of workshop effluents. Further, sewage treatment plant should be installed for the employees/colony, wherever applicable, (ix) Mine lease holder should ensure that no silt originating due to mining activity is transported in the surface water course or any other water body. Appropriate measures for prevention and control of soil erosion and management of silt should be undertaken. Quantity of silt/soil generated should be measured on regular basis for its better utilization, (x) Erosion from dumps site should be protected by providing geo-textile matting or other suitable material, and thick plantation of native trees and shrubs should be carried out at the dump slopes. Further, dumps should be protected by retaining walls.(xi) Trenches / garland drain should be constructed at the foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams should be constructed across seasonal/perennial nallas (if any) flowing through the mine lease areas and silt be arrested. De-silting at regular intervals should be carried out and quantity should be recorded for its better utilization, after proper soil quality analysis, (xii) The water so collected in the reservoir within the mine should be utilized for the sprinkling on hauls roads, green belt development etc. (xiii) There should be zero waste water discharge from the mine. Based on actual water withdrawal and consumption/ utilization in different activities, water balance diagram should be prepared on monthly basis, and efforts should be made to optimize consumption of water per ton of ore production in successive years. Responsibility: Individual Mine Lease Holders, SPCB and CGWB.

25. **Land/ Soil/ Overburden Related** : (i) The top soil should temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years or as per provisions mentioned in the mine plan/ scheme). The topsoil should be used for land reclamation and plantation appropriately, (ii) Fodder plots should be developed in the non-mineralised area in lieu of use of grazing land, if any. (iii) Over burden/ low grade ore

should be stacked at earmarked dump site(s) only and should not be kept active for longperiod. The dump height should be decided on case to case basis, depending on the size of mine and quantity of waste material generated. However, slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles should be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Proper records should be maintained regarding species, their growth, area coverage etc, (iv) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine operation, soil, OB and mineral dumps. The water so collected can be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon and should be maintained properly. Appropriate documents should be maintained. Garland drain of appropriate size, gradient and length should be constructed for mine pit, soil. OB and mineral dumps and sump capacity should be designed with appropriate safety margin based on long term rainfall data. Sump capacity should be provided for adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de-silted at regular intervals, (v) Backfilling should be done as per approved mining plan/scheme. There should be no OB dumps outside the mine lease area. The backfilled area should be afforested, aiming to restore the normal ground level. Monitoring and management of rehabilitated areas should continue till the vegetation is established and becomes self-generating, (vi) Hazardous waste such as, waste oil, lubricants, resin, and coal tar etc. should be disposed off as per provisions of Hazardous Waste Management Rules, 2016, as amended from time to time. Responsibility: Individual Mine Lease Holders.

26. **Ecology/Biodiversity (Flora-Fauna) Related:** (i) As per the Red List of IUCN (International Union for Conservation of Nature), six floral species and 21 faunal species have been reported to be under threatened, vulnerable & endangered category. Protection of these floral and faunal species should be taken by the State Forest & Wildlife Department on priority, particularly in the mining zones, if any, (ii) The mines falling within 5-10 km of the Karo- Karampada Elephant corridor buffer need to take precautionary measures during mining activities. The forest and existing elephant corridor routes are to be protected and conserved. Improvement of habitat by providing food, water and space for the elephants is required to be ensured to avoid Man- Elephant conflicts. Though as per the records of State Forest Department, movement of elephants in the Karo-Karampada elephant corridor within 10 km distance from the mines in Joda and Koira is not observed, the Forest Department shall further record and ensure that elephant's movement is not affected due to mining activities, (iii) All precautionary measures should be taken during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. spotted in the study area. Action plan for conservation of flora and fauna should be prepared and implemented in consultation with the State Forest and Wildlife Department within the mine lease area, whereas outside the mine lease area, the same should be maintained by State Forest Department, (iv) Afforestation is to be done by using local and mixed species saplings within and outside the mining lease area. The reclamation and afforestation is to be done in such a manner like exploring the growth of fruit bearing trees which will attract the fauna and thus maintaining the biodiversity of the area. As afforestation done so far is very less, forest department needs to identify adequate land and do afforestation by involving local people in a time bound manner, (v)

