

**PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL  
COMMITTEE, ODISHA HELD ON 17<sup>TH</sup> FEBRUARY 2023**

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The SEAC met on 17<sup>th</sup> February 2023 at 10:30 AM in the Conference Hall of Odisha State Pollution Control Board, Bhubaneswar under the Chairmanship of Sri Sashi Paul. The following members were present in the meeting.

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

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

**ITEM NO. 01**

**PROPOSAL OF ENVIRONMENTAL CLEARANCE OF M/S. PALTRONICS ALLIED INDUSTRIES PRIVATE LIMITED FOR MULTI-STORIED RESIDENTIAL APARTMENT & CLUB HOUSE BUILDING OVER AN TOTAL BUILT-UP AREA : 185262.81 M2 LOCATED AT PLOT NO. 309/1694, KHATA NO.474/5, PATIA MOUZA OF KHORDHA DISTRICT OF SRI AMAN AGRAWAL - EC**

1. This proposal is for environmental clearance of M/s. Paltronics Allied Industries Private Limited for multi-storied residential apartment & club house building over a built-up area of 185262.81 m<sup>2</sup> at Plot No. 309/1694, Khata No.474/5 at Patia Mouza of Khordha District of Sri Aman Agrawal.
2. **Category:** As per EIA Notification, 2006 and its subsequent amendments, this proposed project falls under category B1 and activity 8 (b) – Townships and Area Development projects.
3. Terms of Reference (TOR) was issued vide online proposal no. SIA/OR/IND2/78683/2022 on dated 03/11/2022.
4. **Location and connectivity:** The proposed site is located at Plot No. 309/1694, Khata No. 474/5 at Patia Mouza of Khordha District, Odisha. The geographical co-ordinates of the project site is Latitude - 20° 21' 32. 68" N & Longitude - 85° 49' 36. 64" E and the area comes under Survey of India Toposheet No- 73H/15.Site is flat land with average elevation of 28-32 msl. Project site connects Shikharchandi road in South direction and Nandankanan road in East direction. Patia railway station and Bhubaneshwar new junction railway station are at approx. 2.1 km, NE and 2.3 km SE respectively. Biju Patnaik International Airport is at approx. 12 km in South direction. There is no structure or encroachments on the site. The project site is connected with National Highway NH-16 towards E at a distance of 6.57km. The site is located

adjacent to the local landmarks such as Institute of Higher Secondary Education Capital, Law College, Utkal University etc. Nearest river is Kuakhai River at 4.3km.

5. **Land requirement and Area summary:** The total plot area of the project site is 20234.26 sq m and built-up area of 1,85,262.81 sq m. Project involves development of 1 No. 2B+S+33, 5 Nos 2B+S+29 residential building and 2B+G+2 club house building.

**Table: Area Summary**

Particular	Description
Plot Area	20234.26 Sqm
Road Affected Area	14.89 Sqm
Net Plot Area	20219.37 Sqm
Ground Coverage	6301.72 (31.16% net plot area)
Total FAR area	138791.82 Sqm(@6.86 of net plot area) including club
Total Built up area	185262.81 Sqm
Maximum Height	116.55 m
Road affected Area	14.89 sqm
Parking Area	42,000 Sqm
Green Belt Area	5970 sqm (29.50 % net plot area)
Power/Electricity Requirement & Sources	TPCODL - 8000 KVA
No. of DG sets	3 no. of DG set of Total 4250 kVA (1750 kVA X 2 + 750 kVA)
Water requirement & Sources	332 KLD (Fresh)
Sewage Treatment & Disposal	STP Capacity 560 KLD
Estimated Population-Residential, Floating/visitors	Residential – 3480 nos. Staffs- 70 nos. Visitors- 70 nos.
Project Cost	688 crores

6. **Water requirement/STP:** The total water requirement of the project during occupational stage is 481 KLD, out of that the freshwater requirement is 332 KLD will be sourced from Bore well and the recycled water is 143 KLD. No Objection Certificate for Ground Water Abstraction was obtained with NOC No. CGWA/NOC/INF/ORIG/2022/17086, valid from 22/11/2022 to 21/11/2027. Wastewater generation will be 442 KLD and proposed STP capacity will be 560 KLD.

Category	Population/Area(sq m)/Capacity	Standard (LPCD)	Water Requirement	Fresh Water Requirement	Recycled Water requirement
<b>Domestic</b>					
Residents	3480	135	470	329	141
Staff	70	45	3	2	1
Visitors	70	15	2	1	1
<b>Total Domestic Water Demand</b>			<b>475</b>	<b>332</b>	<b>143</b>
Landscape	5645.34 sq. m	3 l/day	6	0	6
<b>Total</b>		-	<b>481</b>	<b>332</b>	<b>149</b>

7. **Sewage generation:** Sewage generation from the site is expected to be 442 KLD which will be treated in STP of capacity 560 KLD proposed to be constructed at the site. Treated water from

the STP will be used for flushing and horticulture purpose. STP will be provided with MBBR/FAB Technology.

8. **Rainwater harvesting:** Run-off from the site will be collected and recharged into ground through 20 nos. of RWH pits. Ground water level in project area is approx. 5.0 to 10.0 m bgl during pre-monsoon season and 5.0 to 10.0 m bgl during post-monsoon season. Diameter of the recharge bore will be approx 4.5-6” and depth will be approx 12 m. Run-off generation from site without development is approx. 24483.51 cum. The rooftop rain water will be collected through various diameter PVC pipes and connected to the external drainage network. There are several infiltration chambers within the project site which are finally connected to the recharge well for ground water recharge.
9. **Parking details:** Adequate parking will be provided to accommodate the expected vehicles during operation phase of the project in line with the requirement of Local Building By Laws. Parking area required is 41,637.55 sq m. Parking required as per BDA is 41637.546 Sqm. Provide Parking Area is 42104.18 Sqm (Upper Basement parking – 16533.55 Sqm & Lower Basement parking is 16825.63 Sqm and UB Mechanical Parking is 5445.0 Sqm.) LB Mechanical Parking is 3300.0 Sqm.

Parking Area Provided	Area (Sqm)	ECS
Upper Basement	16533.55	-
Lower Basement	16825.63	-
UB Mechanical Parking	5445.0	363
LB Mechanical Parking	3300	220
Total Parking Area	42104.18	583

10. **Solid waste generation:** Total solid waste generation will be 1813 Kg/Day. Out of which Recyclable waste will be 575 Kg/Day and Non-Biodegradable waste 1238 Kg/Day. Landscape waste will be 0.12 Kg/Day. STP Sludge generation will be 45 Kg/day.

S.No	Description	Occupancy/Area	kg/capita/day	Total Solid Waste Generation (kg/day)	Recyclable (kg/day)	Non-Recyclable (kg/day)
1.	Residents	3480	0.5	1740	522	1218
2.	Staff	70	0.25	17.5	5.25	12.25
3.	Visitors	70	0.15	10.5	3.15	7.35
4.	Landscape waste	1.39 acres	0.2 kg/acres	0.12	0	0.12
5.	STP sludge	442 KLD	--	45	45	0
	<b>Total Waste generated</b>			<b>1813</b>	<b>575</b>	<b>1238</b>

11. **Baseline details –** Baseline study was collected during the month of October-December 2022. Following are the observations.

12. **Air Monitoring -**

13. **Suspended Particulate Matter (PM<sub>2.5</sub>)**

PM<sub>2.5</sub> refers to particles with a diameter of less than 2.5 microns. The minimum and maximum Proceedings of the SEAC meeting held on 17.02.2023

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level of PM 2.5 recorded within the study area was in the range of 19.21  $\mu\text{g}/\text{m}^3$  to 54.78  $\mu\text{g}/\text{m}^3$ . The 24-hourly average values of PM<sub>2.5</sub> were compared with the National Ambient Air Quality Standards (NAAQS) and found that all sampling stations recorded in the study area are within the applicable limits i.e., 60  $\mu\text{g}/\text{m}^3$  for PM<sub>2.5</sub>.

#### **14. Suspended Particulate Matter (PM<sub>10</sub>)**

PM<sub>10</sub> refers to particles with a diameter less than 10 microns. The minimum and maximum level of PM<sub>10</sub> recorded within the study area was in the range of 53.28  $\mu\text{g}/\text{m}^3$  to 87.3  $\mu\text{g}/\text{m}^3$ . The 24-hourly average values of PM<sub>10</sub> were compared with the National Ambient Air Quality Standards (NAAQS) and found that all sampling stations recorded in the study area are within the applicable limits i.e., 100  $\mu\text{g}/\text{m}^3$  for PM<sub>10</sub>.

#### **15. Sulphur Dioxide (SO<sub>2</sub>)**

Sulphur dioxide gas is an inorganic gaseous pollutant. The minimum and maximum concentration of SO<sub>2</sub> recorded within the study area was 5.36  $\mu\text{g}/\text{m}^3$  to 18.56  $\mu\text{g}/\text{m}^3$ . The 24-hourly average values of SO<sub>2</sub> were compared with the National Ambient Air Quality Standards (NAAQS) and it was found that all sampling stations recorded values are below the applicable limits 80  $\mu\text{g}/\text{m}^3$  for rural areas.

#### **16. Oxides of Nitrogen (NO<sub>2</sub>)**

The minimum and maximum level of NO<sub>2</sub> recorded within the study area was in the range of 9.52  $\mu\text{g}/\text{m}^3$  to 20.31  $\mu\text{g}/\text{m}^3$ .

The 24-hourly average values of NO<sub>2</sub> were compared with the National Ambient Air Quality Standards (NAAQS) and it was found that all sampling stations recorded values are below the applicable limits 80  $\mu\text{g}/\text{m}^3$  for rural areas.

#### **17. NOISE MONITORING**

The values of noise observed in some of the areas are primarily owing to vehicular traffic. Assessment of hourly night time Leq (Ln) varies from 36.5 dB (A) to 46.1 dB (A) and the hourly daytime Leq (Ld) varies from 50.7 dB (A) to 58.5 dB (A) within the study area.

#### **18. SOIL MONITORING**

In the study area, variations in the pH of the soil were found to be slightly neutral to alkaline (7.35 to 8.02). Electrical conductivity (EC) is a measure of the soluble salts and ionic activity in the soil. In the collected soil samples, the conductivity ranged from 374-421.0  $\mu\text{mhos}/\text{cm}$ . The soils with low bulk density have favorable physical condition whereas those with high bulk density exhibit poor physical conditions for agriculture crops.

#### **19. WATER MONITORING**

To assess the physical and chemical properties of water in the region, water samples from four locations were collected from various water sources around the project area. The pH of the ground water samples in the region varied from 7.29 to 7.80. Concentration of Fluorides varied from 0.41 mg/l to 0.78 mg/l. The chloride level in the ground water samples collected in the study area were ranging from 36.60 mg/l to a maximum of 89.50 mg/l, in surface water samples 20.3 mg/l to 56.5 mg/l. The chloride samples are within the desirable limits. The results indicate groundwater is generally in conformity with the drinking water standards (IS: 10500) and

surface water is in conformity with IS-2296 standards.

20. **Power requirement:** The total consolidated electrical load estimate for proposed project is about 8000.0 KW. Solar power generation will be 66 KW with 206 nos of solar plates. Power backup in case of grid failure will be by 3nos. of DG sets of 4250 KVA capacities.

21. **Greenbelt:** Green belt will be developed over an area of 5970.0 Sqm (29.50 %) of the plot area; by planting 253 nos. of the local species like Neem, Bel, Gooseberry, Acacia, Chakunda etc.

22. **Project cost:** The project cost is estimated to be Rs. 688 Crores and where budgetary provision of Rs.208 Lakhs for EMP as capital cost and Rs.0.9 Cr. as cost of CSR.

S. No.	Activity	Capacity/ Area/Nos./parameters	Capital Cost (Lacs)	Annual Recurring Cost (Lacs)
1.	STP	560 KLD	89	15
2.	Landscaping & planting trees	5645.34 sq m	10	5
3.	Solid waste Management	Municipal waste-1813 kg/day	15	8
4.	RWH Pit Installation	20 pits	20	8
5.	Energy Saving	5%	25	10
6.	Environmental Monitoring	Air, water, soil and noise	-	3
<b>Total</b>			<b>159</b>	<b>49</b>

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

Considering the information furnished and the presentation made by the consultant, **M/s P and M Solution., Noida (Uttar Pradesh)** along with the project proponent, the SEAC recommended the following:

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

- i) Kisam of land and IDCO water supply document.
- ii) Layout plan showing direction and DG set location.
- iii) Revised KML file to be submitted.
- iv) Revisit traffic study report and get vetted from reputed institute.
- v) Recalculate RWH by taking maximum rainfall into account.
- vi) Greenbelt needs to be increased.
- vii) Re-examine and submit revised water balance.
- viii) Distance of Budhi Nala from project site, permission from concerned department for drainage connectivity to Budhi Nala.
- ix) Certificate from concerned DFO of Nandankanan Sanctuary and Chandaka Damapara Sanctuary about absence of Schedule-I species within a radius of 10km.

