

**PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL  
COMMITTEE, ODISHA HELD ON 13<sup>TH</sup> APRIL, 2022**

The SEAC met on 13<sup>th</sup> April, 2022 at 10:30 AM through Video Conferencing in Google Meet under the Chairmanship of Sri B. P. Singh. The following members were present in the meeting.

1. Sri B. P. Singh	-	Chairman
2. Dr. K. Murugesan	-	Secretary
3. Dr. D. Swain	-	Member
4. Prof. (Dr.) H.B. Sahu	-	Member
5. Sri J. K. Mahapatra	-	Member
6. Sri K. R. Acharya	-	Member
7. Prof. (Dr.) B.K. Satpathy	-	Member
8. Prof. (Dr.) P.K. Mohanty	-	Member
9. Dr. K.C.S Panigrahi	-	Member
10. Dr. Sailabala Padhi	-	Member

Draft proceeding of the meeting was finalized by the members through e-mail and also 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 FOR ENVIRONMENTAL CLEARANCE OF M/S. SHEETAL REAL ESTATE PVT. LTD. FOR RESIDENTIAL-CUM-COMMERCIAL BUILDING PROJECT OVER AN BUILT UP AREA 29298.50 SQMT LOCATED AT MOUZA - HULURUSINGHA, DIST. ANGUL OF SRI SUNIL AGARWAL - EC**

1. This is a proposal for Environment Clearance of M/s. Sheetal Real Estate Pvt. Ltd. for Residential-cum-Commercial Building Project over an built up area 29298.50 sqmt located at Mouza - Hulurusingha, Dist. Angul of Sri Sunil Agarwal.
2. The project falls under category "B" or activity 8 (a) - Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. M/s Sheetal Real Estate Pvt. Ltd. proposes a Residential-cum-Commercial Building project located at Plot no. 577/2819, Khata No. 302/821, Plot no. 542/2561, Khata No. 302/850, Plot no. 578 & 578/1937, Khata no. 302/893 Plot no. 577/2740, 577/2741 & 577/2851 Khata no. 302/896, Plot 577/2689, Khata no. 302/977, Plot no. 540 & 541 Khata no. 302/985, at Mouza - Hulurusingha, Dist. - Angul, Odisha on a land measuring 1.131 acres or 4578.437 m<sup>2</sup>. The geographical coordinates are Latitude: 20°50'24.22"N and Longitude: 85°5'12.30"E. The nearest railway station is Angul Railway Station approx. 2.7 km from the project site and Savitri Jindal Airport is at a distance of approx. 8.5 km from the project site. Nearest NH/SH is SH-63 at 0.6km.
4. The site is coming under development plan of Talcher-Angul-Meramandali Development Authority. There are total 1 residential Tower (B2 + B1 + G + 12) and commercial area with retail shops.
5. The detailed area statement of the building is –

S. NO.	PARTICULARS	AREA (SQ.M.)
1.	Total Plot area	4,578.437
2.	Proposed Road Area	69.0

3.	Net Plot Area	4,509.43
4.	Permissible Ground coverage (@40% of the net plot area)	1,803.78
5.	Proposed Ground coverage (@ 37.92 % of net plot area)	1,710.27
6.	Permissible F.A.R (@ 5 of net plot area)	<b>22,601.22</b>
7.	Proposed F.A.R (@ 5 of net plot area)	<b>22,601.22</b>
	a. Residential FAR Area (@75.32% of the proposed FAR)	17,024.52
	b. Commercial FAR Area (@24.67% of the proposed FAR)	5,576.70
8	Proposed Non FAR Basement Area (B1+ B2)	6,697.28 6,697.28
9	Total built up Area (7+8)	29,298.50
10	Total Proposed Parking Area (Basement B1 + Basement B2 + Open Parking)	6,811.16
11	Maximum Height of the Building (m)	40.00
12	Landscape Area (@ 24.8% of plot area)	<b>1,118.33</b> [Taking <b>901.88 m<sup>2</sup></b> (@20 % of net plot area) as green belt area and <b>216.45 m<sup>2</sup></b> (@4.8 % of net plot area) as lawn area]

6. **Power requirement:** The power supply will be supplied by State Electricity Board. The requirement load for the project will be approx. 1,042.17 kVA. There is provision of 2 nos. of DG sets of total 640 kVA (2x 320 kVA) capacity for power back up. Silent DG sets (Radiator cooled). Separate generator yard will be constructed for the residential block.
7. **Water requirement:** The total water requirement will be met through Ground water which is approx. 99 KLD, out of which total domestic water requirement is 95 KLD. The total domestic water will be 95 KLD, out of which fresh water requirement is approx. 57 KLD & flushing water will 38 KLD.
8. **Waste water details:** The project will generate approx. 84 KLD of wastewater. The wastewater will be treated in an onsite STP of 100 KLD capacity. The treated water (76 KLD @ 90% of total waste water) will be reused for flushing (38 KLD), horticulture (4 KLD). Surplus treated water during dry season (34 KLD); monsoon season (37 KLD) and winter season (36 KLD) will be discharged to external sewer with the requisite permission.
9. Total 18 Rain Water Harvesting pits will be constructed at different locations.
10. **Parking Requirement:** Total parking area requirement will be 6,486.81 m<sup>2</sup> / 237 ECS will be provided.
11. **Fire fighting Installations:** Fire fighting system will be installed as per recommendation of the Fire fighting Officer, Odisha and as per the guideline of NBC (part-4).
12. **Green Belt Development:** Green belt will be developed over an area of 1,118.33 m<sup>2</sup> i.e. 24.8% of the plot area by using the local species like Radhachuda, Nageswar, Akash Neem, Ashok, Polanga, Karang, Bela, Pijilu, Kaniara, Tagar, Hena, etc.

13. **Solid Waste Management:** From the residential complex, solid wastes in form of food wastes from kitchen and miscellaneous wastes will be generated @ 0.45 kg/person/day, which will be about 479 kg/day.

S. No.	Category	Norms (Kg/capita/day)	Waste generated (kg/day)
1.	Residents (500)	@ 0.5	250
2.	Staff (265)	@ 0.25	66.25
3.	Visitors (1007)	@ 0.15	151.05
4.	Landscape waste (0.276acre)	@ 0.2 kg/acre/day	0.05
5.	STP sludge	Waste water x 0.35 x B.O.D difference/1000	11.46
	<b>TOTAL SOLID WASTE</b>		<b>478.8 kg/day say 479 kg/day</b>

14. The cost of the project is ` 65.4 Crores.

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

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Grass Roots Research and Creation India (P) Ltd., Noida**, the SEAC decided to take decision on the proposal after receipt of the following information / documents from the proponent.

1. Layout map superimposing the greenbelt and rain water harvesting pits.
2. Internal drain network with dimension in the unit layout to be submitted along with dimensions and its connectivity.
3. Start and fall out the outside drain to which the treated water will be discharged to be intimated including the permission of the authority of the drain to take the additional load.
4. Solar calculation details with generation and consumption in terms of % of total power
5. Part of the land is found to be " Sarad" as per the land documents submitted by PP. The land record of the whole land shall be converted to " Gharabari" before starting construction.
6. Fresh water requirement source is Ground water, though the river is located at a distance of about 700 mtrs from the project site. If river water is denied / not agreed to by the authority (s) concerned, then necessary 'NOC' from CGWA & permission from W.R deptt, Govt of Odisha to be submitted for drawl of required quantity of ground water.
7. Provision of parking is too inadequate, besides necessity for provision for parking for two wheelers / Bicycles including for visitors / floating population. This needs to be revisited and re-submitted accordingly.
8. Calculation of RWHP (No of recharging pits) be revisited, taking into consideration the highest hourly rain fall based on last 30 years data (logical climate date), Run-off co-efficient and retention (hold) time and re-submitted.
9. Proposed green belt details with stretch / dimension / trees of plantation & the species be submitted.

10. Based on number of residents, staff and visitors indicated/ arrived at and accordingly, water consumption, waste water generation, water balance to be revisited and re submitted.
11. Layout drawing showing separate parking for commercial and residential including floating population with separate entry and exits for the same.
12. Traffic study report at intersecting points to be submitted.
13. Copy of agreement between Authorised agencies and PP to take the non- biodegradable waste.
14. Water analysis report to be submitted and mitigation measures if fluoride content is found higher in water.
15. Details about recharge mechanism of groundwater and design of rain water harvesting pits.
16. Increase in greenbelt to reduce lesser amount of treated water discharge to drain.
17. Preventive measures taken to control air pollution.
18. Confirmation for shift of DG set to North- West corner in reference to prevalent wind direction and location of towers/ commercial complex be submitted showing in the layout map.

#### **ITEM NO. 02**

#### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S RENEWABLE ENVIROGIC PVT. LTD. FOR SETTING UP A COMMON BIO-MEDICAL WASTE TREATMENT FACILITY (CBMWTF) OVER LEASE AREA 0.60 HA/1.5 ACRES LOCATED AT VILLAGE - SIALBAHALI, TAHASIL -BALANGIR, DIST-BALANGIR OF SRI DEBASIS TRIPATHY – EC**

1. This is a proposal for Environment Clearance of M/s Renewable Envirogic Pvt. Ltd. for setting up a Common Bio-Medical Waste Treatment Facility (CBMWTF) over lease area 0.60 ha/1.5 acres located at village - Sialbahali, Tahasil -Balangir, Dist-Balangir of Sri Debasis Tripathy.
2. The project falls under category “B” or activity 7(da) - Common hazardous waste treatment, storage and disposal facilities(TSDFs) under EIA Notification dated 14th September 2006 as amended from time to time.
3. The proposed project is Setting up a Common Biomedical Waste Treatment Facility with a capacity to treat 5 tonnes of Bio-Medical Wastes per day, covering 10,000 beds for health care establishment.
4. ToR was issued by SEIAA vide letter No: 3489/SEIAA on dated 18.11.2021.
5. Public Hearing was conducted in Jhankaripalli Grampanchayat Building, Balangir on dated 11.01.2022.
6. **Location and Connectivity** – The proposed project is located in Khata No.18, Plot No. 617 and bounded by Latitude: 20°45'13.35"N Longitude: 83°23'13.29"E and falls on Survey of India (SOI) Topo-sheet No : F44X05 & F44X06 of Mouza- Sialbahali, Tahasil-Balangir, District – Balangir, State - Odisha. Nearest State/ National Highway is SH-42 at a distance of 2.40KM. Nearest Railway Station is Balangir Railway Station at 13.40Km. Nearest Airport is Biju Patnaik International Airport, Bhubaneswar at 259 km & Tusura

Air Strip at 75.96 KM. Nearest RF / PF are Chandli R.F at 53km, Magurbeda R.F at 3.47km, Garhsankar R.F at 7.02km, Sundei R.F at 5.21km, Brahmani R.F at 4.58km. Nearest River is Suktel Nadi at 2.44 Km & Lower Suktel Dam at 5.31 km. Highest Flood Level (HFL) from the Project Boundary is 5.2 km. Nearest Densely populated is Balangir Town- 8.44 Km. It falls under Seismic Zone – II. The topography of the land is generally flat and well suited for development of industrial projects. This area also does not form part of any National Park, Wild Life Sanctuary and Natural/Biosphere reserve.