Green belt development carried out by mines should be monitored regularly in every season and parameters like area under vegetation/plantation, type of plantation, type of tree species /grass species/scrubs etc., distance between the plants and survival rate should be recorded, (vi) Green belt is an important sink of air pollutants including noise. Development of green cover in mining area will not only help reducing air and noise pollution but also will improve the ecological conditions and prevent soil erosion to a greater extent. Further, selection of tree species for green belt should constitute dust removal/dust capturing plants since plants can act as efficient biological filters removing significant amounts of particulate pollution. Thus, the identified native trees in the mine area may be encouraged for plantation. Tree species having small leaf area, dense hair on leaf surface (rough surface), deep channels on leaves should be included for plantation, (vii) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value, (viii) Details of compensatory afforestation done should be recorded and documented by respective forest divisions, and State Forest Department should present mine-wise annual status, along with expenditure details, (ix) Similarly, Wildlife Department is also required to record and document annual status of wildlife in the region and should identify the need for wildlife management on regional level, (x) Maintenance of the ecology of the region is prime responsibility of the State Forest and Wildlife Department. They need to periodically review the status and identify the need for further improvement in the region. The required expenditure may be met from the funds already collected in the form of compensatory afforestation and wildlife management. Further, additional fund, if required can be sought from DMF. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.

27. **Socio-Economic Related:** (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region, (ii) Land outees and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation, (iii) The socioeconomic development in the region should be focused and aligned with the guidelines/initiatives of Govt, of India/ NITI Aayog / Hon'ble Prime Minister's Vision centring around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This can be achieved by providing adequate and quality facilities for education, medical and developing skills in the people of the region. District administration in association with mine lease holders should plan for *"Samagra Vikas"* of these blocks well as other blocks of the district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY), notified by Ministry of Mines, Govt, of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16, 2015. Responsibility: District Administration and Individual Mine Lease Holders.

28. **Road Transport Related:** (i) All the mine lease holders should follow thesuggested ore transport mode (SOTM\ based on its EC capacity within next 5 years, (ii) The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the miner as suggested in Chapter 10. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport, (iii) Transportation of ore should be done bv covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PMin should be

monitored near the roads towards entry & exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Flolders and Dept, of Steel & Mines.

29. **Occupational Health Related:** (i) 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 periodically, (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed, (iii) Occupational health and safety measures related awareness programs including identification of work related health hazard, training on malaria eradication, HIV and health effects on exposure to mineral dust etc., should be carried out for all the workers on regular basis. A full time qualified doctor should be engaged for the purpose. Periodic monitoring (on 6 monthly basis) for exposure to respirable minerals dust on the workers should be conducted, and record should be maintained including health record of all the workers. Review of impact of various health measures undertaken (at an interval of 3 years or less) should be conducted followed by follow-up of actions, wherever required. Occupational health centre should be established near mine site itself. Responsibility: Individual Mine Lease Holders and District Administration (District Medical Officer),

30. **Reporting of Environmental Sustainability Achievement:** All the mines should prepare annual environmental sustainability report (ESR), highlighting the efforts made towards environmental protection with respect to different environmental components vis-a-vis production performance of the mine on monthly basis. The data collected as per EC and CTE/CTO conditions should be utilized to prepare the annual sustainability report. The mines performing high with effective environmental safeguards may be suitably recognized/rewarded. "Star Rating Format" formulated by the Ministry of Mines along with environmental sustainability report may be used,

31. **Environmental Monitoring Requirements at Regional Level:** Apart from strict compliance and monitoring by individual mine lease holder, there is a need for simultaneous monitoring in each of the regions by competent expert agencies under the guidance/ supervision of concerned regulatory agency. Details of the studies required to be done on regular basis (continuously for 5 years) through responsible agency (organization of national/state repute) and time frame are suggested in Table.