- x) Break up calculation for solar power generation, consumption, roof top capacity, percentage contribute to power demand should be at least 3%.
- xi) Solid Waste management practice.
- xii) The quantity of discharge of treated water is very high, proponent needs to revisit to reduce the same and also provide STP with adequate capacity

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

- i) Environmental settings of the project site.
- ii) Construction activity, if any started at the site.
- iii) Road connectivity to the project site.
- iv) Drainage network at the site.
- v) Discharge point for discharge of treated water and distance of the discharge point from the project site.
- vi) Any other issues including local issues

**ITEM NO. 02**

**PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR M/S UTKAL HYDROCARBON PVT. LTD. FOR PROPOSED GREENFIELD PROJECT OF COAL TAR DISTILLATION OF CAPACITY- 1,80,000 TPA, PHASE- I: 60,000 TPA COAL TAR DISTILLATION PROJECT (TO MANUFACTURE- 31,200 TPA COAL TAR PITCH, 15,000 TPA WFO & 12,000 TPA ANTHRACENE OIL) & PHASE- II: 1,20,000 TPA COAL TAR DISTILLATION PROJECT (TO MANUFACTURE 62,400 TPA COAL TAR PITCH, 30,000 TPA WFO, 24,000 TPA ANTHRACENE OIL) LOCATED AT VILLAGE- SIRIAPALI PS & TEHSIL - KOLABIRA, DISTRICT – JHARSUGUDA OF SRI DEEPAK AGRAWAL - EC**

1. This proposal is for environmental clearance of M/s Utkal Hydrocarbon Pvt. Ltd. for proposed greenfield project of coal tar distillation of capacity- 1,80,000 TPA, Phase- I: 60,000 TPA coal tar distillation project (to manufacture- 31,200 TPA Coal Tar Pitch, 15,000 TPA WFO & 12,000 TPA Anthracene Oil) & Phase- II: 1,20,000 TPA coal tar distillation project (to manufacture 62,400 TPA coal tar pitch, 30,000 TPA WFO, 24,000 TPA Anthracene Oil) located at Village- Siriapali PS & Tehsil - Kolabira, District – Jharsuguda of Sri Deepak Agrawal.
2. **Category:** In pursuance of MoEF & CC, Government of India, EIA notification S.O. 1533, dated 14.09.2006 and amendments thereof, it is a 'Category –B' project, which falls under schedule 4 (b) - Coal tar processing units.
3. Allotment of land measuring 6.30 Acres in favor of M/s. Utkal Hydrocarbon Pvt. Ltd. from IDCO was issued vide letter no. IDCO/HO/P&A/LA- E/ 8227/2021- 2022/ 34546 dtd. 31/12/2022.
4. **TOR Details:** Terms Of Reference (TOR) was granted by the concerned authority's vide SEIAA File No. SIA/OR/IND/62293/2021, dated: 28th September 2021.
5. **Public hearing details:** The Public hearing was held on 20th July 2022 near Govt. High School, Village - Siriapali, District- Jharsuguda, Odisha. The issues raised by the public in the public hearing are as follows: air pollution, water pollution, waste management, plantation,

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development of roads, local employment, women employment, health issues, medical facilities, peripheral development, education & playground. Total budget allocated as per the action plan is 92.93 lakhs.

6. **Location and connectivity:** Geographically the proposed project site is located at Village-Siriapali, PS & Tehsil - Kolabira, District - Jharsuguda, Odisha State falls under Survey of India Toposheet No. 73 B/16 bounded by geo coordinates - Latitude 21°49'40.08"N to 21°49'40.00"N and Longitude 84° 5'29.21"E to 84° 5'29.02"E. Nearest National Highway, NH-200 is at a distance of 20m, N; Nearest Railway Station is Jharsuguda Railway Station, 8 km, NW and Jharsuguda Airport is at 11 km NW. Nearby water bodies are Kharkhari Nala - 0.50 KM (S), Telen River- 4.40 KM (SE), Bheden River - 8.0 KM (WSW).
7. There is no National Parks, Sanctuaries, Migratory Corridors of Wild Animals in 10 km buffer are whereas list of Reserve Forest identified such as Shiriyapali R.F – Adjacent (E), Katikela R.F – 1.50 KM (SW), Ghichamura R.F- 5.45 KM (S).
8. **Land requirement:** Total Land Area involved – 18.14 Acres (7.34 Ha.) [For Phase-I: 5.38 Acres & Phase-II: 12.76 Acres]. Net Plant Area - 17.60 Acres (7.12 Ha.) (This excludes the untouched Nalla of 0.54 Acres).
9. **Raw material requirement:** The Crude Coal Tar, 180000 TPA (Phase-I 60,000 & Phase-II 12,0000) will be sourced from Rourkela Steel Plant-Rourkela, Nilachal Ispat Nigam Limited - Jajpur, Bhushan Steel Limited, IISCO Steel Plant, Durgapur Steel plant, Bokaro Steel Plant, Bhilai Steel Plant, Visakhapatnam Steel Plant etc.

#### 10. Process Description

11. **Coal Tar Pitch** – The crude coal tar is fed into distillation vessel for batch-wise distillation process. During the distillation, volatile oil is collected into receiver through goose neck and condenser. The condensed oil is collected in the receiver, which is categorized into two parts as per boiling point, WFO (Wide Fraction Oil) and Anthracene-I or heavy PAH (Polvaromatic Hydrocarbon). The residue remains in the vessel is the Pitch which will be dispatched after testing as per customer's satisfaction. The fuel used in Phase-I & Phase-II is Furnace Oil of capacity 12 KLD & 24 KLD respectively.
12. **By - Product Recovery Process** – Here the main raw material is WFO which is taken from Coal Tar Pitch processing units. The WFO is boiled up into the reboiler. The vapour is purified by the liquid contact through column packing. The collection is received as follows from the top one by one fraction maintaining the reflux ratio and temperature through intermediate testing.
  - Phenolic Oil – 145-200°C
  - Napthalene Oil – 210-220°C
  - Wash Oil – 230-270°C
  - Heavy Creosote Oil – 270-310°C
  - Anthracene 2 – 310°C & above

13. **Baseline details:** Baseline Study Period was from March 2021 to May 2021.

- a) **Particulate Matter (PM<sub>10</sub>):** The maximum value for PM was 89.7µg/m<sup>3</sup> observed at AAQ-8. The reason for high value may be due to presence of nearby Industry (M/s. Vedanta Alumina) 0.73

Km. The minimum value was  $43.8\mu\text{g}/\text{m}^3$  observed at Kaputikra Village (AAQ-3) as there is no major activity nearby.

- b) **Particulate Matter (PM<sub>2.5</sub>):** The maximum value observed was  $49.7\mu\text{g}/\text{m}^3$  at AAQ-8. Reason for The reason for high value may be due to presence of nearby Industry (M/s. Vedanta Alumina) at (approx.) 0.73 Km. Minimum value observed was  $23.5\mu\text{g}/\text{m}^3$  at AAQ-3.
- c) **Sulphur dioxide (SO<sub>2</sub>):** The maximum value observed was  $17.2\mu\text{g}/\text{m}^3$  at AAQ-8 whereas minimum value of  $5.6\mu\text{g}/\text{m}^3$  was observed at AAQ-3. The limits were well within the NAAQs standards.
- d) **Oxides of Nitrogen (NOx):** The maximum value observed was at  $29.2\mu\text{g}/\text{m}^3$  at AAQ-8 and the minimum value of  $9.5\mu\text{g}/\text{m}^3$  was observed at AAQ-3. The limits were well within the NAAQs standards.
- e) **Carbon Monoxide (CO):** The maximum value of  $0.63\text{ mg}/\text{m}^3$  observed at AAQ-8. The minimum value of  $0.1\text{ mg}/\text{m}^3$  was observed at AAQ-3.
- f) **Ambient Noise Level:** The summary of the Ambient Noise Monitoring Result shows the Noise level within the permissible limits for all the locations. At N1, during day time maximum noise level recorded was 71.23 dB(A) and during night the maximum noise recorded was 65.96 dB(A). Ambient noise reaches 46.23 to 71.23 dB(A) during day time and 37.03 to 65.96 dB(A) during night time.
- g) **Incremental GLC level (under controlled condition)** PM<sub>10</sub> =  $5.04214\mu\text{g}/\text{m}^3$  (Level at of the Project Site); PM<sub>2.5</sub> =  $2.3734\mu\text{g}/\text{m}^3$  (Level at of the Project Site); SO<sub>2</sub> =  $2.55367\mu\text{g}/\text{m}^3$  (Level at of the Project Site); NOx =  $1.91726\mu\text{g}/\text{m}^3$  (Level at of the Project Site)
- h) **Surface Water:** pH is inclined towards alkaline side of the spectrum with highest value of 8.4 in SW-8 and lowest value of 7.1 in SW7. Biological Oxygen Demand (BOD) is within the permissible limits except at SW-5&7 in and varies between 2.0 mg/l to 6.1 mg/l. Chemical Oxygen Demand (COD) varies from 5.6mg/l and 128 mg/l. All heavy metals like Arsenic, Lead, etc. are below detectable levels.

**14. Water requirement:** The total water requirement of proposed plant is 85 KLD which will be sourced from Ground water. Requirement for Phase-I is 32.8 KLD and for Phase- II 52.2 KLD. Requesting letter to allow groundwater permission for operation and other domestic activities issued vide letter no. UHPL/22-23/05 dtd. 10.11.2022.

**15. Wastewater management:** There will be no wastewater generation from the plant as the Closed-Circuit Cooling system will be adopted. Boiler blow down and DM Plant regeneration wastewater will be treated in Neutralization tank and will be mixed in a Central Monitoring Basin (CMB). The treated effluent from CMB will be utilized for dust suppression, ash conditioning and for greenbelt development.

**16. ETP/STP:** Water will be generated from the process Condenser which will go to Effluent Treatment Plant of capacity 20 KLD will be installed to treat the 13.5 KLD effluent. About 13.5 KLD will be recycled and reused in the process. The wastewater discharged will be utilized for vegetation & dust suppression inside the plant after treatment. For wash water & sewage water, STP of 15 KLD capacity will be installed and the STP treated water will be used for gardening & sprinkling of water on roads.

**17. Power requirement:** The total power requirement of the proposed plant is envisaged as 1200 KVA. Approx. 450 KVA for Phase-I & 750 KVA for Phase-II, sourced from TATA Power

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Western Odisha Distribution limited (TPWODL). Application to The Executive Engineer TPWOD, Jharsuguda for initially 650 KVA electric supply vide letter no. UHPL/22-23/06 dtd. 10.11.2022 had been submitted. For back-up DG set of capacity for Phase-I 200 KVA & Phase-II is 300 KVA will be installed. Total solar power provision for this project is 3 KW.

- 18. Greenbelt:** 3% of the total plant area i.e 6.15 Acres out of 17.6 Acres will be developed as greenbelt/plantation all around the plant boundary, roadside, office, building & open stretches within the premises. Plantation will be started along with the construction. Tree density of 2500 trees per hectare (500 nos. of plant per acre) with local board leaf specification will be planted.
- 19. Manpower:** It is estimated that the manpower requirement for the proposed plant will be about 75 persons i.e., for Phase-I - 35 numbers and for Phase-II - 40 numbers.
- 20. Project cost:** The total investment for the proposed project works out to approximately Rs. 37 Crores. The EMP Capital cost is Rs. 1.43 Crore & Recurring is 0.30 Crore per annum. 2.5 % of the project cost i.e., INR 92.5 Lakhs has been earmarked under CER activities.
- 21. Environment Consultant:** The Environment consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee.

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

- i) Layout of garland drain and drainage network.
- ii) SOP for firefighting/fire safety.
- iii) Permission/License from explosive department for storage of flammable products.
- iv) SOP for dyke design, spill over, maintenance, storage layout, Sulphur content, design limit, cooling tower blow down water monitoring.
- v) Fate of refining loss quantity
- vi) Layout of sump and settling pond to be provided.
- vii) Solid Waste management practice.
- viii) Mitigation measures for Issues raised in public hearing to be addressed.

### **ITEM NO. 03**

#### **PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR MULTISTORIED RESIDENTIAL BUILDING PROJECT B+S+16 (BLOCKS A& B) OF M/S EVOS BUILDCON PVT. LTD. OVER AN BUIL-UP AREA 34341.85 SQ.MT AT: MOUZA- JAGASARA, TAHASIL - JATNI, DIST- KHORDHA OF SRI KALINGA KESHARI RATH - EC**

- 1.** This proposal is for Environmental Clearance of Multistoried Residential Building Project B+S+16 (Blocks A& B) of M/s Evos Buildcon Pvt. Ltd. over a built-up area 34341.85 Sq.mt At: Mouza- Jagasara, Tahasil - Jatni, Dist - Khordha of Sri Kalinga Keshari Rath.
- 2. Category:** As per EIA Notification, 2006 and its subsequent amendments this proposed project falls under category B1 and activity 8 (a) - Building and Construction projects.
- 3. Project details:** The proposed twin blocks project "Empire Twins" is a multistoried Residential Apartment Building comprising of 2 nos. (two) blocks which are of same configuration with

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B+S+16 Floors each over a total plot area of 6801.18 Sq.m or 1.681 Acres in favour of M/s Evos Buildcon Pvt. Ltd.

4. Approval from Bhubaneswar Development Authority, Bhubaneswar vide File No- BP-BDA- 2022-10-23-009644 has been applied to by the project proponent (applicant).
5. **Location and connectivity:** The proposed project site is located at Plot No - 580, 581, 582, 583, 599, 581/1308, 599/1134, Khata No- 229/1899 (old Khata No. 229/320), 229/893, 229/322, 229/1477 in Mouza- Jagasara, Tahasil - Jatni of Khordha district, Odisha. The proposed project site lies and covered in the Survey of India Topo sheet no. F45T11. The geographical co-ordinates of project site are Latitude 20° 16' 06.84" N to 20° 15' 07.67" N and Longitude 85° 43' 11.46" N to 85° 43' 13.84" E. The upcoming project site is located at a distance of 1.0 km from Mouza - Jagasara. Khordha is at a distance of 13.0 Km. NH-16 is at a distance of 3 km. Khordha Chandaka Road is at a distance of 3.2 km. Bhubaneswar town is located at a distance of 12.0 km. Biju Patnaik International Airport is at a distance of 10 km. Bhubaneswar Railway station is at a distance of 13.0 km. Bhubaneswar Fire Station is located at a distance of 8.7 km and Bhubaneswar govt. hospital is located at a distance of 10.8 km from the project site.