- 7. Water Requirement** - Total water requirement for the CBWTF project is 9.5 KLD which will be sourced from bore wells & water tankers. A rainwater harvesting system will be also be set up at the plant to ensure better water management.
- 8. Waste water management** - Total water requirement of the proposed project is 9.5 KLD which is sourced from bore well /tankers. Total 3.0 KLD of Effluent shall be generated from the proposed project including 1.0 KLD of domestic sewage. Looking to the present quantity of effluent and considering future requirement, an Effluent Treatment Plant of 10 KLD capacity has been proposed to treat the effluent. The effluent generated or treated from the premises will be following limits Parameters Permissible Limits pH 6.5-9.0 Suspended solids 100 mg/l Oil and grease 10 mg/l BOD 30 mg/l COD 250 mg/l Bio-assay test 90% survival of fish after 96 hours in 100% effluent.
- 9. Power Requirement** - DG set of 125 KVA is proposed for the project and 100 KW power from 11KV lines will be taken with due permission from concerned authority.
- 10. Fuel consumption** - Incinerator – LDO/HSD @ 35 litres/hr for 10 hrs = 350 litres/day. Autoclave Boiler-LDO/HSD @ 15 litres/hr = 150 litres/day.  
Total LDO/HS = 500 litres/day.  
Diesel for DG Set @ 12~15 litres/hr (in case of Power Failure)
- 11. Manpower Requirement** - Total about 30 persons are proposed to be hired for plant operations including officers, skilled and unskilled workers.
- 12. Size and magnitude of Operation** - Incinerator With APCD and Continuous Emission monitoring instrument:- (2 Nos. (1W+1S)) 250 Kg/ hr, Autoclave:-300 kg/batch, Shredder: 300 kg/hr. Effluent Treatment Plant (ETP):10 KLD

An integrated waste management system for treatment of biomedical wastes must look into various stages of the process to complete the operation. These key components in the process of treatment can be broadly classified as stated below:

- ❖ Segregation of Waste at source
- ❖ Waste Collection and Transport
- ❖ Waste Treatment, Storage and Disposal

### **13. Description of Environment studied within Project site**

**Air environment** - Based on the model simulation result under observed meteorological condition, 24 hours average maximum GLC of PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> are predicted to be approximately 0.13501 µg/m<sup>3</sup>, 0.15424 µg/m<sup>3</sup>, 0.47097 µg/m<sup>3</sup> and 0.86901 µg/m<sup>3</sup> respectively and occurs at a distance at about 1700 m from the incinerator source in the south direction for PM and SO<sub>2</sub> but NO<sub>x</sub> maximum concentration occurs at location in the in the west direction from the incinerator source location.

**Noise Environment** - Ambient noise levels were measured at 8 (eight) locations around the proposed project site. Minimum and maximum noise levels recorded during the month of March - 2021 the day time were from 43.1 dB(A) Leq and 62.8 dB(A) Leq respectively and minimum and maximum level of noise during night time were 37.8 dB(A) Leq and 59.1 Leq dB respectively. In the month of April - 2021 Minimum and maximum noise levels recorded in day time as 41.5 dB(A)Leq and 63.6 dB(A) Leq and minimum & maximum level noise levels in night time as 39.1 dB(A) Leq and 58.8 dB (A) Leq, for the month of May - 2021 Minimum and maximum noise levels recorded during day time as 41.4 dB(A) Leq and 63.4 dB(A) Leq and minimum and maximum level noise levels in night time as 38.4 dB(A) Leq and 58.6 dB(A)Leq.

#### **Water Environment**

##### **Surface water**

However, an analysis result of TDS varies from 137 to 146.0 mg/l. Total Hardness from both the locations is found well within the limit and ranging from 2.5 to 2.8 mg/l. BOD varies from 1.7 mg/l (Upstream) and 1.6 mg/l (downstream).

##### **Ground water**

From the results of analysis, pH of the samples was found within the limit and ranging from 7.34 to 7.945 shows that water quality is almost neutral nature. However, an analysis result of TDS varies from 120.0 to 196.0 mg/l. Total Hardness from all the locations is found well within the limit and ranging from 78 to 124 mg/l.

##### **Soil**

The analysis result shows that the soil is slightly Alkaline to moderate Alkaline in nature. NPK values of the solid samples are also good in amount. Therefore, it is inferred that soil quality is nearly good for crop production

##### **Biological Environment**

Based on physical survey, interview with local public and forest working plant of the area, total 10 fish species are present or identified nearby area. Almost all the fishes are identified in major rivers. Total 5 amphibians, 3 reptiles, 25 birds and 10 mammal species are found/ identified. All species are not categorized in any conservation status.

**14. Waste Treatment and Disposal Scheme** - Depending on the category/nature of the waste the following treatment and disposal method are employed according to Biomedical Waste Management Rules 2016.

##### **Solid Waste Management**

Wastes will be generated in the form of ash and other residues. Ash will be generated approx. 100 Kg to 150 Kg per day and quantity of other residues generated will be approx. 10 Kg to 20 Kg per day. **Disposal:** Ash residue from high temperature incineration and other material residues from the process shall be collected into containers / bags and shall be stored at temporary ash storage shed and shall be disposed into the secured landfill periodically after sufficient accumulation. All hazardous waste shall be strictly disposed as per Hazardous & Other Waste (Management & Trans-boundary movement) Rule, 2016.

15. The estimated project cost is Rs. 1.8 Crores. Cost towards environmental mitigation measures is predicted to be 25 Lakhs.

16. The Environment consultant **M/s Visiontek Consultancy Services (P) Ltd., Noida** along with the proponent has made a presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Visiontek Consultancy Services (P) Ltd., Noida**, the SEAC decided to take decision on the proposal after receipt of the following information / documents from the proponent.

1. Conversion of land "to industrial use" and submission of the relevant document thereof from the appropriate revenue authority be submitted.
2. Dense plantation should be carried out around safety zone/greenbelt taking into consideration direction of wind prevalent in that area.
3. Study of inversion of temperature in that area due to project.
4. Detailed report on leachate management.
5. Copy of agreement between the operator of any Common Hazardous Waste Treatment and Disposal Facility (CHWTF) in the State and Project Proponent for disposal of Incinerator Ash.
6. Provision of STP is essential & to be confirmed with design details.
7. Dispersion / Inversion study for concentration of pollutants on the ground for Incinerators & DG sets emissions be submitted.
8. Confirmation for adoption of ISO 18001 be submitted.

#### **ITEM NO. 03**

**PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S FERRO ALLOYS CORPORATION LIMITED (FACOR) FOR KATASAHU MANGANESE ORE MINES FOR PRODUCTION OF 28,119 TPA ROM OF MANGANESE ORE WITH TOTAL EXCAVATION OF 68,289 TPA (ROM OF 28,119 TPA + WASTE OF 40,170 TPA) FROM OVER AN AREA OF 13.674 HA. IN VILLAGE- KATASAHU UNDER BLOCK- JODA, SUBDIVISION - CHAMPUA IN KEONJHAR DISTRICT OF ODISHA – TOR**

1. The proposal was considered by the committee to determine the "Terms of Reference (ToR)" for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. M/s Ferro Alloys Corporation Limited (FACOR) has applied for "Terms of Reference (ToR)" for Katasahi Manganese Ore Mines for production of 28,119 TPA ROM of Manganese ore with total excavation of 68,289 TPA (ROM of 28,119 TPA + waste of 40,170 TPA) from over an area of 13.674 ha. in village- Katasahi under Block- Joda, Subdivision - Champua in Keonjhar district of Odisha.
3. The project falls under category "B" or activity 8 (a) - Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
4. The Mining Lease of Katasahi Manganese Mines was granted in favour of M/s Ferro Alloys Corporation Limited (FACOR) vide proceeding no. 3339 /SM, dtd. 04.05.1998 issued by Department of Steel and Mines, Govt. of Odisha. Subsequently the lease deed was executed for entire lease area over 13.674 ha. for 20 years, from 01.08.1998 to 31.07.2018. By virtue of Section-8A (3) of MMDR Act-2015, the mining lease of Katasahi Manganese Mines is deemed to have been granted upto 31.07.2048. Katasahi Manganese ore mines has no previous EC. Consent to Operate was issued by SPCB,

Odisha for production of 5040 TPA of manganese ore vide letter no. 13493/IND-I-CON-5572, dated 16.08.2010, valid upto 31.03.2011.