Table: Suggested Environmental Monitoring Requirements and Action Plans at

Sl. No.	Study component / Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
1.	Environmental Quality Monitoring with respect to Air, Water, Noise and Soil Quality in each region (Joda, Koira and Baripada/Rairangpur) as per specified frequency shall be done by a third party (preferably Govt.) and/or laboratory approved/ recognized by NABET/ CPCB/ SPCB/ MoEF&CC. All the water bodies (rivers, nalias, ponds etc.) shall be monitored.	SPCB	Continuous Annually

Sl. No.	Study component / Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
	National/State level research/ academic institutes may be involved initially for couple of years to streamline the activity. The report shall be brought out annually by June each year. The study shall be conducted in consultation with MoEF&CC-RO.		
	Installation of online ambient air quality monitor for PM1 0. PMP.S, SOx and NOx within the mine havina more than 3 MTPA EC Caoacitv	Respective Mine Lease Holders	Continuous Annually
	Installation of online ambient air quality monitor for PM_{10}, $PM_{2.5}$, SOx and NOx in the Joda and Koira Region (total 11 locations.	SPCB	Continuous Annually
2.	Status of flora and fauna in each of the regions shall be assessed on annual basis. Changes, if any, taking place in the region shall be brought out clearly. The study shall be conducted in consultation with State Forest and Wildlife Department.	State Forest & Wildlife Dept.	Annually in mining zone and once in 3 years in the region
3.	Socio-economic study incorporating developments taking place in each of the region, CSR initiatives made by the mining companies shall be conducted on annual basis. Further, micro level developmental needs shall be clearly brought out in the report for each region. The study shall be conducted in consultation with district administration.	Respective District Administration	Annually
4.	A detailed hydro-geological study in each of the regions shall be conducted in an integrated manner in consultation with Regional Director, Central Ground Water Board. Accordingly, all project proponents shall implement suitable conservation measures to augment ground water resources in the area.	SPCB	Once in 2 years
5.	The State Govt. shall ensure construction and maintenance of dust free common roads/ appropriate rail	Dept. of Steel & Mines	12 months for road network and 5-7 years for rail network

Sl. No.	Study component / Action Plan	Responsibility	Monitoring and Reporting Time Frame (Approx.)
	network for transport of ore from mines to the consumer end.		
6.	Construction and maintenance of dust free roads from respective mine to the main road	Respective Mine Lease Holders	Continuous 6 months
7.	Traffic/road inspection study addressing the condition of traffic/roads leading to different mines and connecting to different railway sidings shall be undertaken on annual basis. Further, detailed traffic study shall be undertaken on every 5 yearly basis to ensure adequacy of road/rail infrastructure in each of the regions. The study can be undertaken through national/ state level research/ academic institute (such as CSIR-CRRI, New Delhi).	Dept. of Steel & Mines	Continuous 6 months
8.	Assessment of land use/ land cover changes in each of the regions, with particular focus on mining areas, afforestation activities, variation in flow path of various water bodies etc. using remote sensing data	ORSAC	Annually
9.	R&.D Studies for utilization of low-grade iron ore	Dept. of Steel & Mines through R&D / Academic Institutes	Upto 45% by 2020 and upto 40% by 2025

The data so generated for the region should be made available on the website of Department of Steel & Mines and also at MoEF&CC website, so that it can be effectively utilized by Individual Mine Lease Holders for preparing EIA/ EMP reports. This will meet the requirement for separate one season baseline environmental quality data collection by the individual proponents, if the mine proposed is in the same study region. Further. MoEF&CC fthrouah EAC1 can also utilize the data base available in evaluating the proposals for expansion of existing mines or new mines while granting ToR or EC to the mine, taking an holistic view of the region. State Govt, of Odisha should bring out an integrated environmental sustainability report for each of the regions (mainly for Joda and Koia region) incorporating ESR of individual mines and data collected in the region through various agencies, once in 5 years, to plan level of scientific and sustainable mining for the next 5 years.