**6. Built up area details:**

Plot Area	: 6801.18 Sqm
Net Site Area	: 6799.80 Sqm
Total Proposed FAR Area	: 27099.52 Sqm
Covered Parking Area	: 7,242.33 Sqm
S.Pool Area	: 112.66 Sqm
Total Built-up Area	: 34341.85 Sqm
Total Green Area	: 1500 (22.06%) Sqm
Height of the Building	: 51.25 mts
No of Blocks	: A & B with 16 floors each.
No of Flats	: 176 (3BHK)

7. **Water requirement:** The source of water supply during operational phase will be borewells for which requisite approval from the CGWA has been applied for. The total water requirement for the proposed project is approx. 163 KLD, out of which total domestic water requirement is 147 KLD. The freshwater requirement is approx. 103 KLD. No Objection Certificate (NOC) for Ground Water Abstraction was obtained with NOC No. CGWA/NOC/INF/ORIG/2022/17056, valid from 17/11/2022 to 16/11/2027 for 97KLD.
8. **Wastewater Generation and Treatment:** The total domestic water requirement for this residential project will be 147 KLD and it is expected that the project will generate approx. 128 KLD of wastewater. The wastewater will be treated in onsite STP of 150 KLD capacity. The treated effluent will be reused for flushing, greenbelt and miscellaneous uses. Surplus treated effluent will be discharged to Recharge Trench.
9. **Rainwater harvesting:** Rainwater harvesting has been catered to and designed as per the guideline of CGWA. Peak hourly rainfall has been considered as 140 mm/hr. The recharge pit of dimensions 1.5mx1.5mx2m (Liquid Depth) is constructed for recharging the water. 11 Nos. rainwater harvesting pits are being provided for run-off from the site.

- 10. Fire fighting details:** The height of the building is upto 51.25 mts. Fire Extinguisher, First Aid Hose Reel, Wet Riser, Yard Hydrant, Automatic Sprinkler System, Manually operated Electronic Fire Alarm System, Underground Static Water Tank including Water Curtain, Overhead Tank will be provided as safety measures in both the blocks. Internal road of 7.5 mt width has been demarcated for movement of fire vehicle
- 11. Solid waste generation:** During the operation phase, estimated quantity of the waste shall be approx. 626 kg per day. Garbage will be 607.5 Kg/Day in which Biodegradable Waste 364.5 Kg/Day @ 60% will be treated in In-house Organic Waste Converter and Non-Biodegradable waste 243 Kg/Day @ 40% will be sent to Authorized Vendors as per SWM Rules 2016. Landscape waste will be 0.074 Kg/Day. STP Sludge generation will be 17.9 Kg/day.
- 12. Power requirement in the project:** Electricity requirement for the apartment building will be 2060.11KW which will be supplied from TPCDOL. Out of the total electricity requirement 107.9 KW will be required for common area power load, common area light load and outdoor light and power. There will be electrical distribution transformers within the project site. DG Set of 2 Nos. of capacity 315 KVA has been proposed for the residential society to provide supply considering the critical loads for each application. Solar power generation is 103 KW from PV solar panels.
- 13. Parking details:** Parking required as per BDA is 25% of proposed F.A.R which is 25% of 27099.52 sqm i.e., 6774.80 sqm. In terms of ECS @ 32 sqm - 210 ECS. Parking area provided is 7,713.09 sqm (basement parking – 4714.74 sqm + stilt parking - 2527.59 sqm +open parking - 470.76 sqm) in terms of ECS @ 32/23 sqm which is 255 ECS.
- 14. Greenbelt:** Total green area measures 1500.0 m<sup>2</sup> (approx. 22.06% of the total plot area). Green Belt is 925.0 Sqm and Green Area is 575.0 Sqm. Evergreen tall and ornamental trees have been proposed to be planted inside the premises.
- 15. Project cost:** The estimated cost of the upcoming residential project is INR 72.0 Crores. EMP cost is 60 lakhs (capital) and recurring 17 lakhs . For environmental protection measures a amount of Rs.74 Lakhs as capital cost and Rs.24.5 Lakhs as recurring cost has been earmarked.
- 16. Environment Consultant:** The Environment consultant **M/s Right Source Industrial Solutions Pvt. Ltd.** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s Right Source Industrial Solutions Pvt. Ltd.** along with the project proponent, the SEAC recommended the following:

- A. The proponent may be asked to submit the following for further processing of EC application:**
- i) Land schedule and Kism of land.
  - ii) Traffic study report and get vetted from reputed institute.
  - iii) Recalculate RWH by taking maximum rainfall into account.
  - iv) Drain connectivity and discharge point.
  - v) Break up calculation for solar power generation, consumption, roof top capacity, percentage contribute to power demand.
  - vi) Status of permission from Airport Authority about building height.

vii) Green belt is observed to be 13% and needs to be revised to meet the norm and revised plan/layout to be submitted

viii) Permission from appropriate authority for discharge of treated water to be provided.

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

i) Environmental settings of the project site.

ii) Construction activity, if any started at the site.

iii) Road connectivity to the project site.

iv) Drainage network at the site.

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

vi) Any other issues including local issues.

**ITEM NO. 04**

**PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR KALYANPUR - A AND B SAND BED MINES CLUSTER ON RIVER KUAKHAI OVER AN AREA OF 34.475 HA IN VILLAGE KALYANPUR, UNDER BHUBANESWAR TAHASIL OF KHORDHA DISTRICT OF SMT. MINAKSHI PRADHAN - EC**

1. This proposal is for Environmental Clearance of Kalyanpur - A and B Sand Bed Mines cluster on river Kuakhai over an area of 34.475 Ha. in village Kalyanpur, under Bhubaneswar Tahasil of Khordha District of Smt. Minakshi Pradhan.
2. **Category:** As per EIA Notification, 2006, and subsequent amendments, the project falls under category B1 of Schedule 1(a) - Mining of minerals as the lease area is more than 5.0 Ha.
3. **TOR Details:** Terms of Reference (TOR) issued by State Environment Impact Assessment Authority (SEIAA), Odisha vide letter no. 1486/SEIAA dated 07.06.2021.
4. **Public hearing details:** The Public Hearing meeting was held on 15.12.2021 at Block Conference Hall, Bhubaneswar situated under Bhubaneswar Tahasil in Khurda District, Odisha at 10.30 am. Major issues raised during public hearing are employment and skill development, making of pond as community bathing place, education, pollution control measures. A total expense to be incurred according to action plan of public hearing is 16 lakhs.
5. Tahasildar, Bhubaneswar has been granted the Quarry lease Kalyanpur A to Smt. Minakshi Pradhan (Successful Bidder) vide letter no.5210 on dated 06.08.2020 and the Quarry lease Kalyanpur B granted to Sri Sarat Behera, (Successful Bidder) vide letter no.9015 on dated 26.11.2020 for mining of river sand for five years.
6. **Mining plan:** The modification of mining plan has been approved by Authorized Officer & Deputy Director Geology, Bhubaneswar vide memo no. 4833/DG on dated 06.07.2020 for Kalyanpur A and vide memo no. 4835 on dated 06.07.2020 for Kalyanapur B.
7. **Location and connectivity:** The Lease Cluster is located in Khata no. 221 Plot no. 1058,947,948,949,950,951,952,953,954,955,956,957,958 for Kalyanpur A and Plot no. 1061 for Kalyanpur B, and falls within survey of India toposheet no. (F45T15). The geo coordinates of Kalyanpur A is - latitude of 20°22'08.04"N to 20°22'34.30"N and longitudes of 85°52'03.02"E to

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85°52'15.76"E and Kalyanpur B is - latitude of 20°22'08.04"N to 20°22'34.30"N and longitudes of 85°52'03.02"E to 85°52'15.76"E. Nearest Railway station is Baranga Railway Station at 04 Km from the project site. The nearest roads are Nandankanan road at 4 Km and Baranga road at 5km. The site is well connected to NH-203 & SH-60 at 8 Km & 3.5 Km. Nearest airport is Bhubaneswar airport at a distance of 15Km from the mining Lease Cluster. Nearest river embankment at 100m, road bridge at 4.6km. Other than Kuakhai river, nearest water bodies are Kathajodi River at 3.5km and Mahanadi at 5km.

8. The study area within 10 Km of the project site is devoid of any Biosphere reserves, wild life corridors, tiger reserves etc. Chandaka Wildlife Sanctuary is located at a distance of 10Km from the project site. Nandankanan Zoo (National Park) is located at a distance of 6Km from the project site. The area is also devoid of any kind of vulnerable, endangered and critically endangered flora and fauna
9. **Topography and drainage:** The Kalyanpur Sand bed cluster represents a gently sloping to almost flat terrain with highest altitude of 22.00 mRL. The general slope is towards east. The drainage of the district is mainly controlled by rivers like Mahanadi, Kuakhai, Kushabhadra, Daya, Ran, Kalijiri, Sulia, Kharia & the Kusumi. Being a coastal district, the river basins are much wider and the sand sources are very much suitable for construction purposes. The lease cluster is on Kuakhai River. In buffer zone several water bodies are present. Serua River is present at a distance of 4km from the lease area at NE direction. Puri main canal is located at a distance of 600m from the project site. Jhumuka Nala is located at a distance of 7 Km from lease cluster.
10. **Cluster Certificate** - As per the certificate from Tahsildar, Kalyanpur Cluster consists of only two nos. of individual mines and no other mines located within 500m radius of this project.
11. **Reserves:** The geological reserve of the cluster is 999308 cum (Kalyanpur A - 196820 cum + Kalyanpur B - 802488 cum). The mineable reserve of the cluster is 521523 cum (Kalyanpur A - 93685 cu.m +Kalyanpur B - 427838 cum).
12. **Benching Pattern:** Benching pattern is not feasible in case of sand, as the angle of repose of sand is 35°, based on this the Ultimate pit slope Limit has been taken as 35°. The maximum depth of mining will be of 2m or up to water table whichever is less.
13. **Replenishment Study Report** – The study was conducted in Pre and Post-Monsoon season (Survey was done in Month of June and November 2021) only the reserve has been assessed. The methodology of calculation as per approved mining plan was in surface area method but attempt has been taken to calculate Geological resources and mineable reserve in cross sectional area method. It was observed that there is an average increase of river bed RL by 0.31 m due to sediment deposition during the monsoon season. So replenished quantity of sand available in each year within the sand bed =  $72000m^2 \times 0.31m = 22,320m^3$ . The post monsoon mineable reserve is  $78,695 m^3$  and the extractable amount is  $47,217m^3$  (60% of the mineable reserve). Keeping in view of the post monsoon extractable sand, the annual rate of excavation comes to the tune of **9,443 m<sup>3</sup>**. The approved mining plan production capacity is **18700cum/year** and total production is 93500cum.
14. **Water requirement:** For the Kalyanpur A, 2 KLD of water will be required (drinking & domestic purpose -1KLD, green belt development and dust suppression -1 KLD). For Kalyanpur B total water requirement will be 4 KLD (drinking & domestic purpose - 1.5 KLD and dust suppression and plantation purpose - 2.5 KLD). Total water requirement for cluster will be 6KLD.

**15. Fuel Requirement:** Tipper & Dumper will be used for transportation. The approximate quantity of the fuel/Diesel used per day is 100Lit/day.

**16. Employment generation:** Due to the proposed sand mining, there will be generation of employment for 107 persons in Kalyanpur mines. Out of which 21 personnel will be engaged with Kalyanpur A and 86 persons will be engaged with Kalyanpur B cluster. From these 20 nos are skilled, 26 semiskilled, 53nos are unskilled.

**17. Baseline study-**

PERIOD	October to December 2020	Applicable Standards
AAQ PARAMETERS AT 7 LOCATIONS	PM2.5 – 18.8 to 34.4 µg/cu.m	60 µg/cu.m
	PM10 – 40.0 to 61.4 µg/cu.m	100 µg/cu.m
	SO2 – 5.2 to 11.1 µg/cu.m	80 µg/cu.m
	NOx – 10.2 to 21.3 µg/cu.m	80 µg/cu.m
Ground water Quality at 6 Location	pH – 6.8 to 7.3	6.5 to 8.5
	Total Hardness – 132 to 188 mg/l	600 mg/l
	Chloride - 15.3 to 38.3 mg/l	250 mg/l
	Fluorides – 0.2 to 0.85 mg/l	1.5 mg/l
	TDS – 202 to 410 mg/l	1000 mg/l
	Heavy metals (Cd <0.001, As <0.001, Hg<0.0005) mg/l	Heavy metals (Cd <0.003, As <0.01, Hg<0.001) mg/l
Surface water at 4 locations	pH – 7.5 to 8.2	
	Dissolved Oxygen – 6.8 to 7.3 mg/l	
	Biochemical Oxygen Demand – 1.2 to 2 mg/l	
	Chemical Oxygen demand – 6 to 10 mg/l	
Noise at 7 locations	Day (dBA Leq) 32.4 to 45.6	55
	Night (dBA Leq) - 25.6 to 35.6	45
Soil Quality at 4 locations	pH – 6.30 to 6.90, Potassium – 43 to 107.5 Kg/ Ha, Phosphorous – 16 to 51.7 Kg/ Ha, Nitrogen – 87.9 to 125.5 Kg/Ha, Electrical Conductivity- 102 to 435 ms/Cm	

**18. Project cost:** The total cost of the project is Rs. 20 lakhs and the updated capital cost and recurring cost (per annum) for the environmental facilities for the proposed mining project works out to be Rs. 6.5 lakhs which include 3.0 Lakhs for Kalyanpur A mines and 3.5 Lakhs for Kalyanpur B mines.

**19. Environment Consultant:** The Environment consultant **M/s Kalyani Laboratories Pvt. Ltd., Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee.

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

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**A) The proponent may be asked to submit the followings for further processing of EC application;**

- i) 2.5 km inter-cluster certificate certified from Tahasildar.
- ii) Replenishment study report.
- iii) Topography map based on grid points.
- iv) Revised Annual Production Report.