5. The lessee has reported the opening date of mining to be 30.04.2001. However, the commercial production from the mines has been started in 2002. The mining operation has been stopped within the lease area since 27.08.2010 by the IBM due to violation found against the approved mining scheme; later the same suspension has been revoked by IBM itself vide its order of 25.01.2011. But mining operation has not started after that due to lack of EC & FC. At the time of lease execution, entire 13.674 Ha was classified as non- forest land, but later on the office of Tahasildar, Badbil, vide his Memo no. 3047 dtd. 28.06.2016 has verified the total mining lease area of 33.79 Ac (13.674 Ha.) of Katasahi Manganese Mines of FACOR and certified that out of 13.674 ha., 8.725 ha. area was coming under Forest Category as per Sabik Settlement Record of 25.10.1980. Accordingly application for diversion of 8.725 Ha. forest land for non-forest purpose (mining) is submitted to MoEF& CC.
6. Now, the lessee has decided to restart production of manganese ore to maximum ROM of 28,119 TPA (20,527 TPA of +20% grade manganese ore and 7,592 TPA of +10 to +20% grade manganese ore) with total excavation of 68,289 TPA (ROM of 28,119 TPA + 40,170 TPA of waste) from the lease area. Scheme of Mining with Progressive Mine Closure Plan was approved by Regional Controller of Mines, Indian Bureau of Mines vide letter no- MS/OTF-MECH/63-ORI/BHU/2010-11, dated 11.04.2011. Then the Review of Mining Plan along with Progressive Mine Closure Plan has been approved for the period 2021-22 to 2025-26 by the same authority vide letter no- RMP/A/24-ORI/BHU/2020-21/1269, dated 23.11.2021. The project cost is estimated to be Rs. 7.31 crores.
7. **Location and Connectivity** - The lease area falls in Toposheet No 73G/5 (F45 N5) and bounded by latitude  $21^{\circ} 57' 33.27''$  N to  $21^{\circ} 57' 14.79''$  N and longitude  $85^{\circ} 19' 01.26''$  E to  $85^{\circ} 19' 27.72''$  E. Nearest town are Barbil (21km away) and Koida (9km away) where all facilities like medical, postal, education, market, etc are available. The area does not have any monuments of historical or archeological importance, pilgrimage, any place of tourist interest, national park, bird or wild life sanctuary within 10km radius. Interstate boundary between Odisha and Jharkhand lies at distance of 9.5km from the proposed project site. The mining lease area is having flat to adulatory topography with a hillock located to the western portion of the leasehold. The general slope of the area is to the south. The altitude in highest part of the area is 622.5m RL while lowest part is 567.5m RL. Surface runoff water flows along the natural slopes into Suna Nadi/ Kundra nala in southern side of the lease area. The mining lease area is located in tropical region where climate is characterized by hot summers and cool winters.
8. **Total Reserves and Method of Mining** - Katasahi mining lease area over 13.674 hectares consisting of two blocks i.e. Block- A (9.275 ha) and Block- B (4.399 ha). Geological reserves of 455,983 MT and Mineable reserves of 411,320 MT have been assessed for the manganese ore in the lease area. The future mining will continue simultaneously in the existing two pits (Quarry- 1 & Quarry- 2) within the lease area to gradually achieve the production target of 28,119 tons of manganese ore per annum. Life of the mine is 15 years whereas ore to waste ratio was 1:0.72 (t/ m<sup>3</sup>).
9. Open cast mechanized method of mining on single shift basis with drilling & blasting is proposed to excavate the manganese ore. Height and width of the benches will be



maintained at 6m & 9m respectively; overall quarry slope angle will be maintained at 30° with horizontal. ROM of Manganese ore lifted from mines will be transported to manual breaking, sorting & sizing yard from where manganese ore with +20% Mn will be dispatched to consuming industries like steel plants, ferro-manganese plants, silico-manganese plants, etc and sub grade ore with 10% to 20% Mn will be stacked initially & dispatched subsequently after blending with +20% Mn as per demand.

10. **Waste Generation and Management** - Presently, an area of 3.738 ha. is already degraded in the lease area due to previous mining & ancillary activities and conceptually, this area increases to 7.645 ha. No top soil will be generated from the Quarry- 1 whereas from Quarry-2 3,000 m<sup>3</sup> of top soil will be generated during review of Mining Plan period, which will be stacked temporarily over 0.1 ha. in Block – B & use for plantation in subsequent years. At present there are 3 waste dumps (Dump-1, Dump-1A & Dump-2, which are all inactive in nature) having total volume of 13,060 m<sup>3</sup> occupying 0.45 ha. in total. During the proposed mining period, Dump-1 & Dump- 1A shall be merged. Conceptually the 2 waste dumps (Dump – 1 & Dump - 2) will occupy 1.176 ha.; of which 0.315 ha. will be occupied by Dump -1 & 0.861 ha. will be covered by Dump- 2. Both the dumps will attain a height of 10m in one tire. During tenth year of mining i.e. 2032-33, backfilling will start from the southern part of the Quarry- 1. 2,00,257 cum waste (total waste to be generated in the last 10 years of mining) will be utilized for reclamation of mined out land of Quarry - 1; balance 91,780 cum waste will be dumped in existing two dumps. Quarry- 2 will be converted to water body at the end of the life of the mine.
11. **Water Requirement** - The peak water requirement shall be 30 m<sup>3</sup>/ day and shall be met from the ground water with due permission. Ground water table will not be intersected as ultimate working depth of the mines will be at 566m AMSL whereas the water table of the area reaches maximum upto 550m AMSL during post monsoon period.
12. **Employment Generation** - The mining activity shall generate direct employment opportunity of about 77 nos. and most of them shall be fulfilled from the locals.
13. The project cost is estimated to be Rs. 7.31 crores. A fund of Rs 80 lakhs has been earmarked as capital cost for the implementation of EMP and Green Belt Development plan. Recurring cost of Rs 25 lakhs annually.
14. The Environment consultant **M/s Centre for Envotech & Management Consultancy (P) Ltd., Bhubaneswar** along with the proponent has made a presentation on the proposal before the Committee.
15. The Committee observed that the mine had gone for production in the year 2010-11 and 2011-12 without Environmental Clearance and subsequently closed due to want of Environmental Clearance and Forest Clearance. The committee also observed nearby habitation is 100 meter away from the mining lease area.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Centre for Envotech & Management Consultancy Pvt. Ltd. Bhubaneswar**, the SEAC decided to take decision on the proposal after receipt of the following information / documents from the proponent.

- i) The mine had gone for production in the year 2010-11 and 2011-12 without Environmental Clearance and subsequently closed due to want of Environmental Clearance and Forest Clearance. The lessee has to clarify as to why the case will not be considered as violation case.

- ii) A Primary school is located within the lease area and a ME school is located adjacent to lease area, Cremation ground at 300 mtr distance and Grazing land of 6.681Ha. PP needs to bring it to the knowledge of the Government on the above and submit the response of the later.

#### **ITEM NO. 04**

#### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S MISRILALL MINES PVT. LTD., FOR ESTABLISHMENT OF 30 TPH CAPACITY CHROME ORE BENEFICIATION PLANT HAVING THROUGHPUT OF 1,98,000 TPA AND ANNUAL CHROME CONCENTRATE PRODUCTION OF 97,000 TPA BASED ON AVERAGE GRADE 30% CR<sub>2</sub>O<sub>3</sub>, AT VILLAGE - PANKAPAL, TAHASIL: SUKINDA DISTRICT - JAJPUR OF SRI SIDHARTHA JAIN - TOR**

1. The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. M/s Misrilall Mines Pvt. Ltd., has applied for “Terms of Reference (ToR)” for establishment of 30 TPH Capacity Chrome Ore Beneficiation Plant having throughput of 1,98,000 TPA and Annual Chrome Concentrate Production of 97,000 TPA based on Average Grade 30% Cr<sub>2</sub>O<sub>3</sub>, at village Pankapal, Tahasil: Sukinda District: Jajpur of Odisha.
3. The project falls under category “B” or activity 2 (b) - Mineral Beneficiation projects under EIA Notification dated 14th September 2006 as amended from time to time.
4. **Location and Connectivity** - The proposed project will be established near the Ferro Chrome Plant of M/s. Misrilall Mines Pvt. Ltd. at village Pankapal, PS- Kalinga Nagar, Tehsil - Sukinda in Jajpur district of Odisha State. The project is geographically located around coordinates having Latitude 20° 55'10.88” N and Longitude 86° 00' 45.90” E. The contour varies from 35.8 to 42.4 m MSL. Almost 80% of the study area is having contour 40 to 60 meters a MSL around the project site. The said project can be located in Survey of India Toposheet No. F45U1. Nearest Railway Station is Jajpur Road Railway Station at a distance of 12 Kms from the Project site. Nearest Airport is Biju Pattnaik International Airport at 150kms. Nearest Major Habitation is Jhakhapura village. Nearest NH/ Highway is NH – 53. Nearest RF/PF is Dangadi Protected Forest (Open Mixed Jungle) at 8.27 Km, Sunajhara PF – Badasila (Open Mixed Jungle) at 5.31 Km and Barhagaria (Open Jungle) at 7.53Km. Nearest rivers are - Brahmani River at 3.39 km, Pandara Nadi at 5.53 km and Ganda Nadi at 8.30 km. The area falls in Seismic Zone – III which is under Moderate Damage Risk Zone.
5. **Raw Material Requirement:** The basic raw material is Low grade Chrome Ore which will be sourced from Odisha Mining Corporation (for which they have obtained necessary registration from OMC) and also from other mining resources from India and abroad. The raw material required for the project is low grade chrome ore having chromium content ranging from 20 to 40 % Cr<sub>2</sub>O<sub>3</sub>.
6. **Brief Description of Nature of the Project:** M/s Misrilall Mines Pvt. Ltd. has Ferro Chrome unit at village Pankapal, PS. Kalingnagar, Jajpur District and another unit at Kamakhyanagar, Dhenkanal District in Odisha having present production capacity 22,500 TPA High Carbon Ferro Chrome. Apart from the above company obtained permission of additional 4 X 9 MVA capacity furnace which will increase the production

capacity by additional 66,000 TPA for which company have obtained environment clearance from MoEFCC, New Delhi. To meet the requirement of in-house Ferro Chrome plant, to cater other Ferro chrome industries and for trading, the COB division of the Company will install 30 TPH capacity Chrome Ore Beneficiation Plant having throughput of 1,98,000 TPA and annual Chrome Concentrate production of 97,000 TPA by processing of low and sub grade Chrome to into High grade Chrome Ore concentrate.