32. Institutional Mechanism for Implementation of Environmentally Sustainable Mining: The present study is not a one-time study, but a process to ensure environmentally sustainable mining activities in the region on long term basis. Looking into the large-scale mining activities and long term perspective for mining vis-a-vis environmentally sustainable mining and upiiftment of people of the region, there is a need to create an agency, who will

integrate all the aspects relating to sustainable mining in the region on long term basis. It could be a SPV of Govt, of Odisha or a cell within the overall control and supervision of Dept, of Steel & Mines, with members from

IBM, GSI, OSPCB, MoEF&CC-RO and other concerned Departments and Mine Owners (EZMA), District Administration. It is found that the strong database available for the region needs to be taken into account to map and establish environmental quality of the region on daily, monthly, seasonal and annual basis. Further, the efforts and initiatives of the mines towards environmental protection as well as upliftment of the people of the region are required to be integrated, and a systematic plan at the block/regional level needs to be framed for the overall benefit of the local society, region, district, state and the country as a whole. It will be desirable to have proper environmental quality data management and analysis by NEERI or any other agency for next 5 years (six monthly compliance reports followed by field verification) ensuring sustainable mining practices in the region leading to an overall development of the region. District Mineral Funds should be utilized appropriately for various developmental activities/needs of the region. Further, an environmental sustainability report incorporating environmental status of region coupled with social upliftment may be brought out by SPCB or any other authorized agency on annual basis. This report can be used for supporting the regional EIA study, and also need for environmental quality monitoring by individual mine seeking environmental clearance for new mine/ expansion of mine, including public hearing. Since, outcome of the above study reports shall be in the overall interest of all the stakeholders (including local population) of the region, further planning for the region shall warrant cooperation and assistance of all the stakeholders (mine operators, industries, transporters, State & Centra! Government Offices, MoEF&CC, CPCB, SPCB, Dept, of Steel & Mines, IBM, IMD, NGOs and local people) in sharing the relevant data/information/ reports/documents etc. to continuously improve upon the environmentally sustainable development plan for economic growth in mining sector as well as for improvement in quality of life of the people of the region.

C. Besides the above, the below mentioned genera! points are also to be followed:-

a) All documents to be properly referenced with index and continuous page numbering.

b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.

d) Where the documents provided are in a language other than English, an English translation should be provided.

e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006- IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of

MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

h) As per the circular no. J-11011/618/2010-IA.II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area,(ii) geological maps and sections and (iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

D. The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP report.

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE OF M/S. PARADEEP REFINERY INDIAN OIL CORPORATION LTD. FOR GREENFIELD TEXTILE PROJECT UNIT ESTABLISHMENT OVER AN AREA 60 ACRES LOCATED IN VILLAGES - PAHIMAHURA & HELPUR, TAHASIL - BHANDARIPOKHARI, DIST – BHADRAK, ODISHA OF – EC.

A. SPECIFIC CONDITIONS:

i) WATER:

1. Fresh requirement for the project shall not exceed 7,385 KL/day and It shall be met only through water supply from IDCO from nearby Baitarini River. No ground water shall be tapped for meeting the project requirements.
2. Total wastewater generation shall not exceed 2,306 KLD (2,245 KLD Industrial + 61 KLD Domestic)
3. 2289 KLD shall be completely reused after neutralization and dilution with fresh water.
4. There shall be no effluent discharge outside the premises of the unit.
5. The unit shall provide ETP (Capacity 2,400 KLD) followed by UF & RO (Capacity 2,500 KLD) & MEE & ATFD (Capacity 600 KLD). These ETPs shall be operated regularly and efficiently so as to achieve the OSPCB norms at the outlet.
6. The unit shall provide flow maters / totalizers at the ETP outlets and on effluent reuse lines for measuring effluent generation, effluent reuse in plant, scrubber, dust suppression, plantation / gardening etc. and maintain daily records of the same.
7. Proper logbook of the ETP operation also showing effluent discharge quality and quantity, reused effluent quality and quantity, chemical for power consumption etc. shall be maintained and shall be furnished to the OSPCB from time to time.
8. The unit shall join and participate financially and technically for any common environmental facility / infrastructure as and when the same is taken up either by the IDCO, OSPCB or any such authority created for this purpose by the Govt of Odisha.
9. Rain water harvesting structures shall be provided to reduce dependency of fresh surface water for industrial purposes. In any case, no ground water shall be used for the plant.
10. The storm water from the premises shall be collected and discharged through a separate conveyance system.

ii) AIR:

11. There shall be no process emission from the unit.
12. Natural gas or HSD shall be used as fuel in the Boilers (3 nos.) and Thermic Fluid Heaters (3 nos.). Stacks of adequate height shall be attached to the Boilers and Thermic Fluid Heaters.