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

- i) Environmental settings of the lease area.
- ii) Mining activity, if any carried out in the lease area.
- iii) Sand deposit in lease area as KML file shows no sand deposit.
- iv) Road connectivity to the lease area.
- v) Distance of the road and railway bridge from the boundary of the lease area.
- vi) Distance of embankment from sand deposit.
- vii) Any other issues including local issues.

#### **ITEM NO. 05**

#### **PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR SIRIGIDA SAND QUARRY (ML AREA 7.28 HA) FOR PRODUCTION OF 10700 CUM/ANNUM OF RIVER SAND IN BRAMHANI RIVERBED AT VILLAGE – SIRIGIDA, TAHASIL –TALCHER, DISTRICT- ANUGUL, SMT SANGHAMITRA BHUTIA - EC**

1. This proposal is for Environmental Clearance of Sirigida Sand Quarry (ML Area 7.28 ha) for production of 10700 Cum/annum of River Sand in Bramhani River Bed at village – Sirigida, Tahasil –Talcher, District- Anugul, Smt Sanghamitra Bhutia.
2. **Category:** As per EIA Notification,2006, and subsequent amendments, the project falls under category B1 of Schedule 1(a) - Mining of minerals as the lease area is more than 5.0 Ha.
3. The mining lease of Sirigida Sand Quarry has been granted to Smt. Sanghamitra Bhutia , resident of village - Sirigida, Tahasil - Talcher, Anugul, being successful bidder, vide letter no-4610, dated 20.11.2020 from Tahslidar cum-Competent Authority, Talcher Odisha for a lease period of 5 (five) years.
4. The Mining Plan is approved vide memo no 1454 on dated 21.05.2020 by the Joint Director Geology, Zonal Survey, Dhenkanal. The mining plan has prepared as per OMMC, 2016 by the RQP, Sri B. B Khandual, (Regn.No.RQP/OD/049/2016), for the plan period 2020-2025.
5. The preparation of district survey report of river sand mining in Anugul district has been prepared in accordance with Clause II of Appendix X of the notification and New Sairat source namely Sirigida Sand Quarry of Khata No.142, Pl. No.1791 area of 18Ac. has been included.
6. **TOR details:** Terms of Reference (TOR) was issued by State Impact Assessment Authority (SEIAA) Orissa, Vide Letter. No.58822/106-MINB1/02-2021; 08.07.2021 for Sirigida Devi River Sand Quarry.
7. **Public hearing details:** The public hearing meeting was held on 27.04.2022 at 11:00 am at Sirigida Yatra Padia of Talcher Tahsil of Anugul district. Issues raised are dust suppression and

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water pollution control, afforestation programme, local employment opportunity, provision for repair and maintenance, strict adherence of sand mining guidelines of village roads. Budget earmarked for action plan of public hearing is 16.10 lakhs.

8. **Location and connectivity:** Sirigida Sand Quarry over an area of 18.00 acres or 7.28 ha is in village Sirigida, Tahasil - Talcher in Angul district of Odisha. The proposed project activity will be carried out on the dry river bed of the Brahmani river. The lease area is bounded by Latitude  $21^{\circ} 00'46.07''$  N to  $21^{\circ} 00'55.79''$  N & Longitude  $85^{\circ} 13'19.56''$  E to  $85^{\circ} 13'32.80''$  E in Plot No 1791 & Khata No 142. It is a part of the area covered in the Survey of India Toposheet No. 73G/4. The lease area is approachable about 1.41 km from Kulei-pitiri Road. The nearest railway station is Scotland Railway station at a distance of 3.72 Km and Talcher Railway station is at 9.28km. There is no existence of public road and railway line within the lease area. The nearest airport is Biju Patnaik International Airport, Bhubaneswar at a distance of 95 km. Nearest National Highway is NH-149 is ~3.98 Km and NH-53 is 8.53 km away from the ML area. Talcher town is at 6.73 kms.
9. **Reserves:** As estimated, geological reserve of sand is 151082cum and mineable reserve is 74289cum. During the plan period, a total of 53,500cum sand will be extracted.
10. **Method of mining and production:** The total lease area is 7.28 ha. of Govt. land at village Sirigida under Talcher Tahasil of Angul District, Odisha. The method of mining is open cast manual. Total Production for plan period of five years is 53,500 cum and annually 10700cum sand will be mined out. The bench height will be 1.0m and width will be along the base of deposit. The average thickness of the deposit is 1.0m. It is proposed to transport of sand is by Tractors/tractor trolley of 8-10 tonnes capacity.
11. **Baseline study:** Baseline study was carried out during period Dec 2021 to February 2022,
12. **Air quality monitoring** -  $PM_{10}$  ranges within 71.8-38.1  $\mu\text{g}/\text{m}^3$ ,  $PM_{2.5}$  ranges within 39.0-13.5  $\mu\text{g}/\text{m}^3$ ,  $\text{SO}_2$  ranges within 7.5-4.1  $\mu\text{g}/\text{m}^3$  &  $\text{NO}_x$  ranges within 15.1-9.1  $\mu\text{g}/\text{m}^3$ . The parameters monitored at the project area as per NAAQ standards are found to be within limits. It may be observed that the all parameters at all stations are well within the limits prescribed by Central pollution control Board.
13. **Noise quality monitoring** – During day time noise monitoring results ranged from 44.38 dB(A) to 53.38 dB(A) and in night time 35.43 dB(A) to 41.36 dB(A).
14. **Surface water monitoring** – The surface water results were compared with IS 2296:1992 standard and in respect of CPCB water Quality Criteria for designated best use. Based on comparison study of test results with Surface water Quantity Standards (IS 2296 Class A), it is interpreted that water qualities of studied locations are classified under Class E, which can be used for irrigation industrial cooling, and controlled waste disposal. The pH value ranges from 6.92 to 7.56 and within the limits (6.5 – 8.5) of IS 2296:1992. The sulphate content in the collected surface water ranges from 7.4 mg/l to 10.6mg/l. The chloride content in the collected surface water sample ranges from 12.4 mg/l to 19.3 mg/l. DO of the collected surface water sample ranges from 6.1 mg/l to 7.3 mg/l. BOD of the collected surface water sample ranges from 1 mg/l to 2.1 mg/l.
15. **Ground water monitoring** – Physio-chemical characteristics of ground water samples collected from the selected villages. The Ground water results were compared with drinking water standards (IS10500:2012).The ground water results of the study area indicate that the pH range varies between 6.82 and 7.7. It is observed that the pH range is within the limit of



IS10500:2012. The Total Dissolved Solids range is varied between 92 mg/l – 122 mg/l for the ground water. All the samples are well within the permissible limit of IS 10500: 2012. The acceptable limit of the chloride content is 250 mg/l and permissible limit is 1000mg/l. The chloride content in the ground water for study area ranges between 1.4mg/l – 2.2 mg/l. It is observed that all are well within the permissible limit of IS10500:2012. The desirable limit of the sulphate content is 200 mg/l and permissible limit is 400mg/l. The sulphate content of the ground water of the study area varies between 1.4mg/l – 2.3 mg/l. It is observed that all the samples are within the permissible limit of IS 10500: 2012. Based on comparison study of test results with drinking water standard, it is interpreted that water qualities of studied locations meet with the drinking water standards as per IS 10500: 2012.

16. **Soil quality monitoring** - Soil Samples collected from 5 identified locations indicate the soil is Sand Loamy type The pH of the soil samples ranged from 6.23 to 7.15. Indicating that the soils are slightly acidic to moderately alkaline in nature. Nitrogen content ranged from 0.043 % to 0.082 %. Phosphorous ranged from 0.015 % to 0.034 %.
17. **Replenishment Study Report** - The estimations was done with three nos. of pits dug earlier of following dimensions i.e., pits of 10 x 10 x 2 meter, 12 x 12 x 2 meters, 12 x 12 x 2 meter made during pre-monsoon season to see what depth is filled up with sand after monsoon season, which was measured. The result shows that there is an average of 0.29 meter decrease in depth of pit, that means replenishment rate is 71 % (average). In Northern side of the Quarry Replenishment is found to be less (0.66 m) in comparison to Southern side (0.76m).

#### Comparison between planned production with Replenished sand

<b>A</b>	<b>Area of Potential Sand Zone (in m2) including safety zone</b>	<b>75541</b>
<b>B</b>	Area of Potential Sand Zone (in m2) Excluding safety zone	53574
<b>C</b>	Sand Thickness (in m)	1
<b>D (AxC)</b>	Geological Reserve in Cum	75541
<b>E (BxC)</b>	Minable Reserve in Cum	53574
<b>F</b>	Quantity Extractable after Replenishment in Cum	38038

18. **Water requirement:** The total water requirement will be approximately 5.0KLD for different purposes like domestic, dust suppression, plantation purposes. Water will be withdrawn from tube wells from nearby village.
19. **Power requirement:** No electrical power shall be required for operations as the mining will be worked out during day time only. Minimal power required for office shall be taken from the General Electric supply of the area. Dumpers, tractors will be used for transportation. So, the approximate quantity of the fuel used per day is 80 liter/day.
20. **Greenbelt:** It is proposed to plant 7500nos. of saplings during the plan period and a budget of Rs.3,10,000 Lakh has been proposed for plantation.
21. **Manpower:** Total manpower requirement is 17 nos. For supervisor & statutory person 1 no. of person, skilled laborers (operator & helper) 3 nos. of persons, semi- skilled laborers 3 nos. & unskilled laborer 10 nos.
22. **Project cost:** The estimated cost of the project is 25 lakhs. EMP capital cost is 16.10 lakhs and recurring cost is 6.15 lakhs/annum and CSR Budget 5 lakhs/annum.

23. **Environment Consultant:** The Environment consultant **M/s EHS360 LABS PVT. LTD., Chennai** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s EHS360 LABS PVT. LTD., Chennai** along with the project proponent, the SEAC decided to take decision on the proposal after receipt of the following from the proponent:

**A) The proponent may be asked to submit the followings for further processing of EC application;**

- i) RL values for Pre-monsoon and Post-monsoon of replenishment study along with section coordinates and benchmarks details.

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

- i) Environmental settings of the lease area.
- ii) Mining activity, if any carried out in the lease area.
- iii) Sand deposit in lease area as KML file shows lease area is surrounded by water and instream sand mining is not allowed.
- iv) Road connectivity to the lease area.
- v) Distance of the road and railway bridge from the boundary of the lease area.
- vi) Cluster approach if any.
- vii) Distance of embankment from sand deposit.
- viii) Any other issues including local issues.

**ITEM NO. 06**

**PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR TURKEL SAND QUARRY-1 & 2 (UNDER CLUSTER APPROACH) OVER AN AREA OF 24.70 ACRES OR 10.00 HA. HAVING KHATA NO.221, PLOT NO. 270 IN VILLAGE TURKEL UNDER KALAHANDI TAHASIL OF KALAHANDI DISTRICT OF TAHASILDAR KALAHANDI - EC**

1. This proposal is for Environmental Clearance for Turkel Sand Quarry-1 & 2 (Under Cluster Approach) over an area of 24.70 Acres or 10.00 Ha having Khata No.221, Plot No. 270 in village Turkel under Kalahandi Tahasil of Kalahandi District of Tahasildar Kalahandi.
2. **Category:** As per EIA Notification,2006, and subsequent amendments, the project falls under category B1 of Schedule 1(a)-Mining of minerals as the lease area is more than 5.0 Ha.
3. Quarry lease for minor mineral (River sand) has been proposed to be granted by the Tahasildar, Kalahandi to the successful bidder for minor mineral (River Sand) for five years after auction.
4. Mining Plan with Progressive Mine Closure Plan has been approved by Geologist, O/o Joint Director Geology Zonal Survey, Balangir, Odisha vide letter no. Memo no.-850 dated 01/09/2021.
5. This project is a new proposed sand mine project with the excavation capacity of 34120 m<sup>3</sup> /year sand.
6. **TOR details:** Terms of Reference was granted by SEIAA vide File No. SIA/OR/MIN/68237/2022 on dated 22/02/2022 & SIA/OR/MIN/80758/2022 on dated 11/11/2022.
7. **Public hearing details:** Public hearing was held on dated 14.09.2022 at 10.00 AM near Chahagaon Gram Panchyat Office under Kalahandi block of Kalahandi District. During Public

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**Environmental Scientist, SEAC**

Hearing, about 80 local people participated and 33 suggestions/opinions were received by local citizens. Issues raised were regarding transportation of sand, transportation route, sand mining from river bed, control of vehicular emission during transportation, dust suppression measures, road development, provision of drainage facility in the village to avoid water logging problem, plantation, utilization of DMF fund for peripheral development of the village, road development and protection of environment. The amount incurred for action plan of public hearing is Rs. 50,000.

8. **Location and Connectivity:** The cluster lease area is on Khata No. 221, Plot no. 270, Village: Turkel, Tahasil - Kalahandi, District - Kalahandi, Odisha. The mine lease area falls under the Toposheet No. 64P/4. The geo coordinates of the proposed site ranges from Latitude N20° 08' 30.9" to N20° 08'39.8" and Longitude E83° 05' 18.6" to E83° 05' 40.9". Nearest state highway is SH – 16 about 0.7km, nearest village is Turkel about 1km. Nearest railway station is Kesinga at 15km and nearest airport is Biju Patnaik International Airport, Bhubaneswar about 287 km. Nearest reserve forest is Dhanupanchan Reserve Forest about 4 km.
9. **Seismic zone:** The proposed project site falls in Seismic Zone III. Kalahandi is in Zone III of the Bureau of institute of seismological Research (ISR), seismic zone map for India.
10. **Replenishment Study Report** – For Replenishment study, the survey was done by using UAV/Drone which indicates the mineable sand deposit is around 33525 cum. 60% of the above computed mineable reserve has been taken as available mineable reserve over the area as per MoEF Notification dated 25.07.2018. Maximum of 33525 cum of sand per annum may be allowed for mining activities. 60% of the mineable reserve is 20115 cum. The maximum extraction limit as per sustainable sand mining Rule of MoEF Guideline is 20115cum.
11. **Reserves:** Total geological and mineable reserves in the proposed project is 200038 cum and 108384 cum respectively.
12. **Rate of production:** Total production from cluster is 170600cum during the plan period as per the following table.