7. **Size or Magnitude of Operation:** The proposed project will be able to feed 30 TPH to the plant and to produce Chrome concentrate which will be utilised as raw material for production of High Carbon Ferrochrome. The annual feeding will be 1,98,000 MT and annual Chrome Concentrate production will be 97,000 MT based on Avg. Grade 30% Cr<sub>2</sub>O<sub>3</sub>.
8. **Project Description:** The Plant is based on gravity separation process with a feeding capacity 30 TPH comprises of feed Hopper, Reciprocating feeder, mechanical scrubbing unit, conveyors, single deck screening unit, crushing unit and processing unit consist of slurry pumps, water pumps, stub cone and long cone hydro cyclones, dewatering cone, Fluidised Bed Concentrator (FBC), Rougher spirals, Cleaner Spirals, Tailings Scavenger Spirals and Tailings Cleaner Spirals, Shaking Table( Tripple deck) stock piling areas, Ground water reservoir, Zero discharge Tailings Pond .
9. **Water Requirement:** About 90 KL/day of water will be required for the process as make up water which will be drawn from rain water harvesting pond of Ferro Chrome Plant of M/s. Misrilall Mines Pvt. Ltd. About 5 KL/day of potable water will be consumed for drinking & other purposes. The company will obtain necessary approval from Central Ground Water Board to draw from ground water through Bore well.
10. **Power Requirement and Its Source:** The proposed Chrome Ore Beneficiation Plant requires a contract demand of 500 KVA. The Power will be obtained from substation of Ferro chrome Plant of M/s. MMPL with necessary statutory permission from the Electrical Power authority.
11. **Solid Waste Generation:** The solid waste generated will be in form of Tailings mud. The quantity of Tailings will be 1,01,000 MT from 1,98,000TPA low grade chrome ore for producing 97,000 MT Concentrate in the Chrome Ore Beneficiation plant.
12. **Solid Waste Management:** The tailings generated in plant excavated from zero discharge tailings pond and dried in designated drying area. The tailings mud is not hazardous in nature. It is proposed to utilize in the Ferro chrome plant as a replacement of Mill Scale and also can be utilized in making bricks, construction of Roads etc.
13. **Other Solid waste** like waste cottons, empty bags, rejected gaskets, empty bottles band jerry canes, steel structures and rejected spares of process equipment etc., generated may have scarp value and shall be disposed off with price realization to the authorized vendors. Used oil will be disposed to authorized reprocessing units having valid authorization from Odisha State Pollution Control Board.
14. **Water Pollution Management:** The plant use water for beneficiation of Chrome Ore will be reclaimed from the zero discharge. Tailings Pond and reuse in the beneficiation of chrome ore. Balance water added to the process as make up water will be taken from the rain water harvesting pond of M/s. MMPL, Ferro Chrome Unit. Runoff water during rainy season and surrounding the plant area will be channelized to water harvesting pond of Ferro chrome Plant after necessary treatment. No housing colony will be

constructed in the premises. However, Sewage generated from office /toilet will be in a septic tank followed by soak pit. No water will be discharge outside.

15. **Manpower Requirement:** The Plant would operate for about 330 days in a year. The estimated requirement of employment is about 50 employees (both direct and indirect) to operate the plant.
16. **Rehabilitation and Resettlement (R & R Plan):** The said Chrome Ore Beneficiation Plant will be established near the existing Ferro Chrome plant of the Company M/s Misrilall Mines Pvt. Ltd. No settlements exist within project area. CSR activities will be adopted by the Project proponent.
17. **Project Schedule:** The project will be completed in a period of 12 months. The zero date will be considered as the date on which EC is obtained.
18. **Project Cost:** The Project Cost of the proposed project is Rs 5.00 crores (Rupees Five Crores) or Rs.500.00 Lacs (Rupees Five Hundred Lacs) only including capital cost towards Environment Management Plan (EMP) of Rs.60.00 lacs. The same will be sourced from its own internal accruals without any borrowing.
19. The Environment consultant **M/s Visiontek Consultancy Services (P) Ltd., Bhubaneswar** along with the proponent has made a presentation on the proposal before the Committee.

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

- i) Chemical analysis report on Chromite ( $Cr^{+6}$ ) content in soil, ground water and plant, within mining area and surrounding area.
- ii) Detail report on technology use, monitoring schedule and standard procedure adopted for conversion of  $Cr^{+6}$  to  $Cr^{+3}$  in plant.
- iii) Detailed water balance.
- iv) Plant layout showing greenbelt, ETP, Rain Water Harvesting etc. to be submitted.
- v) Details of usage of tailings along with supporting documents.
- vi) Details of rain water harvesting method proposed and its usage.
- vii) Detailed report on leachate management.
- viii) Supporting documents for land is not forest land as per Forest Act 1980.
- ix) Detailed dimension regarding green belt.
- x) Kisam of the land is stated to be " Pathar khani". Construction shall start only after conversion of the land to " Industrial Use" in terms of Sabik record.
- xi) Water Balance of the existing and the proposed plant be submitted since process water requirement of 300 KLD has been stated to be met from RWH of existing plant.
- xii) It is stated by PP that tailings shall be used as mill scale for Ferro Chrome plant, construction of road and brick manufacturing. The details of the same be submitted with illustrations/ examples.

- xiii) Confirmation for provision of STP with detail design.
- xiv) Detail dimensions/ area for Green Belt be submitted since it is shown as 10 percent only.
- xv) Provision of ETP with detail design be submitted for tailing pond liquid treatment including showing tailing pond, ETP, Recirculation Pond & RWHP with detail design and dimensions (to scale)

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

#### **PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR CONSTRUCTION OF STAGE-II DEVELOPMENT OF FISHING HARBOUR AT VILLAGE- NUAGARH, ASTARANGA, PURI, ODISHA BY DEPARTMENT OF FISHERIES, ODISHA OF FISHERY ENGINEERING DIVISION, BHUBANESWAR - TOR**

1. The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. The project falls under category “B” or activity 7(e) Ports, Harbours projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. The proposed project is for Construction of Stage-II Development of Fishing Harbour at Village- Nuagarh, Astaranga, Puri, Odisha by Department of Fisheries, Odisha of Fishery Engineering Division, Bhubaneswar.
4. The project is for modernization & expansion of existing Fishing Harbor at Astarang (Nuagarh) in Puri District. This is planned over 17.69 Ac of land and 20.30 Ac of water front area constituting all the basic components of the Harbor infrastructure over Devi River. It is been has been designed to accommodate 1960 mechanized fishing vessel comprising 1628 nos. of 9 m motorized craft, 64 nos. of 12 m trawlers and 268 nos. of 15 m trawlers.
5. **Location and Connectivity** - Total land is 17.690 Acres is over Plot Nos. 863/3283, 852/3291, 860, 859, 849, 850, 858, 868/4110, 863/4111, 864/4112, 851/4113, 868/4114, of Nuagarh Village, Astaranga Tahasil of Puri District, Odisha. The geo co-ordinates are Latitude - 19°58'11.34"N- 19°58'30.75"N & Longitude - 86°20'15.32"E- 86°20'32.27"E and is a part of Survey of India Toposheet bearing No.E45C05. The project area is well accessed by Road. Puri Railway Station is at 55.42 Km distance and Biju Patnaik International Airport is at 62.64 Km distance from the site. The nearest town is Astaranga. Nearest habitation is Nuagarh village at 2.15 km from the project area. Nearest wildlife sanctuary is Balukhand - Konark Wildlife Sanctuary at 32.6 Km. The nearest RF/PF are Sahan P.F at 1.94 Km, Bandar P.F at 3.45 Km, Nadiakhia P.F at 6 Km. Nearest Rivers are Devi River at 100 m, Chanrapada Nadi at 300 m, Barada Nadi at 3.20 km, Siju Nadi at 4 Km.
6. The proposed project falls under seismic zone II (Low Damage Risk Zone) and Cyclone / Wind hazard (Vb = 50m/s – Very High Damage Risk Zone).
7. The area is devoid of any forest land & free from encroachments. The total land is in possession of F&ARD Department, Govt. of Odisha.
8. The project includes construction of Fishermen’s Gear sheds, (Area 645.2 m<sup>2</sup>), Net mending sheds (827.8 m<sup>2</sup>) & fisherman rest shed (427 m<sup>2</sup>) as facility for Storage & Processing of the daily catch. A compound wall of 733m will be constructed sea-ward for

protection of the area. The different facilities to be developed and enhanced are :- Fish handling and auction hall; Fish loading area; Fishery administrative office; Fishermen gear sheds; Net mending sheds; Boat Repair Shop; Restaurant; Rest shed; Fish Merchants Dormitory; Public toilet blocks; Radio communication centre; Security/guardhouse; Compound wall; Approach Road; Internal roads; Parking area for vehicles; Fresh water supply and distribution system; Sea water supply and distribution system; Drainage/ Sewerage network; Effluent Treatment Plant; Electric power and lighting system; Ice plant and chilled storage; Public Amenities; Fire extinguishers; & Greeneries and landscaping.

**9. Some of the salient features of the project are:**

- Shallow well / water harvesting structures will be made to facilitate fresh water supply.
- Pumped river water will be utilized for cleaning purpose.
- Provision has been made for Electric Power Supply general lightening and 500 KVA, 11/0.40 KV electric sub-station inside the Harbour Complex.
- Independent 11 Kv. Sub-station will be installed to provide round the clock power supply from TPCODL.
- About 60 unit / per day load will be required for operation / illumination of Harbour Complex.
- For emergency situation, power would be supplied through stand by D.G. set.
- The project would give employment to 7,668 sea-going fishermen in 1,960 MFVs and about 7,000 persons in shore-based establishments, distribution and marketing of fish and crustacean products.
- Adequate STP facility will be provided within the harbor premises.
- Liquid waste generated from the washing of the catch material shall be processed in ETP and the treated water shall be used for Toilet Flushing and Gardening.
- The street lighting shall be done using solar power.

**10. Water Requirement - Total Water Consumption: 50 KLD.**

**11. Power Requirement -** About 60 units / per day load will be required for operation / illumination of Harbour Complex. The Power Supply will be made available from Public Distribution system of NESCO. Provision shall be made for Electric Power Supply general lightening and 500 KVA, 11/0.40 KV electric sub-station inside the Harbour Complex. For emergency situation, power would be supplied through stand by D.G. set.