13. Diesel shall be used as a fuel for standby DG Sets (3 x 2000 KVA) and a stack of adequate height shall be provided for the DG Set as per the prevailing norms.
14. The flus gas emission from the Thermic Fluid Heaters and DG Sets shall conform to the standards prescribed by OSPCB. At no time the emission levels shall go beyond the stipulated standards.
15. Storage of raw materials shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.
16. The fugitive emission in the work place environment and raw material storage area shall be monitored regularly. The emission shall strictly conform to the standards prescribed by the concerned authorities from time to time.

iii) HAZARDOUS / SOLID WASTE:

17. The company shall strictly comply with the rules and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016 as may be amended from time-to-time. Authorization from the OSPCB shall be obtained for collection / treatment / storage / disposal of hazardous wastes,
18. ETP sludge shall be dried, packed and stored in separate designated hazardous waste storage facility with pucca bottom and leachate collection facility, before its disposal.
19. ETP sludge and used resin shall be disposed at the common TSDF
20. Used oil shall be sent only to the approved recyclers / re-processors.
21. Discarded containers / drums shall be either reused or returned back to suppliers or sold to the authorized vendors after decontamination.

iv) SAFETY

22. Fire protection system based on National Fire Protection Association (NFPA) approved guidelines shall be provided. It shall consist of fire hydrant system all-round the plant area and storage yards, high velocity water spray system for transformers, automatic fire detection and alarm, manual fire alarm system, portable fire extinguishers etc.
23. Hydrocarbon leak detection system, automatic shutdown valve, critical switches and alarm, regular pipeline inspection and firefighting facilities shall be installed to enhance the safe handling of Natural Gas.
24. The Natural Gas facility shall be equipped with an extensive array of gas detection and flame detection equipment. Hydrocarbon / methane gas detectors shall be placed at the strategic locations in area where Natural Gas is being handled.
25. Flameproof fittings shall be provided in the power plant and other vulnerable areas.
26. Personal Protective Equipment shall be provided to workers and its usage shall be ensured and supervised.
27. First Aid Box shall be made readily available in the unit.
28. Tie up shall be done with nearby health care unit / doctor for seeking immediate medical attention in the case of emergency, regular medical checkup of the workers and keeping its record etc.

29. Training shall be imparted to all the workers on safety and health aspects

30. Occupational health surveillance of the workers shall be done and its records shall be maintained Preemployment and periodical medical examination for all the workers shall be undertaken on regular basis as per Factories Act & Rules.

v) NOISE

31. To minimize the noise pollution the following noise control measures shall be implemented:

- ✓ Selection of any plant equipments shall be made with specification of low noise levels
- ✓ Manufacturers / suppliers of major noises generating machines / equipments like air compressors, feeder, pumps, turbine generators, etc shall be instructed to make required design modifications wherever possible before supply and installation to mitigate the noise generation and to comply with the national / international regulatory norms with respect to noise generation for individual units
- ✓ Regular maintenance of machinery and vehicles shall be undertaken to reduce the noise impact
- ✓ Noise suppression measures such as enclosures, buffers and / or protective measures shall be provided
- ✓ Employees shall be provided with ear protection measures like earplugs or earmuffs.
- ✓ Proper oiling, lubrication and preventive maintenance shall be carried out of the machineries and equipments to reduce noise generation
- ✓ Construction equipment generating minimum noise and vibration shall be chosen
- ✓ Ear plugs and/muffs shall be made compulsory for the construction workers working near the noise generating activities / machines / equipment.
- ✓ Vehicles and construction equipment with internal combustion engines without proper silencer shall not be allowed to operate.
- ✓ Construction equipment meeting the norms specified by EP Act, 1986 shall only be used,
- ✓ Noise control equipment and baffling shall be employed on generators especially when they are operated near the residential and sensitive areas
- ✓ Noise levels shall be reduced by the use of adequate mufflers on all motorized equipment.