Name Of The Lease Cluster	Year	Surface Area m <sup>2</sup>	Thickness m	Production (m <sup>3</sup> )
Turkel sand Quarry-1	1 <sup>st</sup> Year	10000	1.8	18000
	2 <sup>nd</sup> Year	10000	1.8	18000
	3 <sup>rd</sup> Year	10000	1.8	18000
	4 <sup>th</sup> Year	10000	1.8	18000
	5 <sup>th</sup> Year	10000	1.8	18000
Total				90,000
Turkel sand Quarry2	1 <sup>st</sup> Year	8060	2	16120
	2 <sup>nd</sup> Year	8060	2	16120
	3 <sup>rd</sup> Year	8060	2	16120
	4 <sup>th</sup> Year	8060	2	16120
	5 <sup>th</sup> Year	8060	2	16120
Total				80,600
Turkel Cluster				1,70,600

13. **Mining method:** The mining is confined to extraction of sand from the bed of Tel River. The mining will be opencast, manual method in which the material will be collected in its existing form and transportation through 8 tipper sand 12 trucks. The depth of the mining will be maximum 1.0 meter. The mining will be undertaken on single shift basis.

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14. **Baseline study:** Baseline study of the study area was conducted during pre-monsoon from 1st October 2021 to 31<sup>st</sup> December 2021 for Turkel Cluster Sand quarry-1&2.

**Air Quality Monitoring Results** - The concentrations of PM10 and PM2.5 for all the 8 AAQM stations were found between 52.30 to 73.8µg/m<sup>3</sup> and 16.70 to 23.60 µg/m<sup>3</sup> respectively. The concentrations of SO<sub>2</sub> and NO<sub>x</sub> were found to be in range of range of 6.4 to 9.1µg/m<sup>3</sup> and 9.7 to 13.60 µg/m<sup>3</sup> respectively.

**Noise Quality Monitoring Results** - Ambient noise levels were measured at 8 locations around the Mine site. Noise levels varied from 42.1dB (A) Leq to 44.6 Leq dB (A) during day time and 39.1 dB (A) Leq to 41.7 Leq dB (A) during night time.

**Ground water Quality Monitoring Results** - The ground water analysis for all the 7 sampling stations shows that pH varied from 7.14 to 8.10, total hardness varied from 224 mg/l to 382 mg/l & total dissolved solids varied from 376 mg/l to 514 mg/l. The water samples contain chloride 36 mg/L to 94 mg/L, Ca from 44.8 mg/L to 85.6 mg/L, Magnesium varies from 20.9 mg/L to 43.7 mg/L.

**Soil Quality Monitoring Results** - Samples collected from 8 identified soil locations indicate pH value ranging from 6.8.-7.7. Organic Matter ranges from 0.95 % -2.63 % in the soil samples. Nitrogen is found to be in moderate amount as it ranges from 1213 mg/kg -1628 mg/kg and Phosphorous in less amount i.e. from 241 mg/kg- 386mg/kg, whereas the Potassium is found to be ranging from 543 mg/kg -879 mg/kg.

15. **Water Requirement:** The total water requirement for the project estimated to be 5 KLD for mining, spraying, greenbelt development and domestic uses and will be sourced from the nearby available water source and drinking water will be sourced from tanker water.

S. No.	Particulars	Quantity (KLD)	Source
1	Dust Suppression (on haul roads etc.)	3.0	Water requirement will be met from nearby available water resource and drinking water will be sourced from tanker.
2	Green Belt Development/ Plantation	1.0	
3	Drinking/Domestic & Sanitation	1.0	
<b>Total</b>		5.0	

16. **Wastewater Management:** Domestic wastewater so generated will be disposed-off in soak pit via septic tank.

17. **Greenbelt:** Greenbelt will be developed along safety zone of the lease area (river bank areas). Native species will be planted like Neem, Mango, Teak, Jhaun and Jammuetc. About 50 nos./year and 250nos. of saplings will be planted by individual mines and in total 500nos. of saplings will be planted by the cluster during the plan period.

18. **Manpower:** Total manpower of 40 people will be required for the proposed project.

19. **Project cost:** Total project cost is Rs. 50 lakhs. Capital cost for EMP is Rs. 2,90,000. Recurring cost of EMP is Rs. 1,50,000 per annum.

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

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

- i) Exact span of bridge and distance of the bridge from the lease area.
- ii) Replenishment study report along with grid readings.
- iii) Rectify the error in table no.2 of approved mining plan.
- iv) Justification for increase in production from 4000cum (previous production) to 18000cum (current proposed production) from the Turkel Sand Quarry 1.
- v) Copy of previous EC and its compliance to EC conditions certificate.

#### **ITEM NO. 07**

#### **PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR BHUBANESWAR DEVELOPMENT AUTHORITY OF CONSTRUCTION OF B+S+9 STORIED COMMERCIAL/ RESIDENTIAL APARTMENT OVER AN BUILT-UP AREA 25400 SQ.M AT BHAGABANPUR MOUZA, BHUBANESWAR OF SRI LOKANATH PRASAD MOHAPATRA – TOR (VIOLATION)**

1. This proposal is for Environmental Clearance of Bhubaneswar Development Authority of Construction of B+S+ 9 storied commercial / residential apartments over a built-up area 25400 sq.m at Mouza - Bhagabanpur, Bhubaneswar of Sri Lokanath Prasad Mohapatra.
2. **Category:** As per EIA Notification, 2006 and its subsequent amendments, this proposed project falls under category B and activity 8 (a) - Building and Construction projects. Since the construction of the building has taken place, hence it is under violation case.
3. **Project details:** The construction project of B+S+9 storied commercial and residential apartment is spread over about 1.48 acres of land, the construction project is for commercial and residential purpose. Total built up area of the project is 25400 sqm. with parking area of 7477 sqm. There will be 70 nos. of residential apartments in the project. The construction work for the project has been carried out by Bhubaneswar Development authority as the initial built-up area for the project was 17923 sqm. However, after the completion of the project there was the requirement of parking area of 6500 sqm. For this additional requirement of parking as the project include commercial space, BDA allocated an area of 7477 sqm of the area for parking purpose, leading to total built up area 25400 sqm. As the built-up area is now greater than 20,000 sqm. Environment clearance is required for the project as per EIA Notification, 14th September 2014 and subsequent amendments. As the construction of the project has been completed, the project is coming under violation category as per the EIA Notification 2006.
4. **Location and connectivity:** The project site for commercial and residential complex is located in Plot No: 86, 193, 347/2415, 1046/1480, 83/1680 on Khata No. 283/1, Kissam – Gharabari over an Plot area - 1.48 Acres, total Built-up area - 25400 Sq.m at Subudhipur, Kalinganagar, (K-9) Bhubaneswar. The area falls within Survey of India Toposheet No. 73 H/16. The site is surrounded by 30m wide approach road towards south and NH 5 on the north direction at 50m. Nearest railway station, bus stop and airport are as follows: Bhubaneswar Railway Station at 9km, Barmunda Bus stop at 5km, Biju Patnaik International Airport at 6km.
5. **Land ownership and area details:** The project of B+S+9 storied commercial and residential apartment is spread over 1.48 acres of land and is adjacent to DN Regalia Mall. Total built up area of the project is 25400 sq.m with parking area of 7477 Sq.m. Land has been allocated by Odisha State Govt. to Bhubaneswar Development Authority for Developmental purpose.

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**Environmental Scientist, SEAC**

Basement and Stilt are for parking purpose, Ground and First floor are for commercial activity and rest 7 floors above that is premium residential 3BHK and 4BHK flats. The area details as mentioned in table:

**Table: Area details**

Sl. No	Building Name	Stories	No. of Dwelling units	Built up area in Sq.m
1.	Basement + Stilt for parking	2	--	7477 Sq.m
2.	Ground + 1st Floor (Commercial)	2	--	5620 Sq.m
3.	2nd Floor – 8th Floor (Residential)	7	70	12303.2 Sq.m
Total Built up area				25400 Sq.m
Total Green area				600 Sq.m (10%)
FAR achieved				2.99
Permissible FAR as per the local bye laws			- 2.25	
Achieved FAR as per the Master Plan			- 2.99	
Max Built up area achieved			- 87756.41 Sq.m	
Max Ground Coverage permissible			- 40%	
Ground coverage achieved as per Master Plan			- 37%	

6. **Water requirement:** Total water requirement for the housing complex will be 100 KLD out of which 70 KLD will be required for domestic purpose and 30 KLD will be required for flushing purpose. Dual plumbing system will be adopted in the buildings. The 30 KLD of water required for flushing will be the STP treated water and the freshwater requirement will be 70 KLD.
7. **Wastewater generation/STP:** About 90 KLD of wastewater will be generated from the housing complex and community hall. There is the proposal of establishment of 100 KLD STP.
8. **Rainwater harvesting:** There is the proposal for rainwater harvesting within the project site. The project will create 6 nos. of rainwater recharge pit with 6m x4.5mx1.5m capacity.
9. **Power requirement:** Total electricity requirement for the building will be 1597 KW which will be supplied by the central Electricity supply Utility, Bhubaneswar Odisha. Two nos. of D.G set of 380 kVA capacities has been installed for emergency power back up in the housing complex. Out of the total power requirement, 80 KW will be from solar energy i.e. 5% of total power requirement.
10. **Parking:** The parking will be provided on the stilt floor and open parking is also available. The total parking area available for the project will be 7477 Sq.m which include Basement and stilt floor parking.

Details of the Parking	Requirement in Sq.m	Area provided for Parking (Sq.m)
Residential Parking (30% of built-up area)	3690	4508 (Basement)
Commercial Parking (50% of Built up area)	2810	2969 (Stilt floor)
<b>Total</b>	<b>6500</b>	<b>7477</b>

11. **Greenbelt :** Total open space available for green belt development is 660 Sq.m which is 11% of the total plot area. Further there are four nos of 15 sq.m area allocated within the building area to be developed as lawn. Total of 165 saplings will be planted within the project site. Proposed species for plantation includes Karanja, Neem, Krushachuda, Chatiana, Ashok, Nageswar, Bottle brush, Kathachampa, Sunari etc. Due to non availability of space within the project, the proponent (BDA) will be responsible for greenery development of Bhubaneswar in compensation to this project.

- 12. Solid waste generation:** About 215 Kg of solid waste will be generated from the proposed housing project which include bio degradable and non-biodegradable waste. The recyclable material like thermocol, cartoon boxes, newspaper waste is given back to suppliers for recycling. The non-biodegradable waste will be disposed through BMC and the Biodegradable waste will be utilized for composting. The sludge generated from the STP (10 Kg approx.) will be dried in sludge drying yard and used as fertilizer for the plants within the project site.
- 13. Project cost:** Total project cost is 61.19 Cr. which include all the construction and installation cost of the building and budget for EMP is Rs. 5,35,000.00
- 14. Environment Consultant:** The Environment consultant **M/s Kalyani Laboratories Pvt. Ltd., Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee.

The SEAC observed that the proponent has already constructed the project without obtaining Environmental Clearance as per EIA Notification 14<sup>th</sup> Sept. 2006 and amendment thereafter. 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 – A along with the following specific Term of Reference** 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.

#### **ITEM NO. 08**

**PROPOSAL OF ENVIRONMENTAL CLEARANCE OF M/S MAA DURGA THERMAL POWER COMPANY LIMITED FOR 2 X 30 MW INDEPENDENT POWER PRODUCERS THERMAL POWER PLANT LOCATED AT VILLAGE-BAINCHUA, TEHSIL – TANGI, DISTRICT-CUTTACK OF SRI ANIMESH GUPTA – EC**

1. This proposal is for Environmental Clearance of M/s Maa Durga Thermal Power Company Limited for 2 x 30 MW Independent Power Producers Thermal Power Plant located at Village – Bainchua, Tehsil – Tangi, District – Cuttack of Sri Animesh Gupta.
2. **Category:** As per EIA Notification dated 14.09.06 and its amendment as on, the current project is categorized as Category– “B”, 1(d) Thermal Power Plants.
3. **TOR details:** Terms Of Reference has been granted by SEIAA, Odisha for the project on 15th December, 2022 vide F. No-SIA/OR/THE/402003/2022.
4. Earlier Environment Clearance was obtained by M/s Maa Durga Thermal Power Company Limited, from SEIAA, Odisha Vide Ref No – SEIAA/337, dated: -04.07.2011 for 60 MW (2 x 30 MW) coal base power plant valid upto 03.07.2018.
5. Consent to Establish has been issued vide letter no 184 dated 04.01.2011 and was valid upto 03.01.2016. Latest CTE was also obtained from Odisha State Pollution Control Board vide letter No. 4817 dated 31.03.2017.
6. **Project details:** Company started the construction but due to financial condition they couldn't complete the construction of project. More than 85% work has been completed as per the earlier granted EC and plant is shutdown since 2018. Thereafter, National Company Law Tribunal (NCLT) initiated the public auction for current plant and M/s Radhe Ram Shaw, M/s Virajaa Power & Steels Pvt. Ltd. and M/s United Ferrocast Private Limited were successful bidder of the auction. Successful bidders have acquired M/s Maadurga Thermal Power Company Limited, where the previous Directors have resigned from the company. So they are presently proposing this application under the name of M/s Maadurga Thermal Power Company Limited with new directors.
7. As per LULC the land use within 10 Km. is Settlement-4.72%, Water Bodies - 3.57%, Plantation-55.22%, Vegetation-2.06%, Forest-13.16%, Open Scrub-7.12% and Agriculture Land-14.15%.
8. Earlier, Environment Clearance was obtained by M/s Maa Durga Thermal Power Company Limited, from SEIAA, Odisha Vide Ref No – SEIAA/337, dated: -04.07.2011 for 60 MW (2 x 30 MW) coal base power plant valid upto 03.07.2018 and Consent to Establish was valid upto 03.01.2016.
9. Company started the construction work for the project but due to financial condition they couldn't complete the construction of project. Approx. 85% work has been completed as per the earlier granted EC and plant is shutdown since 2018. Thereafter, National Company Law Tribunal (NCLT) initiated the public auction for current plant and M/s Radhe Ram Shaw, M/s Virajaa Power & Steels Pvt. Ltd. and M/s United Ferrocast Private Limited were successful bidder of the auction.
10. The proponent has applied afresh for ToRs for EIA study as they were not able to complete the project work as well as had not gone for operation during validity period of Environmental Clearance.
11. During the presentation for ToR, the proponent requested to issue Terms of Reference for EIA Study exempting public hearing as per MoEF&CC, Govt. of India amended EIA Notification vide S.O.1247 (E), dated 18th March 2021 as they have already completed construction work more than 50% during validity period of Environmental Clearance. The



proponent had also requested to allow them for use of baseline data collected during March 2022 to May 2022 for EIA study.