**12. Solid Waste Generation & Management -** The proposed project is a purely one time Civil construction activity that is not likely to generate any form of solid / other waste what so ever. Even the left over trash fish, fetches a fairly high market value / price as a

supplement to animal feed for various indigenous aquaculture farm around living no organic solid waste. The in-organic solid waste from the day to day activities (MSW) shall be stored in a covered container isolated from the operational area and shall be transported to a designated MSW Processing yard. Therefore there will be no solid waste either stored or disposed off in-situ for any contamination of Soil or water environment.

13. **Liquid Waste Generation & Management** - Since this proposed project is not having processing unit and it is only a transit hub from harvest to dispose after fish paving a meagre amount of waste water will be generated from the project. Besides for cleaning of the harbour, also 25- 30 KLD of waste water will be generated from the project, which will be treated in ETP followed by settling tank and recycled in the process. Approx. 6 KLD of domestic sewage shall be treated in modular STP and the treated water shall be used for greenbelt development. Hence a ZLD principle shall be adopted for this project.
14. **Employment Potential** - The project would give employment to 7,668 sea-going fishermen in 1,960 MFVs and about 7,000 persons in shore-based establishments, distribution and marketing of fish and crustacean products. Thus, 14,668 persons would be benefited directly in the fishing industry from project implementation, apart from the indirect benefits that would accrue as a result of developmental efforts.
15. The total Project Cost is estimated at Rs. 82.86 Crores., which has obtained administrative approval from the Govt. of India under PMMSY Scheme.
16. The Environment consultant **M/s Ind Tech House Consult, Rohini, Delhi** along with the proponent has made a presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Ind Tech House Consult, Rohini, Delhi**, the SEAC prescribed the following specific ToRs in addition to standard ToRs as per **Annexure – B** for conducting detailed EIA study.

- (i) Recommendation of Odisha CRZ Authority for the project.
- (ii) Detailed soil study with type, sediment size and soil profile.
- (iii) Detail socio economic study, biodiversity study, stimulation study in case of air & water monitoring.
- (iv) Approval from Ministry of Defence, DRDO, Govt. of India for the project.
- (v) Structural stability certificate on seashore side. Extreme value analysis and design of Jetty.
- (vi) Details of Solar Pump and other solar systems to be installed.
- (vii) Preventive measures may be taken for erosion.
- (viii) Layout plan on greenbelt and species to be planted.
- (ix) Provision for STP.
- (x) Parking details along with layout plan.
- (xi) Kisam of the land in terms of Sabik record be submitted for other than inside water area of 23 Acres

## **ITEM NO. 06**

### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR GUITANA, NAGRIGUDARI, KAINJHAR SAND MINING PROJECT OVER AN AREA OF 5.156 HA/ 12.740 ACRES FOR PRODUCTION OF 2,100 C.UM/ANNUM AT VILLAGE- GUITANA, NAGRIGUDARI, KAINJHAR, TEHSIL: TIKABALI, DISTRICT:KANDHAMAL OF SRI SATYABAN KANHAR – EC**

1. The proposal is for Environmental Clearance for Guitana, Nagrigudari, Kainjhar Sand mining project over an area of 5.156 Ha/ 12.740 acres for production of 2,100 c.um/annum at Village- Guitana, Nagrigudari, Kainjhar, Tahasil: Tikabali, District: Kandhamal of Sri Satyaban Kanhar.
2. The project falls under category “B1” or activity 1 (a) – Mining of Minerals projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. The Letter of intent has been issued vide letter no. 3051 on dated 07.12.2018 by Tahasildar, Kandhamal for a period of five years. Mining Plan has been approved by Directorate of Geology South zone, Berhampur vide letter no. 418/ SZ dated-09.04.2019.
4. The TOR was issued by SEIAA for this project vide letter No. 1511/SEIAA dated 17.06.2021.
5. The public hearing has been conducted on 29.09.2021 at Kainjhar G.P. Office, Tikabali Block, District: Kandhamal, Odisha.
6. **Location and Connectivity** – The proposed project is located in Khata No. 29, 55, 55, 290 Plot No- 1, 420 & 348, 1817/1955, in Village: Guitana, Nagrigudari, Kainjhar, Tahasil- Tikabali, District: Kandhamal, Odisha and bounded by Latitude: 20° 17' 19.59" N to 20° 17' 20.28" N Longitude: 84° 14' 18.56" E to 84° 14' 38.3" E and falls on Survey of India (SOI) Topo-sheet No : NF- 45-13. Nearest State/ National Highway is SH-7 at a distance of 5.8km and NH- 59 at 27km. Nearest Railway Station is Rairakhol Railway Station at 85km. Nearest Airport is Biju Patnaik International Airport, Bhubaneswar at 162 km. Nearest habitation is Kanijhar village at 0.7 km and nearest town is Tikabali, approx.11.0 km. Nearest RF is Bandhagarh Reserve Forest, approx 0.81 km. This area does not form part of any National Park, Wild Life Sanctuary and Natural/Biosphere reserve.
7. **Reserves and Proposed Production** – The total geological reserves is 77,340 cu.m and mineable reserves is 14,001 cu.m. The proposed production is 2,100 cum /year or 3,780 TPA of Sand.
8. **Basic Requirements For The Project**
9. **Manpower:** About 14 persons will be given employment to the people of nearby villages.
10. **Water Requirement:** There is requirement of approx. 4.0 KLD water for this project. 0.2 KLD will be for drinking/domestic purpose which will be abstracted from old ground water source. For other purpose water will be taken from mine.
11. **Mining Method:** Mining will be done by manual method. Since the depth of sand deposit is 1.5m, excavator, handpicks, spade, hand shovel will be used by laborers for extracting & loading of sand. The proposed mined out areas will gradually get filled up by river sands



transported with water from upstream direction.

12. **Baseline Study:** Baseline data on ambient air quality, water quality, noise level, soil, flora and fauna site-specific meteorological data have been collected for winter season during December, 2020 to February, 2021.
13. **Public Hearing:** The public hearing has been conducted on 29.09. 2021 at P Kainjhar G.P. Office, Tikabali Block, District: Kandhamal, Odisha.
14. During public hearing all village were in support of this project various issues raised were -
  - ✓ Possibility of damage to the river banks & flooding of nearby agricultural land.
  - ✓ Pollution due to mining, loading & transportation.
  - ✓ They also asked about benefits of projects to villagers.
  - ✓ Repair of transportation route.
  - ✓ They requested to stop illegal mining
  - ✓ Mine manager ensure that mining will be by manual method only upto 1.5m depth. Transportation route & vehicle will be regularly maintained by PP to reduce the chances of accident. Water sprinkling will be done on regular basis to control dust emission & plantation will be carried out along transportation route & in village which act as a sink of the pollutants. Beside this PP will do development works in village under CER budget.
15. **Greenbelt Development:** Plantation will be done in mining lease approach road. About 620 numbers of trees will be planted along approach road in the first year & at other place after consultation with the local authorities.
16. **Project Cost Estimation:** The estimated cost of the project is Rs. 40.0 lakh. Under CER budget - About 2% of the project cost will be used for the development of the social infrastructure of the area. Under EMP Budget - About Rs. 3.0 lakhs (Capital), Rs. 3.7 lakhs (recurring) will be used.
17. The Environment consultant **M/s P&M Solution, C-88, Sector 65, Noida** along with the proponent has made a presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s P&M Solution, C-88, Sector 65, Noida**, the SEAC recommended for grant of Environmental Clearance for the proposal valid upto lease period with stipulated conditions as per **Annexure – C** in addition to the following specific conditions.

1. Revised mining plan shall be prepared based on essential physical criteria as per Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India enclosed as **Annexure - D**. Lay out of Progressive Mine Closure Plan shall also be incorporated in the Revised Mining Plan.
2. Regular replenishment study to be conducted and report to be submitted.
3. Provision of Bio-toilet shall be made at the site.
4. Avenue plantation and plantation on both sides of the haulage road in consultation with/ on the advice of concerned Forest Department, Government of Odisha & W.R. Department Government of Odisha as well.
5. Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.

6. In view of the likely revision of DSR for Kandhamal District in future the details of this Minor Mineral reserve to be ascertained in the revised DSR.
7. In view of the difference commonly found in sand deposits, the determination of Mining lease by local Tahasildar considering the Dimensions like average length, breadth and height of the deposit to be re-ascertained by the Revenue Department and RQP for final exploitation of sand and higher revenue for the state of Odisha.
8. All the provisions of Sand Policy of Govt. Of Odisha Dtd 2.09.2021 to be followed for this sand mining project.

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

#### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR KHEMABEDA DECORATIVE STONE M.L. 56 (DOLERITE/ BLACK GRANITE) MINES DEPOSIT OVER AN AREA OF 8.353 HECTARES/ 20.64 ACRES LOCATED IN VILLAGE KHEMABEDA NO.200, TAHASIL: BOIPARIGUDA, DISTRICT: KORAPUT OF SRI DEVARA LATHA - EC**

1. The proposal is for Khemabeda Decorative Stone M.L. 56 (dolerite/ black granite) Mines deposit over an area of 8.353 hectares/ 20.64 Acres located in Village Khemabeda no.200, Tahasil: Boipariguda, District: Koraput of Sri Devara Latha.
2. The project falls under category "B1" (Lease area > 5.0 Ha) or activity 1 (a) – Mining of Minerals projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. The mining lease has been granted by the Govt. of Odisha, Dept. of Steel & Mines, vide their letter no. 5919/S & M, Bhubaneswar, dated 13.08.2019 in favour of lessee Smt. Devara Latha for 30 years.
4. The Mining Plan along with the PMCP was approved by Director of mines, Bhubaneswar vide letter No. MXXII-(a) 5/2020/5880/DM dated 28.08.2020.
5. The ToR for preparation of EIA/EMP report of the project was approved by SEIAA, Odisha vide letter no. 293/SEIAA dated 02.02.2021.
6. **Location and Connectivity** - The applied mining lease area of Khemabeda decorative stone mines is a part of the area covered in the Survey of India Toposheet no. 65J/6 (E44K6) and is bounded by Latitude: 18<sup>0</sup>38'24.0"N to 18<sup>0</sup>38'30.1"N and Longitude–82<sup>0</sup>24'43.4" to 82<sup>0</sup>25'01.1"E . Nearest Railway station is at Koraput at a distance of 37 Km from the ML area. Nearest national and state highways are NH 43 at a distance of 36 km and SH 25 at a distance of 6.6 km. Nearest town is Jeypore at a distance of 29 Km. The highest and lowest elevations of the area are 694mRL above MSL in the southern east part and 670mRL above MSL in the southern part of the M.L area respectively.
7. **Reserves and Production** - The production capacity is 4000 (c.u.m)/annum dolerite. Total excavation will be 13334 (c.u.m)/annum. The geological and mineable reserves of Khemabeda Decorative Stone Mines of area 8.353 Ha is 10,15,494cum and 7,98,911cum respectively. Mining is proposed by opencast and semi mechanized method with the deployment of machines like Jack Hammer Drill, Compressor, Hydraulic Excavators & Tippers. The decorative stone blocks will be extracted, loaded and transferred from a quarry face to the stone cutting shop/processing plant/port through trailers/lorries/ trucks.