32. The overall noise level in and around, the plant area shall be kept well within the prescribed standards by providing noise control measures Including acoustic insulation, hoods, silencers, enclosures vibration dampers etc. on all sources of noise generation. The ambient noise levels shall confirm to the standards prescribed under the Environment (Protection) Act and Rules. Workplace noise levels for workers shall be as per the Factories Act and Rules.

vi) WASTE MINIMIZATION AND CLEANER PRODUCTION:

33. The unit shall undertake the Cleaner Production Assessment study through a reputed institute / organization and shall form a Cleaner Production (CP) team in the company. The recommendations thereof along with the compliance shall be furnished to the OSPCB.

34. The company shall undertake various waste minimization measures including:

    a) Metering and control of quantities of active ingredients to minimize waste.

    b) Reuse of by-products from the process as raw materials or as raw materials substitutes in other process

    c) Use of automated and close filling to minimize spillages

    d) Use of close feed system into batch reactors

    e) Venting equipment through vapour recovery system.

    f) Use of high-pressure hoses for equipment cleaning to reduce wastewater generation.

    g) Sweeping / mopping of floor Instead of floor washing to avoid effluent generation.

    h) Regular preventive maintenance for avoiding leakage, spillage etc.

vii) GREENBELT AND OTHER PLANTATION:

35. The unit shall develop green belt in an area of 14.80 acres (33% of the proposed plant area) as proposed. Green belt shall be comprising of rows of varying height tall trees of native species with thick foliage, along the periphery of the unit premises.

36. Drip irrigation / low-volume, low-angle sprinkler system shall be used for the green belt development.

viii) MISCELLANEOUS:

37. Solvent management, if any, shall be carried out as follows:

    i) Reactor shall be connected to chilled brine condenser system.

    ii) Reactor and solvent handling pump shall have mechanical seals to prevent leakages.

    iii) The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 98% recovery.

    iv) Solvents shall be stored in a separate space specified with all safety measures.

    v) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.

    vi) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.

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

B. GENERAL CONDITION:

39. In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed down and shall not be restarted until the desired efficiency of the control equipment has been achieved
40. A separate Environment Management Cell equipped with full-fledged laboratory facilities and qualified personnel shall be set up to carry out the Environment Management and Monitoring functions and a separate budget shall be allocated for this purpose.
41. The funds earmarked for environment protection measures shall be maintained in a separate account and there shall not be any diversion of these funds for any other purpose. A year-wise expenditure on environmental safeguards shall be reported.
42. Pucca flooring / impervious layer shall be provided in the work areas. Leakages from the pipes, pumps, shall be minimal and if occurs, shall be arrested promptly.
43. All the issues raised in the public hearing shall be comprehensively addressed / complied with in a time bound manner.
44. The project proponent shall adhere to their commitments made during the public hearing held on 30.12.2020.
45. The project management shall effectively implement all the environment protection measures, risk mitigation measures and safeguards stated In the EIA report of the project.
46. The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose of the environmental protection and management.
47. No further expansion or modifications in the plant likely to cause environmental impacts shall be carried out without obtaining prior Environment Clearance from the competent authority.
48. It shall be mandatory for the project management to submit half-yearly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year
49. The project authorities shall also adhere to the stipulations made by the State Pollution Control Board, Odisha.
50. The project authorities shall inform the OSPCB, Regional Office of MoEF&CC, Govt. of India and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
51. 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.
52. 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.

53. 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.

54. 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.

55. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated EC 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, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO2, NOx (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.

56. 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 by E-mail.

57. The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.

58. 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.

Environmental Scientist, SEAC