12. The MoEF&CC, Govt. of India amended EIA Notification vide S.O.1247 (E), dated 18th March 2021 stipulates the following:

**“Notwithstanding anything contained above, the projects where construction and commissioning of proposed activities have not been completed within the validity period of the Environmental Clearance (EC) and a fresh application for EC has been submitted due to expiry of the said period of the EC, the concerned Expert Appraisal Committee or State Level Expert Committee, as the case may be, may exempt the requirement of public hearing subject to the condition that the project has been implemented not less than fifty percentage in its physical form or construction”**

13. Terms of References was issued vide F. No-SIA/OR/THE/402003/2022, dated 15th December, 2022 for conducting EIA study exempting public hearing.

- 14. Location and connectivity:** The project site is located at Village - Bainchua, Tahasil – Tangi, District – Cuttack, State - Orissa. The project site is located at the distance of about 0.23 km towards South-East from NH -16, NH - 55 is at 9.9 km towards WSW direction and SH - 9A is at 9.9 km in SW direction. The nearest village is Bainchua, which is located about 0.4 km towards NE direction. The nearest railway station is Kapilas Road Junction Railway Station which is located at about 3.3 km in SW direction and nearest Air Port is Biju Patnaik International Airport, Bhubaneswar, which is situated at about 41 km in SW direction. The site and study area falls in the survey of India, Topo Sheet No–F45U2. Birupa River is at 3.0 km towards SSE direction and Lake is at 6.3 km towards NW direction from the project boundary. There are no Wildlife sanctuaries & National Park within 15 km radius. Nearest forest is Panchbhya PF is at 2.6 km in NW direction. The location is in Seismic Zone-III.

- 15. Land use:** Total land available is 32.13 Acres for the project. This land is sufficient for the setup of the facility for the 2 x 30 MW power plant. 10.60 Acres land has been earmarked for greenbelt as per standard norms, which is 33% of total plot area.

Sl. No.	Description	Area (ac.)
1.	Plant & Machinery	12.32
2.	Ash Pond Area	3.67
3.	Green belt area	10.60
4.	Water Reservoir	2.34
6.	Admin, Parking etc.	3.2
<b>Total</b>		<b>32.13</b>

- 16. Water requirement:** Daily fresh water requirement is approx. 760 KL/day for boilers, auxiliary units, domestic use, generator, BFWP and air compressor, cooling, drinking etc. Source of water will be surface water from Birupa river and partial amount will be met through ground water. Permission for surface water has been obtained from Industrial Promotion & Investment Corporation of Odisha Limited (IPICOL) on dated 11.01.203 which is under process to obtain NOC from Department of Water Resources (DoWR) and application for ground water abstraction has been submitted vide application No. 21-4/4709/OR/IND/2023 dated 19.01.2023.

- 17. Waste water generation:** The project will be based on concept of Zero Effluent Discharge. Recycled water to be utilized with sprinkler system for dust suppression and maintaining green belt in the plant.
- 18. Waste generation:** About 80% of the ash shall be generated as Fly Ash while 20% of the ash shall be generated as bottom ash. With average daily coal requirement of 1728 TPD, it is estimated that about 864 MTPD (considering 50% ash) of ash shall be generated daily Fly ash will be directly sold to the nearest cement plants like RAMCO, OCL etc. falls near to plant location. Domestic solid waste will be disposed as per applicable norms.
- 19. ETP/STP:** There will be ETP of capacity 800 KLD and STP of capacity 10 KLD against estimated waste water generation of about 760 KLD.
- 20. Power requirement:** Power requirement for the project is 3.0 MW and will be sourced from the Chandikhol Grid. 2 DG sets of 750 KVA will be provided for power backup.
- 21. Stack Details:** Common stack is provided for 2 x 135 TPH boiler. A stack of 92 m is provided for effective dispersion of pollutants into the atmosphere.
- 22. Traffic study:** It is estimated that 50 Nos. of trucks (35 Tons) per day will be required for various industrial activities.
- 23. Greenbelt:** A greenbelt development plan is implemented along with the implementation of project. After expansion, total green belt & plantation area is 4.29 ha. Number of trees required to be planted is 10725 Nos and number of trees already planted is 1000.
- 24. Baseline data** has already been collected in Pre-Monsoon period i.e. 1st March, 2022 to 31st May 2022.

#### **25. Summary of Ambient Air Quality**

- Results were compared with the standard for ambient air quality monitoring as per the Ministry of Environment, Forest and Climate Change (MoEF&CC).
- During the study PM<sub>10</sub> was observed in the range of 63.1 to 85.9 µg/m<sup>3</sup>. Maximum concentration of PM<sub>10</sub> was found at project site
- PM<sub>2.5</sub> was observed in the range of 36.3 to 49.6 µg/m<sup>3</sup>. Maximum concentration of PM<sub>2.5</sub> was found at village Bandalo.
- SO<sub>2</sub> concentration was observed in the range of 6.1 to 11.8 µg/m<sup>3</sup>, which is well within the standard limit.
- NO<sub>2</sub> concentration in was observed in the range of 10.4 to 23.8 µg/m<sup>3</sup>, which is well within the standard limit.
- Monitoring and analysis was also carried out for CO. Result for the CO was found well within the norms and was observed in the range of 230 to 870 µg/m<sup>3</sup>, which is well within the standard limit.

#### **26. Summary of Noise Quality**

- Noise levels during day time were found to be in the average range of observed values was 46.4 to 72.5 dB (A). The highest noise level was observed as 72.5 dB (A) at Project Site, which is adjacent to Industrial area road and lowest value was observed as 46.4 dB (A) at CHC Tangi hospital, Tangi Town.

- Noise levels were observed in the range 33.9 to 62.3 dB (A) during the night time. The highest noise level was observed as 62.3 dB (A) at Project site and lowest value was observed as 33.9 dB (A) at CHC Tangi hospital, Tangi Town.

## 27. Summary of Ground Water Quality

The ground water sampling was carried out at 8 locations. Ground water analysis was carried out during the study period in the month of May 2022. The results were compared with the Drinking water specification IS 10500: 2012 (Reaffirmed 2018) and it is summarized as under: The pH value of water samples varies from 7.38 to 7.55, indicating slightly neutral in nature. Total dissolved solid was recorded in the range of 395 to 490 mg/L with minimum at Village Bainchua and maximum at Village Amiyajhari. Total hardness was in the range of 195 to 226 mg/L. Total Alkalinity was found in the range of 178 to 200 mg/L. Chloride was found in the range of 56 to 122 mg/L. Heavy metals were analyzed and found within the desirable limits of standard. Microbiological parameters (Total coliforms and E. coli) were also carried out and it was found that no organism was detected in any 100 ml of samples. It means that no contamination was observed in ground water samples.

## 28. Summary of Surface Water Quality

The surface water sampling was carried out at 8 locations. Surface water analysis was carried out during the study period in the month of May 2022. Data computations for 8 sampling locations were carried out and summarized as under: pH value of the samples was recorded in the range of 7.30 to 8.10, indicating slightly alkaline in nature. Total dissolved solids was recorded in the range of 160 to 450 mg/L. DO measured during site analysis and found in the range of 4.2 to 6.6 mg/L. COD & BOD analysis were also carried out and it was found in the range of 8.9 to 28.1 mg/L and 2.3 to 12.4 mg/L respectively. Heavy metals are below within the desirable limit of all sampling locations. Microbiological analysis was carried out and Positive results were found for Total coliforms and faecal coliforms. The Coliforms recorded in the range of 190 to 730 MPN/100ml. The presence of coliform organisms indicates towards the degree of microbial contamination in surface water body.

## 29. Summary of Soil Quality

The soil sampling was carried out at 05 locations. Data computations for 05 sampling locations were carried out and summarized as under: based on particle sizes distribution and texture, the soils are mostly sandy loam category. The pH value of the soil suspension varied from 7.26 to 7.89. In terms of soil pH the characteristic of the soil is moderate pH and weak alkaline in nature. The Electrical conductivity varied from 213 to 317  $\mu\text{S}/\text{cm}$ . The sodium absorption ratio of soil varied from 0.52 to 0.64. The Cation exchange capacity varied from 13.8 to 14.7 meq/100 gm. The loss on ignition in terms of organic matter varied from 0.79 to 0.89 %, it indicates that soils are moderate in organic carbon status. Soil maintained the optimal desired organic substances. The major nutrient such as Nitrogen, Phosphorus and Potassium level were varied from 145.4 kg/ha to 189.0 kg/ha., 12.5 to 18.1 kg/ha and 299.5 to 358.0 kg/ha respectively

**30. Manpower:** During operation phase, 70 persons will be direct employment in different area. About 100 persons will be indirect employment.

**31. Project cost:** The overall estimated cost of project is 588.99 Cr. The capital cost for environmental management is estimated to be Rs.17.88 Cr and Rs. 4.25 Cr per year will be annual recurring expenses. Total CER cost is 5.88 Cr (1% of Project Cost).

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

Considering the information furnished and the presentation made by the consultant, **M/s Grass Roots Research & Creation India (p) Ltd. Noida, UP** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 10 years with stipulated conditions as per **Annexure – B** in addition to the following specific conditions:

- i) The proponent shall convert the land for industrial use purpose.
- ii) The Wildlife Conservation Plan shall be prepared at the cost of user agency and vetted by the Chief Wildlife Warden for protection of Schedule-I species present in the study area if any. The progress of its implementation shall be submitted.
- iii) The proponent shall use surface water sourced from Birupa river after obtaining permission from concerned authority.
- iv) The proponent shall adopt Zero Liquid Discharge (ZLD) concept as proposed.
- v) The proponent shall explore the possibilities for use of Biomass for power generation.

#### **ITEM NO. 09**

**PROPOSAL OF ENVIRONMENTAL CLEARANCE OF M/S MAA PARTHIBI TRADERS FOR SEMELIA STONE QUARRY OVER AN AREA OF 10.117 HA FOR PRODUCTION OF 11,400 C.UM/ANNUM AT KHATA NO. 01, PLOT NO. 1195 (P) & 1196 (P), VILLAGE SEMELIA, TEHSIL-LAKHANPUR, DISTRICT- JHARSUGUDA OF SRI SATYANDRA KUMAR CHANDRA – EC**

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

#### **ITEM NO. 10**

**PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S ODISHA MINING CORPORATION LTD. FOR CORPORATE OFFICE BUILDING COMPRISES MAINLY PARKING AREAS IN BASEMENT-1 AND BASEMENT-2, OFFICE AREAS, FOOD COURTS, AUDITORIUM ETC IN GROUND TO SEVENTH FLOOR IN THE OMC CORPORATE OFFICE OVER A BUILT-UP AREA 1,10,000 SQ.M LOCATED AT JAYDEV VIHAR, BHUBANESWAR OF DR. SUMAN KRISHNA SIT- EC**

1. This proposal is for environmental clearance of M/s Odisha Mining Corporation Ltd. for corporate office building comprises mainly parking areas in basement - 1 and basement - 2, office areas, food courts, auditorium etc., in ground to seventh floor in the OMC corporate office over a built-up area 1,10,000 sq.m located at Jaydev Vihar, Bhubaneswar of Dr. Suman Krishna Sit.
2. **Category** - As per EIA Notification.2006 and subsequent amendments, this project falls under category B, schedule 8 (a) – Building and Construction projects.
3. **Project details:** Odisha Mining Corporation Limited or OMC is a Gold Category Public Sector Undertaking (PSU) established on 16 May 1956 as a Joint Venture Company between Government of Odisha and Government of India. Four years later, OMC became a wholly State-Owned Corporation of Government of Odisha on 17th Nov 1961. M/s OMC Ltd. is planning to construct a corporate office in Jaydev Vihar, District- Khordha, Bhubaneswar. The proposed corporate office building will comprise of two basements, G+7 floors for office Building. Main

components of the proposed building are – Basement parking (2- Level), office areas, food courts, art gallery, museum and auditoriums etc. in ground to seventh floor.