8. **Water Requirement** - Total water requirement for the project will be 5 KLD and source will be Tanker for domestic purpose and RWH for dust suppression and plantation.
9. **Baseline Study and results** - The EIA/EMP report is based on the data generated from October 2020 to December 2020 by M/s Kalyani Laboratories Private Limited. The study area is confined to 10 km radius of the ML area.
10. From the soil analysis result, it can be concluded that the soil of the area is having low fertility in terms of Nitrogen and Potassium content and medium to high in terms of Phosphorous content. The cultivation observed in the agricultural fields is Paddy, Cotton, Sunflower, Flax Seed, Maize, Small millet and vegetables.
11. During the study period, the concentration of PM10 in the project site varies from 37.8-39.7  $\mu\text{g}/\text{m}^3$  and from 33.5-40.7  $\mu\text{g}/\text{m}^3$  in the nearby villages. The average value of PM2.5 in the project site is 21.1-25.4 $\mu\text{g}/\text{m}^3$  and the average of PM2.5 varies from 16.7-25.4 $\mu\text{g}/\text{m}^3$  in the surrounding villages. The concentration of SO2 within the project site varies from 8.3-9.3  $\mu\text{g}/\text{m}^3$  and within the nearby villages it ranges between 6.4-9.5  $\mu\text{g}/\text{m}^3$ . The concentration of NOx within the project site ranges between 13.3-14.4 $\mu\text{g}/\text{m}^3$  and within the villages it ranges from 10-19.5 $\mu\text{g}/\text{m}^3$ . From the ambient air quality monitoring, it has been found that the concentrations of the particulate matter, SO2, NOx, are within the NAAQS standard as prescribed by CPCB.
12. The pH of the sample surface water ranges from 6.5-7.2, EC value ranges from 73-329  $\mu\text{S}/\text{cm}$ , D.O ranges from 7.2 to 7.4 mg/l, BOD in nearby waterbody is less than 1 mg/L, TDS ranges from 60 to 170 mg/l, total hardness varies from 40-96, nitrate value ranges from 0.15-0.42 mg/l, Fluoride content ranges from 8.0 to 56.0 mg/l and Iron content varies from 0.76 to 8.4 mg/l.
13. As per the data it has been observed that the pH of the ground water varies From 6.5 To 7.6, Chlorides Ranges From 8.0-14.0 Mg/L, Sulphates value found to be less than 1, Hardness varies from 28-60 mg/l, Total dissolved solid 60-100 mg/l and Iron content is less in sampling locations except in lease area where the value is 0.18mg/L The above result shows that ground water is suitable for human consumption at few place.
14. The study area within 10 Km of the project site is devoid of any national parks, sanctuaries, Biosphere reserves, wild life corridors, tiger reserves etc.
15. The prediction of air quality due to proposed activities through simulation model shows that, the maximum incremental Ground Level Concentration (GLC) of PM10 will be 0.02  $\mu\text{g}/\text{m}^3$  in SW direction at a distance of 100m. The resultant concentration of PM10 will be 39.62  $\mu\text{g}/\text{m}^3$  which is well below the prescribed National standard of ambient air quality.
16. The mining activity is not likely to intersect ground water. The ground water level is 640 m RL. The ultimate depth of mining will be 659mRL which is much above the ground water table. So there will be no chance of intersecting the ground water table by the mining activity during the conceptual period also.

17. **Greenbelt** - The plantation will be done over an area of 0.371 Ha in the lease boundary and open spaces available.
18. **Public Hearing and Issues raised** - The Public Hearing for the project was conducted at village Khemabeda under Bandhugaon Tahasil of Koraput district was conducted on dated 22/12/2021 at 11:00 A.M. The major issues raised during public hearing are pollution control, siltation due to mining in the plantation areas, local developmental activities, repair and maintenance of culvert, health facility, drinking water facility and road development etc.
19. **Employment Potential** - Total 25 nos man power is needed for the project.
20. The cost of the project is 200 Lakhs. The updated capital cost and recurring cost (per annum) for the environmental facilities for the project works out to 7.54 lakhs and 6.8 lakh / year respectively. The cost allocated for social developmental work as per commitment made during public hearing will be Rs. 23.45 Lakhs.
21. The Environment consultant **M/s Kalyani Laboratories Pvt. Ltd. Plot No. 78/944, Millennium City, Pahala, Bhubaneswar – 752101** along with the proponent has 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., plot no. 78/944, Millennium city, Pahala, Bhubaneswar – 752101** along with the project proponent, the SEAC recommended for grant of Environmental Clearance with stipulated conditions as per **Annexure – E**.

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

#### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR KARLICHUAN DECORATIVE STONE MINES OVER AN AREA OF 16.62 ACRES OR 6.726 HECTARES VILLAGE - KARLICHUAN, TAHASIL -TENTULIKHUNTI, DISTRICT- NABARANGPUR OF SMT PADMA PARI – TOR**

1. The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. The project falls under category “B1” or activity 1(a) – Mining of Minerals projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. The proposed project is for Karlichuan Decorative Stone Mines over an area of 16.62 acres or 6.726 hectares Village - Karlichuan, Tahasil -Tentulikhunti, District- Nabarangpur.
4. The applied Mining lease has been granted conditionally by Department of Steel & Mines, Govt. of Odisha for 30 years and issued the Terms & Conditions Letter vide Letter No/S & M, Bhubaneswar, Dt. 08.02.2021 in favour of Smt. Pari Padma, W/o- Sapan Kumar Tripathy, VIP Colony, 1st line, Parabada, At/Po- Jeypore, District- Koraput.
5. Mining plan approval for the period of 30 year has been approved vide letter no.-MX XII-(b)-09/2021-6786/DM and has been prepared by Sri Nihar Ranjan Nayak, Regd. No. RQP/OD/019/2015, The Techno Chamber, Bhubaneswar-751006.
6. **Location and Connectivity** – The Karlichuan mining lease an area of 16.62 acres or

6.726 hectares in village- Karlichuan, Tahasil - Tentulikhunti, District - Nabarangpur, State - Odisha. The granted M.L. area for decorative stone is covered in the Survey of India Toposheet No. E44 E11 (65 I/11) and bounded by latitude N 19°16' 21.50" to N 19°16' 31.60"& Longitude E 82°42' 42.07" to E 82°43' 01.30". Nearest town is Nabarangpur with all facilities like Police Station, Education and medical facilities are present, at a distance about 17.70km from the M.L area. Telephone, Medical and schooling facilities are available in Tentulikhunta village at a distance of about 2.30 km from the M.L area. The nearest NH is NH-26 from the lease area at a distance of 18 kms. The nearest railway station is Jeypore at a distance of about 46.50km from the area. The area is devoid of any stream. The drainage pattern of the area is dendrite. As the region shows an undulated hilly topography, there is neither any seasonal nor any perennial nalla flowing within the applied mining lease area.

7. **Reserves and Production** - Maximum production Capacity of decorative stone: 1000 Cu.m/ annum and Maximum excavation: 4000cu.m/ Annum. The geological and mineable reserves of Karlichuan Decorative Stone Mines are 174594.00 cum and 120297cum respectively. Mining is proposed by opencast and semi mechanized method with the deployment of machines like Jack Hammer Drill, Compressor, Hydraulic Excavators & Tippers. Blasting is not required for the production of blocks. Decorative stone will be detached from the country rock by using wire saw cutting. The drilling will be done in a regular pattern with a maximum depth of 3 m.
8. **Waste Generation and Management** - During the proposed plan period, a total of 13000.00m<sup>3</sup> of waste will be generated due to course of mining. However about 40% of the generated waste will be utilized for maintenance and construction of the haul road, approach and existing roads in the surrounding areas periodically. Therefore a total of 5200.00m<sup>3</sup>of waste will be utilized for construction and maintenance of roads and remaining 7800.00m<sup>3</sup>of waste will be dumped in the proposed temporary waste dump.
9. It has been observed from the nearby wells and tube wells that the water touches at about 7 to 9 m depth i.e. about 595 mRL. As such, there is no intersection of water table during mining plan period and as such there will not be any impact on the water regime.
10. **Water Requirement** - Total water requirement for the project will be 5 KLD out of which 2 KLD will be required for drinking and domestic purpose and 1.5 KLD for dust suppression and 1.5 KLD for plantation purpose. Source of domestic water will be nearby village well.
11. **Power Requirement** - Diesel requirement of 6000litters/month for operation of mining equipment and DG sets.
12. **Green Belt** – 2500nos of saplings will be planted over an area of 12060m<sup>2</sup> along the safety zone during the plan period.
13. **Employment Potential** - There is total 30 nos. of technical persons, supervisory staffs and labours to carry out the mining and allied activities.
14. The cost of the project is 200 Lakhs.
15. The Environment consultant **M/s Kalyani Laboratories Pvt. Ltd. Plot No. 78/944, Millennium City, Pahala, Bhubaneswar – 752101** along with the proponent has made a presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Kalyani Laboratories Pvt. Ltd. Plot No. 78/944, Millennium City, Pahala, Bhubaneswar – 752101**, the SEAC prescribed the following specific ToRs in addition to standard ToRs as per **Annexure – F** for conducting detailed EIA study.