4. **Location and connectivity:** The project site is located at Plot-1816, 1817, 2259/4088, Khata no. 1426/600, Revenue Village- Jayadev Vihar, District-Khordha, Bhubaneswar, Odisha. Site co-ordinates of the project are bounded by 20°17'39.58"N, 85°49'21.25"E to 20°17'40.76"N, 85°49'20.48"E. Site is well connected to transport facilities as well as surrounded by densely populated areas. Project site is near to the Chennai -Kolkata Highway/NH5 (in South). The nearest airport is Biju Patnaik International Airport, approx. 4.73 km (SSW) from the project site. Mancheswar railway station, which is approx. 4.13 m, NE away from the project site.
5. **Area details:** The Proposed Construction of corporate office building measures on a plot area of **25,072.5m<sup>2</sup> (6.195Acres)** with built-up area of **1,10,208.22 m<sup>2</sup>**. Detailed area statement is given in table below.

Sl. No.	Description	Area (m <sup>2</sup> )
i)	Plot Area	25,072.5 (6.195 Acres)
ii)	Permissible Ground Coverage (40% of plot area)	10,029
iii)	Permissible FAR (@3.00 of plot area)	75,217.5
iv)	Proposed Ground Coverage (@ 39.10% of plot area)	9,802.739
v)	<b>Proposed FAR Area (@2.92)</b> FAR of Block-A FAR of Block-B FAR of Block-C FAR in Basement-1 FAR in Basement-2	<b>73,795.650</b> 22,439.394 23,141.667 22,739.319 2,663.451 2,811.82
vi)	<b>Non - FAR Area</b> Block (A,B, C) Basement-1 Basement-2	<b>31,499.034</b> 1,574.550 14,962.242 14,962.242
vii)	<b>Deduction area</b>	<b>4,913.534</b>
viii)	<b>BUILT UP AREA</b>	<b>1,10,208.22</b>
ix)	Proposed Green Area Landscaping at ground level Terrace green at each block	12,300 7,200 5,100
x)	Maximum height of the building	34.20 mtrs

6. **Population density:** The total population of the project will be **8,552 persons** that include Office staff as well as visitor population.
7. **Water requirement:** Total water requirement during the operational stage of the project is 564KLD. The domestic water requirements for the project will be approx. 186KLD. Total daily Fresh water requirement shall be approx. 327KLD. The source of water supply during operational phase will be existing municipal water supply.

S. No.	Description	Total Population/Occupancy /Area (m <sup>2</sup> )	Unit Water Consumption (lpcd)	Domestic/ Fresh water (KLD)	Flushing/Treated Water (KLD)	Total Water Requirement (KLD)	Wastewater generation/ day (KLD)
<b>A</b>	<b>Main Uses</b>						
	<b>Block-A, B &amp; C</b>						

S. No.	Description	Total Population/Occupancy /Area (m <sup>2</sup> )	Unit Water Consumption (lpcd)	Domestic/ Fresh water (KLD)	Flushing/Treated Water (KLD)	Total Water Requirement (KLD)	Wastewater generation/ day (KLD)
	Offices	6,492	45	162.3	129.84	292.14	259.68
	Food Court	480	35	12	4.8	16.8	14.4
	Auditorium	432	15	2.16	4.32	6.48	6.048
	Art Gallery & Museum	499	15	2.495	4.99	7.485	6.986
	Visitors	649	15	6.49	3.245	9.735	8.437
	<b>WATER DEMAND FOR MAIN USES</b>			<b>186</b>	<b>147</b>	<b>333</b>	<b>296</b>
<b>B Other Uses</b>							
	Landscape Area		3-6 l/m <sup>2</sup> /day	-	51	51KLD	-
	HVAC Cooling*	750 TR(4W+1S)	10Lit./hr*/TR	141	39	180 KLD	-
	<b>TOTAL</b>			<b>327 KLD</b>	<b>237 KLD</b>	<b>564 KLD</b>	<b>296 KLD</b>

8. **Wastewater generation and STP:** Quantity of sewage generated during operational phase shall be approx. 296KLD. The domestic sewage will be treated through in-house sewage treatment plant of capacity 355 KLD, the treated domestic wastewater shall be recycled and re used within premises. The treated waste water will be reused for flushing (147KLD), HVAC cooling (39KLD) and landscape development (51KLD). During Non- Rainy seasons makeup water required for HVAC will be 141KLD and during Rainy season it would be 96KLD of makeup water required for HVAC cooling which will be taken from municipal supply.
9. **Parking details:** Parking required for Office building as per the Odisha Building Bye Laws is 40% of total BUA towards FAR. Parking area required is 29,518.26 m<sup>2</sup> and Proposed area for parking is 30,190.83 m<sup>2</sup> or 877 ECS as per the table.

Parking area Proposed in Basement 1	14122.23 m <sup>2</sup>
Area required for 1 ECS	35 m <sup>2</sup>
Parking Proposed in Basement 1	403 ECS
Parking Area Proposed in Basement 2	14378.6 m <sup>2</sup>
Area required for 1 ECS	35 m <sup>2</sup>
Parking Proposed in Basement 2	410 ECS
Parking area Proposed on surface	1,690 m <sup>2</sup>
Area required for 1 ECS	25 m <sup>2</sup>
Parking Proposed on Surface	64 ECS
<b>TOTAL AREA PROPOSED FOR PARKING</b>	<b>30,190.83 m<sup>2</sup></b>
<b>Proposed Parking</b>	<b>877 ECS</b>
<b>E-Vehicle Charging Facility</b>	<b>46 ECS</b>

10. **Rainwater harvesting:** Rainwater harvesting has been catered to and designed as per the guideline of CGWA. Peak hourly rainfall has been considered as 120 mm/hr. The recharge pit of 3.5m diameter and 3.0m depth is constructed for recharging the water. Inside the recharge pit, a recharge bore is constructed having adequate diameter and depth. The bottom of the recharge structure will be kept 5m above this level. At the bottom of the recharge well, a filter media is

provided to avoid choking of the recharge bore. Total rain water harvesting pits proposed are 15 in numbers.

11. **Power requirement:** The electrical load requirement has been calculated based on covered area of service building as per NBC 2016. TPCODL shall provide electric supply on 33 kV for meeting electrical load requirements of proposed project. Solar power proposed is 146.30 KWp of Solar PV from 418 Solar PV module which is about 3.87 % of Total Demand Load.

Power Requirement	Details
Electrical Load	Maximum demand Load 3978.60 kVA (3779.69 KW)
Transformer Selection	3Nos. 1600 kVA 33/0.433KV, Dry type transformers
Source of Power Supply	TPCODL (TP Central Odisha Distribution Limited) is the local Electricity Supply authority in Bhubaneswar
Proposed DG Set Capacity	DG sets - 2* 2000kVA + 1*1250kVA + 1*No. 500 kVA
Location of GG Sets	DG sets shall be placed on 1 <sup>st</sup> Basement DG sets shall be Radiator type (Air cooled).
Stack Height	As per CPCB norms and Local Authority

12. **Solid waste generation:** It is estimated that maximum solid waste generation would be about 2,104Kg/day. Maximum solid waste generation would be about 2,104Kg/day, (considering 0.25 kg/day for staff and 0.15 kg/day for visitors). Bio-degradable waste will be approx. 842 kg/day. However Non- biodegradable waste estimated to be approx. 1262 kg/day. The local vendors will be hired to provide separate-colored bins for dry recyclables and Bio-Degradable waste. Bio-degradable waste will be subjected to the compost, resultant will be used as manure.

13. **Greenbelt:** Total green area proposed for project is 12,300 m<sup>2</sup>.

**Table: Greenbelt details**

<b>Plot area</b>	25,072.5 m <sup>2</sup>
<b>Proposed Green Area Landscaping at ground level</b>	12,300 m <sup>2</sup>
<b>Terrace green at each block</b>	7,200 m <sup>2</sup> (@ 28.72 % of plot area) 5,100 m <sup>2</sup>
<b>As Per MoEF&amp;CC Guidelines</b>	One tree per 80 m <sup>2</sup> of total area out of which minimum 50 % to be in the category of evergreen trees.
<b>Trees Required</b>	25,072.5 /80 = 313.406
<b>Nos. of trees proposed at site</b>	186
<b>Total trees at the site</b>	339
<b>Trees to be retained at site</b>	127
<b>No. of trees to be cut/transplant</b>	212
Compensatory plantation will be done in the Parks/nearby Areas being maintain by OMC	

14. **Fire & Safety Management** - Adequate fire fighting arrangements will be provided in the proposed project. The fire fighting arrangements provided in the proposed project are given below:

- Provision of separate fire hydrant system.
- There is provision of fire fighting pumps.
- There is provision of sprinkler system.
- There is provision of CO<sub>2</sub> extinguishing system for transformer room and other critical areas.

- Provision of Hand-held fire extinguishers.
- Provision of Fire protection system.
- IP Based Public Address system shall be provided in entire complex. It shall comply with EN-54,BS-5839-8 & IEC 60849 /relevant IS codes, NBC-2016 & Local fire authority norms

15. **Manpower:** The total manpower requirement during construction phase of the site will be an approximate 200-250 person which includes workmen, labourers, supervisors, engineers, architect and Manager.

16. **Project cost:** The estimated cost of the project is 550 crores. EMP cost includes 157.75 lakhs (Capital cost) and 45.13 lakhs (recurring cost) as per the table.

Table: **Environment Management Plan Cost [Construction + Operational Phase]**

Component	Capital Cost (INR Lakhs)	Recurring Cost/Yr. (INR Lakhs)
Sewage Treatment Plant	28.4	7.10
Rain Water Harvesting System	13.5	3.38
Solid Waste Management	20	5
Environmental Monitoring [Cons.]		7
Environmental Monitoring (Operation)		9
Green Area	1.1	0.27
Integrated sprinkling System	0.75	0.15
Anti-smog guns for dust suppression and air pollution control	10	0
E- Vehicle Charging Points	31.50	0.1
solar power generation	52.5	13.13
<b>Total</b>	<b>157.75</b>	<b>45.13</b>


17. **Environment Consultant:** The Environment consultant **M/s Parivesh Environmental Engineering Services, Lucknow, Uttar Pradesh** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s Parivesh Environmental Engineering Services, Lucknow, Uttar Pradesh** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 10 years with stipulated conditions as per **Annexure – C** in addition to the following specific conditions.

- The Proponent before implementation of the project shall convert the land to Gharabari and shall take the ownership of the land if not already taken.**
- The Proponent shall obtain permission/NOC from Executive Engg (PHD) and / or from the appropriate authority for disposal of excess STP treated water to the nearest drain without which the Proponent will not start construction work. Also, in case of the connecting drain passing through others land (Govt. or Private land), the Proponent shall obtain the permission and possession as the case may be**
- The proponent shall use solar energy atleast to the tune of 5%of total power requirement as proposed.



- iv) To reduce discharge of treated water to open drain, the proponent shall use more water for increased number of trees proposed to be planted in the green belt area & shall also utilize this treated water for car washing, floor washing to minimize the surplus discharge to drain.
- v) The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.
- vi) The proponent shall Comply to the provision of structural stability certificate as per the by-law of the Development Authority.
- vii) Since, existing structure is there and the proposed building will be constructed demolishing the existing structure, the proponent shall obtain permission from concerned authority for demolishing the existing structure.
- viii) The proponent shall take adequate measures to prevent noise and air pollution to surrounding environment during demolition of existing structure.
- ix) The Construction and Demolition waste to be generated during demolition of existing structure shall be managed as per Construction and Demolition Waste Management Rules, 2016.
- x) The PP shall adhere to terms of Agreement with BDA
- xi) The proponent shall provide STP of adequate capacity for treatment of waste water to be generated from the project during operation phase.
- xii) Traffic study shall be conducted and vetted by reputed institution.
- xiii) The proponent shall maintain a greenbelt area of 20% of plot area.
- xiv) The proponent shall start the construction work of the project after safe demolition of existing construction.
- xv) **All compliances submitted/ committed by PP(s) shall be strictly adhered to them in addition to all the conditions/ specific conditions of EC.**

  
Member Secretary, SEAC

**TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR BHUBANESWAR DEVELOPMENT AUTHORITY OF CONSTRUCTION OF B+S+9 STORIED COMMERCIAL/ RESIDENTIAL APARTMENT OVER AN BUILT-UP AREA 25400 SQ.M AT BHAGABANPUR MOUZA, BHUBANESWAR OF SRI LOKANATH PRASAD MOHAPATRA – TOR (VIOLATION).**

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1. Project description, its importance and the benefits,
2. Project site details (location, toposheet of the study area of 10 km, coordinates, google map, layout map, land use, geological features and geo-hydrological status of the study area, drainage),
3. Land use as per the approved Master Plan of the area, Permission/approvals required from the land-owning agencies, Development Authorities, Local Body, Water Supply & Sewerage Board, etc.,
4. Land acquisition status, R&R details,
5. Forest and Wildlife and eco-sensitive zones, if any in the study area of 10 km - Clearances required under the Forest (Conservation) Act, 1980, the Wildlife (Protection) Act, 1972 and/or the Environment (Protection) Act, 1986,
6. Baseline environmental study for ambient air (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub> & CO), water (both surface and ground), noise and soil for one month (except monsoon period) as per MoEF&CC/CPCB guidelines at minimum 5 locations in the study area of 10 km,
7. Details on flora and fauna and socio-economic aspects in the study area
8. Likely impact of the project on the environmental parameters (ambient air, surface and ground water, land, flora and fauna and socio-economic, etc.)
9. Source of water for different identified purposes with the permissions required from the concerned authorities, both for surface water and the ground water (by CGWA) as the case may be, Rain water harvesting, etc.
10. Waste water management (treatment, reuse and disposal) for the project and also the study area,
11. Management of solid waste and the construction & demolition waste for the project vis-a- vis the Solid Waste Management Rules, 2016 and the Construction & Demolition Rules, 2016,
12. Energy efficient measures (LED lights, solar power, etc.) during construction as well as during operational phase of the project,
13. 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.
14. 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.