- (i) Since about 80% waste / non-saleable waste /dump, the detail management including its year-wise utilization to be submitted.
- (ii) “Zero discharge” management with silt management having SOP for periodical de-siltation (if & as necessary) be submitted.
- (iii) Must ensure No Surface run-offs / wash offs to nearby nalas.
- (iv) Plantation on both sides of the haulage road of desired no. & species be ensured.
- (v) No. of plant species proposed need to be increased and plantation be completed in the first year and the rest of the years, the same be maintained.
- (vi) STP of suitable capacity and design be in place for hygiene.
- (vii) Details of water balance (during monsoon and non-monsoon) be submitted with rain water harvesting.
- (viii) Dump management with detail calculations of waste utilization / inventory / sale including its chemical characteristics be submitted.
- (ix) Measures taken to prevent water ingress in mines pit during rainy season.
- (x) Water management with rain water harvesting along with calculation be submitted.
- (xi) Plantation to be undertaken in one year and maintain it in remaining years.
- (xii) Increase number of tree plantation along haulage roads and nearby suitable open areas.
- (xiii) Silt management including SOP for silt management for desilting of surrounding water body(s) / Agricultural land be submitted.
- (xiv) Proposed “Zero discharge” mechanism be submitted.
- (xv) Certificate from the concerned mining officer that there is no mine within 500m radius of proposed quarry.
- (xvi) Certificate from the concerned DFO that there is no forest land involved in the lease area.
- (xvii) Details of waste management along with the composition of waste is to be provided.
- (xviii) NOC/permission to be taken from private land owners/govt. land for plantation outside lease area.
- (xix) Biodiversity study of the area.
- (xx) In view of the likely revision of DSR for Kandhamal District in future the details of this Minor Mineral reserve to be ensured in the revised DSR.
- (xxi) Since, there is no involvement of advance exploration of the Decorative stone mining lease the local Tahasildar of Revenue Department must ensure the likely revised reserves after commencement of mining so that the State Government earns higher revenue. The revised data may be intimated to all concerns including modification of Mining lease and Mining plan.

## **ITEM NO. 09**

### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S INDALC SPIRITS PVT. LTD., FOR GRAIN BASED DISTILLARY UNIT (100 KLPD) WITH CO-GENERATING POWER PLANT (3.0 MW) LOCATED AT VILLAGE - SAPTASAJYA, DHENKANAL SADAR, DISTRICT –DHENKANAL - TOR**

1. The proposal was considered by the committee to determine the “Terms of Reference (ToR)” for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. The project falls under category “B1” or activity 5(g) – Distilleries projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. The proposed project is for M/s Indalc Spirits Pvt. Ltd., for Grain Based Distillery unit (100 KLPD) with co-generating power plant (3.0 MW) located at Village - Saptasajya, Dhenkanal Sadar, District –Dhenkanal.
4. **Location and Connectivity** - The proposed plant will be located in Khata No, 8/462, Plot No. 1200/2586, Khata No 8/470 plot no 1200/ 2580 and 1200/ 2585, Khata No, 8/482, Plot No. 1200/2583, Khata No, 8/483, Plot No. 1200/2582 and 8/473 plot no. 1201/2581 of at/Po: Saptasajya, Dhenkanal Sadar in Dhenkanal District, Odisha over an area of 19.9 Acre/8.05 Ha. The latitude of the area is 20° 35' 50.66”N to is 20° 35' 55.33”N and 85° 33' 26.87”E to 85° 33' 31.61”E and located in toposheet number 73H/10. The nearest city is Dhenkanal which is located at a distance of 7 Km from the project site. The nearest national highway is NH 55 which is 5.5 Km and Saptasajya Road – 4.0 km from the project site. Nearest railway station is Dhenkanal Railway station at 9km. Nearest habitation is Madyasahi Village at 0.65 km and Saptasajyaparaha Village at 1.25 km. Nearest water bodies are Saptasajya water falls – 2 km, Brahmani River – 15 Km & Mahanadi River – 17 Km. Nearest Reserve forest are Saptasajya RF – 1.0 km, Mayuri RF – 1.60 km & Kanakarharaha RF – 2.35 km. It falls under Seismic Zone – III.
5. **Process Manufacturing and products** - The proposed project is for installation of 100 KLPD grain-based distillery project for manufacturing of Ethanol (67.25 KLPD), ENA (24.75 KLPD) and DDGS (63.5 MT/day) as by product. During ethanol fermentation, glucose and other sugars in the corn (or sugarcane or other crops) are converted into ethanol and carbon dioxide. Ethanol fermentation is not 100% selective with side products such as acetic acid and glycols. They are mostly removed during ethanol purification. Fermentation takes place in an aqueous solution. The power plant will be using the combustion technology. The basic steps involve fuel handling, boiler, turbo generator and power evacuation system. Proposed 1 x 3.0 MW co- generation plant would consist of high-pressure water tube steam boilers firing biomass such as bagasse, Rice husk, parali, etc. utilizing Travelling grate technology and one back pressure steam turbines of 1 X 3.0 MW capacity.

Brief Description of Products and raw materials used in Process					
2.	Proposed Capacity	100 KLPD or 33000 KLPA Ethanol – 67.25 KLPD ENA – 24.75 KLPD			
3.	By Product/Co Product				
	Technical Alcohol	1700 KLPA			
	Compressed CO2	50.0 TPD			
	DDGS (10% moisture)	63.5 TPD			
	Cogeneration of power	3.00 MW			
5.	Raw Material Requirement Per Annum				
	Item	Rice	Rice Husk	Enzymes	Basic Chemical
	Quantity (MTPA)	78,441	54,908	32.3	-
	Unit	MTPA	MTPA	MTPA	-
	Unit Purchase Cost (Rs/MT)	19000	5000	600000	-
	Value (Estimated in Cr per Annum)	149.0	27.5	1.9	2.6

6. **Water Requirement** - Total fresh water requirement for the project will be 491 KLD.
7. **Power Requirement** - The industry will generate 3.0 MW power through Captive Power Plant (CPP). 250 KVA DG sets will be installed as an alternate source during the power failure.
8. **Solid waste generation and Management** - The solid waste generated from both the Boilers shall be Bottom ash 12.50 TPD and Flyash 27 TPD. The Fly ash & the bottom ash shall be quenched, dried and used as infrastructure base fill material or for brick manufacturing. CPU Sludge 4.3TPD will be used as manure and DDGS (Distilleries Dry Grain Soluble) 63.5TPD sold as cattle feed directly.
9. **Hazardous waste** - The plant facility will result in generation of about 1 kL/year of spent oils (lubricants and transformer oil), which will be stored on site and sold to authorized recyclers.
10. **Employment Potential** - The project generates direct employment opportunities for 140 personnel which includes supervisory personnels 40 nos and non-supervisory personnels 100 persons. The employment will be given to the local people on priority basis.
11. **Greenbelt** - Out of the total plot area about 6.6Acre (33% of total area) land will be developed as green belt.
12. The cost of the project is Rs.106.81 crores and budget for EMP is Rs.5.0 crores.
13. The Environment consultant **M/s. SV Enviro Labs & Consultants, Visakhapatnam, A.P** along with the proponent has made a presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s. SV Enviro Labs & Consultants, Visakhapatnam, A.P**, the SEAC prescribed the following specific ToRs in addition to standard ToRs as per **Annexure – G** for conducting detailed EIA study.

- i) Distance of the project site from the boundary of the Kapilash Wildlife Sanctuary and its Eco-Sensitive Zone duly certified by the concerned DFO.
- ii) Illustration with diagram and details about water balance, mass balance.



- iii) Quality and quantity details of by product to be used as cattle feed.
- iv) Detailed report on Ash management from process to disposal.
- v) Details on storage of ethanol.
- vi) Detail report on zero liquid discharge concept in project site.
- vii) Detailed report on Hazardous waste disposal management to be submitted.
- viii) Dense plantation needed to be carried out within safety zone at least 2000 plants/ hectare is suggested to reduce odour emission to surroundings.
- ix) Land to be converted to Industrial Use in terms of Sabik record before start of the construction work.
- x) Storage and Handling of Ethanol & ENA methodology details be submitted.

  
Secretary, SEAC

Approved  
  
17.05.2022  
Chairman, SEAC

**TERMS OF REFERENCE (ToR) FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR M/S. ADISH MINERALS PVT. LTD. FOR PROPOSED CHROME ORE BENEFICIATION PLANT OVER AN AREA 13.43 ACRES OF CAPACITY 1, 20, 000 TPA THROUGHPUT AT MOUZA- BAUNSAMULI, THANA BADACHANA, DISTRICT- JAJPUR.**

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

16. Cumulative impact study of both Beneficiation Plant with suggested mitigation measures as per the study should be described.
17. Option to provide only silo for storage of minerals instead of open stacking to avoid fugitive dust should be explored and arrangements finalized justified.
18. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
19. Details of the land for any Over Burden Dumps outside the lease, such as extent of land area, distance from lease, its land use, R&R issues, if any, should be given.
20. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the Project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
21. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
22. A study shall be got done to ascertain the impact of the Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly detailed mitigative measures required, should be worked out with cost implications and submitted.
23. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
24. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

25. Proximity to Areas declared as 'Critically Polluted' shall also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB/CPCB shall be secured and furnished to the effect that the proposed activities could be considered.
26. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects, should be discussed in the report.
27. One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the unit in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.
28. Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
29. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
30. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be secured and copy furnished. .
31. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
32. Impact of the project on the water quality, both surface and groundwater should be assessed and necessary safeguard measures, if any required, should be provided.

33. Details of any stream, seasonal or otherwise, passing through the project area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
34. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the project. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to the pollution.
35. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered.
36. Details of the onsite shelter and facilities to be provided to the workers should be included in the EIA report.
37. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area should be detailed.
38. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
39. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
40. Public hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
41. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the project should be given.
42. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
43. A brief background of the Project, its financial position, Group Companies and legal issues etc. should be provided with past and current important litigations if any.
44. Benefits of the Project, if the project is implemented should be outlined. The benefits of the projects shall clearly indicate environmental, social, economic, employment potential, etc.