15. 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.
16. **The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP report.**

**Standard EC Conditions for Thermal Power Sector**

**A. Statutory compliance:**

1. Emission Standards for Thermal Power Plants as per Ministry's Notification S.O. 3305(E) dated 7.12.2015, G.S.R.593(E) dated 28.6.2018 and as amended from time to time shall be complied.
2. Part C of Schedule II of Municipal Solid Wastes Rules, 2016 dated 08.04.2016 as amended from time to time shall be complied for power plants based on Municipal Solid Waste.
3. MoEF&CC Notification G.S.R 02(E) dated 2.1.2014 as amended time to time regarding use of raw or blended or beneficiated/washed coal with ash content not exceeding 34% shall be complied with, as applicable.
4. MoEF&CC Notifications on Fly Ash Utilization S.O. 763(E) dated 14.09.1999, S.O. 979(E) dated 27.08.2003, S.O. 2804(E) dated 3.11.2009, S.O. 254(E) dated 25.01.2016, S.O. 5481 (E), dated 31.12.2021, S.O. 6169 (E), dated 30.12.2022 as amended from time to time shall be complied.
5. Thermal Power Plants other than the power plants located on coast and using sea water for cooling purposes, shall achieve specific water consumption of 2.5 m<sup>3</sup>/MWh and Zero effluent discharge.
6. The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
7. No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.
8. Groundwater shall not be drawn during construction of the project. In case, groundwater is drawn during construction, necessary permission be obtained from CGWA.

**B. Ash content/ mode of transportation of coal:**

Environmental C is given on the basis of assumption of 43.8 % of ash content and 200 km distance of transportation in rail/road/conveyor/any other mode. Any increase of % of ash content by more than 1 percent, and/or any change in transportation mode or increase in the transport distance (except for rail) require application for modifications of EC conditions after conducting the 'incremental impact assessment' and proposal for mitigation measures.

**C. Air quality monitoring and Management:**

1. Flue Gas De-sulphurisation System shall be installed based on Lime/Ammonia dosing to capture Sulphur in the flue gases to meet the SO<sub>2</sub> emissions standard of 100 mg/Nm<sup>3</sup>.
2. Selective Catalytic Reduction (SCR) system or the Selective Non-Catalytic Reduction (SNCR) system or Low NOX Burners with Over Fire Air (OFA) system shall be installed to

achieve NO<sub>x</sub> emission standard of 100 mg/Nm<sup>3</sup>.

3. High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm<sup>3</sup>.
4. Stacks of adequate height shall be provided with continuous online monitoring instruments for SO<sub>x</sub>, NO<sub>x</sub> and Particulate Matter as per extant rules.
5. Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.
6. Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub> within the plant area at least at one location. The monitoring of other locations (at least three locations outside the plant area covering upwind and downwind directions at an angle of 120° each) shall be carried out manually.
7. Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
8. Appropriate Air Pollution Control measures (DEs/DSs) be provided at all the dust generating sources including sufficient water sprinkling arrangements at various locations viz., roads, excavation sites, crusher plants, transfer points, loading and unloading areas, etc.

**D. Noise pollution and its control measures:**

1. The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
2. Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
3. Periodical medical examination on hearing loss shall be carried out for all the workers and maintain audiometric record and for treatment of any hearing loss including rotating to non-noisy/less noisy areas.

**E. Human Health Environment:**

1. Bi-annual Health check-up of all the workers is to be conducted. The study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the study shall also assess the health impacts due to air polluting agents.
2. Baseline health status within study area shall be assessed and report be prepared. Mitigation measures should be taken to address the endemic diseases.
3. Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.

4. Sewage Treatment Plant shall be provided for domestic wastewater.

**F. Water quality monitoring and Management:**

1. Induced/Natural draft closed cycle wet cooling system including cooling towers shall be set up with minimum Cycles of Concentration (COC) of 5.0 or above for power plants using fresh water to achieve specific water consumption of 2.5 m<sup>3</sup>/MWhr. (Or) Induced/Natural draft open cycle cooling system shall be set up with minimum Cycles of Concentration (COC) of 1.5 or above for power plants using sea water.
2. In case of the water withdrawal from river, a minimum flow 15% of the average flow of 120 consecutive leanest days should be maintained for environmental flow whichever is higher, to be released during the lean season after water withdrawal for proposed power plant.
3. Records pertaining to measurements of daily water withdrawal and river flows (obtained from Irrigation Department/Water Resources Department) immediately upstream and downstream of withdrawal site shall be maintained.
4. Rainwater harvesting in and around the plant area be taken up to reduce drawl of fresh water. If possible, recharge of groundwater to be undertaken to improve the ground water table in the area.
5. Regular (at least once in six months) monitoring of groundwater quality in and around the ash pond area including presence of heavy metals (Hg, Cr, As, Pb, etc.) shall be carried out as per CPCB guidelines. Surface water quality monitoring shall be undertaken for major surface water bodies as per the EMP. The data so obtained should be compared with the baseline data so as to ensure that the groundwater and surface water quality is not adversely impacted due to the project & its activities.
6. The treated effluents emanating from the different processes such as DM plant, boiler blow down, ash pond/dyke, sewage, etc. conforming to the prescribed standards shall be re-circulated and reused. Sludge/ rejects will be disposed in accordance with the Hazardous Waste Management Rules.
7. Hot water dispensed from the condenser should be adequately cooled to ensure the temperature of the released surface water is not more than 5 degrees Celsius above the temperature of the intake water.
8. Based on the commitment made by the Project Proponent, Sewage Treatment Plants within the radius of 50 km from proposed project, the treated sewage from STP of capacity 10 KLD shall be used as an alternative to the fresh water source to minimize the fresh water drawl from surface water bodies.
9. Wastewater generation of 760 KLD from various sources (viz. cooling tower blowdown, boiler blow down, wastewater from ash handling, etc) shall be treated to meet the standards of pH: 6.5-8.5; Total Suspended Solids: 100 mg/1; Oil & Grease: 20 mg/1; Copper: 1 mg/1; Iron: 1 mg/1; Free Chlorine: 0.5; Zinc: 1.0 mg/1; Total Chromium: 0.2 mg/1; Phosphate: 5.0 mg/1;

10. Sewage generated from the unit shall be treated by setting up Sewage Treatment plant to maintain the treated sewage characteristics of pH: 6.5-9.0; Bio-Chemical Oxygen Demand (BOD): 30 mg/1; Total Suspended Solids: 100 mg/1; Fecal Coliforms (Most Probable Number): <1000 per 100 ml.

**G. Risk Mitigation and Disaster Management:**

1. Adequate safety measures and environmental safeguards shall be provided in the plant area to control spontaneous fires in coal yard, especially during dry and humid season.
2. Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made as per the extant rules in the plant area in accordance with the directives of Petroleum & Explosives Safety Organisation (PESO). Sulphur Content in the liquid fuel should not exceed 0.5%.
3. Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
4. Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
5. Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.

**H. Green belt and Biodiversity conservation:**

1. Green belt shall be developed in an area of 33% of the total project with indigenous native tree species in accordance with CPCB guidelines. The green belt shall inter-alia cover an entire periphery of the plant.
2. In-situ/ex-situ Conservation Plan for the conservation of flora and fauna should be prepared and implemented.
3. Suitable screens shall be placed across the intake channel to prevent entrainment of life forms including eggs, larvae, juvenile fish, etc., during extraction of seawater.

**I. Waste management:**

1. Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2016.
2. Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for any substance, potential of leaching heavy metals into the surrounding areas as well as into the groundwater.
3. Ash pond shall be lined with impervious liner as per the soil conditions. Adequate dam/dyke safety measures shall also be implemented to protect the ash dyke from getting breached.
4. Fly ash shall be collected in dry form and ash generated shall be used in phased manner as per provisions of the Notification on Fly Ash Utilization issued by the Ministry and

amendment thereto. By the end of 4th year, 100% fly ash utilization should be ensured. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry. Mercury and other heavy metals (As, Hg, Cr, Pb, etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. Flyash utilization details shall be submitted to concerned Regional Office along with the six-monthly compliance reports and utilization data shall be published on company's website.

5. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry/Medium Concentration Slurry/Lean Concentration Slurry method. Ash water recycling system shall be set up to recover supernatant water.
6. In case of waste-to-energy plant, major problems related with environment are fire smog in MSW dump site, foul smell and impacts to the surrounding populations. Therefore, the following measures are required to be taken up:
  - a) Water hydrant at all the dumpsites of MSW area to be provided so that the fire and smog could be controlled.
  - b) Sprayer like microbial consortia may be provided for arresting the foul smell emanating from MSW area.

**J. Monitoring of compliance:**

1. Environmental Audit of the project be taken up by the third party for preparation of Environmental Statement as per Form-V & Conditions stipulated in the EC and report be submitted to the SEIAA, Odisha and MoEF&CC, Govt. of India.
2. Resettlement & Rehabilitation Plan as per the extant rules of Govt, of India and respective State Govt, shall be followed, if applicable.
3. Energy Conservation Plan to be implemented as envisaged in the EIA / EMP report. Renewable Energy Purchase Obligation as set by MoP/State Government shall be met either by establishing renewable energy power plant (such as solar, wind, etc.) or by purchasing Renewable Energy Certificates.
4. Monitoring of Carbon Emissions from the existing power plant as well as for the proposed power project shall be carried out annually from a reputed institute and report be submitted to the SEIAA, Odisha and Regional Office, MoEF&CC, Govt. of India.
5. Energy and Water Audit shall be conducted at least once in two years and recommendations arising out of the Report should be followed. A report in this regard shall be submitted to the SEIAA, Odisha and Regional Office, MoEF&CC, Govt. of India.
6. Environment Cell (EC) shall be constituted by taking members from different divisions, headed by a qualified person on the subject, who shall be reporting directly to the Head of the Project.
7. The project proponent shall (Post-EC Monitoring):
  - a) send a copy of environmental clearance letter to the heads of Local Bodies,



Panchayat, Municipal bodies and relevant offices of the Government;

- b) upload the clearance letter on the web site of the company as a part of information to the general public.
- c) Inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the SEIAA, Odisha and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at <http://parviesh.nic.in>.
- d) Upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
- e) Monitor the criteria pollutants level namely; PM (PM<sub>10</sub> & PM<sub>2.5</sub> in case of ambient AAQ), SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;
- f) Submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the SEIAA, Odisha and Regional Office, MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB;
- g) Submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;
- h) Inform the SEIAA, Odisha and Regional Office, MoEF&CC, Govt. of India, the date of financial closure and final approval of the project and the date of commencement of the land development work.

**K. Corporate Environmental Responsibility (CER) activities:**

1. CER activities will be carried out as per OM No. 22-65/2017-1 A.II dated 01.05.2018 or as proposed by the PP in reference to Public Hearing or as earmarked in the EIA/EMP report along with the detailed schedule of implementation with appropriate budgeting.

**CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S ODISHA MINING CORPORATION LTD. FOR CORPORATE OFFICE BUILDING COMPRISES MAINLY PARKING AREAS IN BASEMENT-1 AND BASEMENT-2, OFFICE AREAS, FOOD COURTS, AUDITORIUM ETC IN GROUND TO SEVENTH FLOOR IN THE OMC CORPORATE OFFICE OVER A BUILT-UP AREA 1,10,000 SQ.M LOCATED AT JAYDEV VIHAR, BHUBANESWAR OF DR. SUMAN KRISHNA SIT – EC.**

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**PART A - SPECIFIC CONDITIONS:**

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

**TOPOGRAPHY AND NATURAL DRAINAGE**

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

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

9. As proposed, fresh water requirement from ground water shall not exceed 327 KLD.
10. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed the quantity of water allotted to the project under consideration and the balance water available.

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

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

### **SOLID WASTE MANAGEMENT**

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

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

### **SEWAGE TREATMENT PLANT**

24. Sewage shall be treated in STP of capacity 355 KLD. The treated effluent from STP shall be reused for flushing, horticulture & Filter backwash.
25. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.
26. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
27. Separate large recharge pits shall be constructed inside the project area to accommodate the rainwater in case the housing project period and the CDP of the Govt. does not synchronize with reference to construction of road and drain.
28. No sewage or untreated effluent water would be discharged through storm water drains.
29. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
30. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
31. The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and "Nala" before commencement of any activity at the project site.

### **ENERGY**

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

34. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 5% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Follow super ECBC requirement of ECBC 2017 and provide compliance report.
35. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.
36. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.
37. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.

#### **AIR QUALITY AND NOISE**

38. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3-meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murrum, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.
39. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.
40. **Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.**
41. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

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

### **GREEN COVER**

44. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m<sup>2</sup> 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. Minimum 20% of plot area shall be provided for green area development.

### **TOP SOIL PRESERVATION AND REUSE**

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

### **TRANSPORT**

46. A comprehensive mobility plan, as per Ministry of Urban Development best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
  - Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
  - Traffic calming measures
  - Proper design of entry and exit points.
  - Parking norms as per local regulation
47. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project.
48. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
49. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.
50. A dedicated entry/exit and parking shall be provided for commercial activities.

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

### **ENVIRONMENT MANAGEMENT PLAN**

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

### **OTHERS**

59. Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
60. A First Aid Room shall be provided in the project both during construction and operations of the project.
61. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
62. As per the MoEF&CC, Govt. of India Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. As per para 6(II) of the said O.M. appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance

report, and to the District Collector. It should be posted on the website of the project proponent.

## **PART B – GENERAL CONDITIONS**

1. A copy of the Environmental Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
2. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to the SEIAA, Odisha and MoEF&CC, Govt. of India and its concerned Regional Office.
3. Officials from the Regional Office of MoEF&CC, Bhubaneswar who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection.
4. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA, Odisha.
5. The SEIAA, Odisha reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
6. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
7. These stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and the EIA Notification, 2006.
8. The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the SEIAA, Odisha. The advertisement shall be made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of MoEF&CC, Bhubaneswar.
9. Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
10. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.



11. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
12. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC, Govt. of India by E-mail.