45. Besides the above, the below mentioned general points are also to be followed:-
- (a) Executive Summary of the EIA/EMP Report
  - (b) All documents to be properly referenced with index and continuous page numbering.
  - (c) Where data are presented in the report especially in Tables, the period in which the data were collected and the sources should be indicated.
  - (d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the project.
  - (e) Where the documents provided are in a language other than English, an English translation should be provided.
  - (f) The Questionnaire for environmental appraisal of project as devised earlier by the Ministry shall also be filled and submitted.
  - (g) While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should also be followed.
  - (h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered.
  - (i) Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation. As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified Report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project by the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
46. **THE TORS PRESCRIBED SHALL BE VALID FOR A PERIOD OF THREE YEARS FOR SUBMISSION OF THE EIA-EMP REPORTS ALONG WITH PUBLIC HEARING PROCEEDINGS (WHEREVER STIPULATED) AS PER MOEF&CC, GOVT. OF INDIA O.M. NO. J-11013/41/2006-IA-II(I)(P), DATED 07.11.2014.**

**TERMS OF REFERENCE (ToR) FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR CONSTRUCTION OF STAGE-II DEVELOPMENT OF FISHING HARBOUR AT VILLAGE- NUAGARH, ASTARANGA, PURI, ODISHA BY DEPARTMENT OF FISHERIES, ODISHA OF FISHERY ENGINEERING DIVISION, BHUBANESWAR - TOR**

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**A. STANDARD TOR FOR FISHING HARBOUR PROJECT**

1. Reasons for selecting the site with details of alternate sites examined/rejected/selected on merit with comparative statement and reason/basis for selection. The examination should justify site suitability in terms of environmental angle, resources sustainability associated with selected site as compared to rejected sites. The analysis should include parameters considered along with weightage criteria for short-listing selected site.
2. Details of the land use break-up for the proposed project. Details of land use around 10 km radius of the project site. Examine and submit detail of land use around 10 km radius of the project site and map of the project area and 10 km area from boundary of the proposed/existing project area, delineating project areas notified under the wild life (Protection) Act, 1972/critically polluted areas as identified by the CPCB from time to time/notified eco-sensitive areas/interstate boundaries and international boundaries. Analysis should be made based on latest satellite imagery for land use with raw images.
3. Submit the present land use and permission required for any conversion such as forest, agriculture etc. land acquisition status, rehabilitation of communities/ villages and present status of such activities.
4. Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
5. Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area.
6. Submit the details of terrain, level with respect to MSL, filling required, source of filling materials and transportation details etc.
7. Examine road/rail connectivity to the project site and impact on the existing traffic network due to the proposed project/activities. A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
8. Submit details regarding R&R involved in the project.
9. Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale along with the recommendation of the SCZMA.
10. Submit the status of shore line change at the project site.
11. Details of the layout plan including details of channel, breakwaters, dredging, disposal and reclamation.
12. Details of handling of each cargo, storage, transport along with spillage control, dust preventive measures. In case of coal, mineral cargo, details of storage and closed conveyance, dust suppression and prevention filters.

13. Submit the details of fishing activity and likely impacts on the fishing activity due to the project. Specific study on effects of construction activity and pile driving on marine life.
14. Details of oil spill contingency plan.
15. Details of bathymetry study.
16. Details of ship tranquillity study.
17. Examine the details of water requirement, impact on competitive user, treatment details, use of treated waste water. Prepare a water balance chart.
18. Details of rainwater harvesting and utilization of rain water.
19. Examine details of Solid waste generation treatment and its disposal.
20. Details of desalination plant and the study for outfall and intake.
21. Examine baseline environmental quality along with projected incremental load due to the proposed project/activities.
22. The air quality monitoring should be carried out according to the notification issued on 16th November,2009.
23. Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
24. Submit details of a comprehensive Risk Assessment and Disaster Management Plan including emergency evacuation during natural and man-made disasters.
25. Submit details of the trees to be cut including their species and whether it also involves any protected or endangered species. Measures taken to reduce the number of the trees to be removed should be explained in detail. Submit the details of compensatory plantation. Explore the possibilities of relocating the existing trees.
26. Examine the details of afforestation measures indicating land and financial outlay. Landscape plan, green belts and open spaces may be described. A thick green belt should be planned all around the nearest settlement to mitigate noise and vibrations. The identification of species/ plants should be made based on the botanical studies.
27. The Public Hearing should be conducted for the project in accordance with provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan. The Public Hearing should be conducted based on the ToR letter issued by the Ministry and not on the basis of Minutes of the Meeting available on the web-site.
28. A detailed draft EIA/EMP report should be prepared in accordance with the above additional TOR and should be submitted to the Ministry in accordance with the Notification.
29. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
30. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
31. Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Port and harbour>".



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

**Stipulated Conditions:**

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

of minerals through existing rural roads can be allowed only by the concerned Govt. Department/BDO and only after required strengthening, such that the carrying capacity of road is increased to handle the sand truck traffic. The project proponent shall bear the cost towards the widening and strengthening of existing public roads in case the same is proposed to be used for the project. No movement on any road is allowed on existing village road network without appropriately increasing the carrying capacity of such roads. Project proponent shall ensure that the road may not be damaged due to transportation of the mineral and transport of minerals will be as per IRC Guidelines with respect to complying with traffic congestion and traffic density. Plying of sand extraction trucks may be allowed on roads / path ways passing close to schools, temples, hospitals and such other public places only with prior written permission of competent authority.

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

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

31. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this environment clearance besides attracting penal provisions in the Environment (Protection) Act, 1986.
32. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/ High Court and any other Court of Law relating to the subject matter.
33. This Environmental Clearance (EC) is subject to orders/judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
34. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

## Annexure - D

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

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

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

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**A. Specific conditions**

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

**B. Standard conditions**

1. A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the SEIAA, Odisha 5 years in advance of final mine closure for approval.
2. No mining activities will be allowed in forest area, if any, for which the Forest Clearance is not available.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Odisha.
4. No change in the calendar plan including excavation, quantum of mineral and waste should be made.
5. The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water) for the project.
6. Mining shall be carried out as per the provisions outlined in the approved mining plan as well as by abiding to the guidelines of Directorate General Mines Safety (DGMS).
7. Protection of vegetation in the surrounding areas, and proper storage of solid waste, subgrade ore and their use have to be given priority during mining operation.
8. Digital processing of the entire lease area using remote sensing technique shall be

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

9. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM10 and PM2.5 such as haul road, loading and unloading point and transfer points. Fugitive dust emissions from all the sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard. Monitoring of Ambient Air Quality to be carried out based on the Notification 2009, as amended from time to time by the Central Pollution Control Board.
10. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations. The monitoring shall be carried out four times in a year pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board.
11. Transportation of the minerals by road passing through the village shall not be allowed. A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sound, dust and accidents could be mitigated. The project proponent shall bear the cost towards the widening and strengthening of existing public road network in case the same is proposed to be used for the Project. No road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.
12. The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.
13. Sufficient number of Gullies to be provided for better management of water. Regular Monitoring of pH shall be included in the monitoring plan and report shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.
14. There shall be planning, developing and implementing facility of rainwater harvesting measures on long term basis and implementation of conservation measures to augment ground water resources in the area in consultation with Central Ground Water Board.
15. The Project Proponent has to take care of gullies formed on slopes. Dump mass should be consolidated with proper filling/leveling with the help of dozer/compactors.
16. The reclamation at waste dump sites shall be ecologically sustainable. Scientific reclamation shall be followed. The local species may be encouraged and species are so chosen that the slope, bottom of the dumps and top of the dumps are able to sustain these species. The aspect of the dump is also a factor which regulates some climatic

parameters and allows only species adopted to that micro climate.

17. The top soil, if any, shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time. The maximum height of the dumps shall not exceed 8m and width 20 m and overall slope of the dumps shall be maintained to 45°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The entire excavated area shall be backfilled and afforested. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.
18. Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly. The drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and over burden dumps to prevent run off of water and flow of sediments directly into the river and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.
19. Plantation shall be raised in a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around water body, along the roads etc. by planting the native species in consultation with the local DFO/Agriculture Department and as per CPCB Guidelines. The density of the trees should be around 2500 plants per ha. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.
20. The Project Proponent shall make necessary alternative arrangements, where required, in consultation with the State Government to provide alternate areas for livestock grazing, if any. In this context, Project Proponent should implement the directions of the Hon'ble Supreme Court with regard to acquiring grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded against felling and plantation of such trees should be promoted.
21. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna, if any, spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office.
22. As per the Company Act, the CSR cost should be 2 % of average net profit of last three years. Hence CSR expenses should be as per the Company Act/Rule for the Socio



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

23. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
24. Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.
25. Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
26. The project authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
27. The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment, Forest and Climate Change, its Regional Office, Central Pollution Control Board and State Pollution Control Board.
28. A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.
29. State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.
30. The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment, Forest and Climate Change at [www.environmentclearance.nic.in](http://www.environmentclearance.nic.in) and a copy of the same should be forwarded to the Regional Office.
31. The SEIAA, Odisha may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
32. Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
33. The above mentioned stipulated conditions shall be complied in a time-bound manner. Failure to comply with any of the conditions mentioned above may result in cancellation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

**TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN THE EIA/EMP REPORT FOR KARLICHUAN DECORATIVE STONE MINES OVER AN AREA OF 16.62 ACRES OR 6.726 HECTARES VILLAGE - KARLICHUAN, TAHASIL -TENTULIKHUNTI, DISTRICT-NABARANGPUR OF SMT PADMA PARI – TOR**

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1. Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
3. All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
4. All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/Topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
5. Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
6. Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
7. It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
8. Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
9. The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

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10. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
11. Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
12. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
13. Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
14. Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
15. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
16. A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
17. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
18. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife

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Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

19. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.
20. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
21. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
22. One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season) ; December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.
23. Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
24. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

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25. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
26. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
27. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
28. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
29. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
30. Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.
31. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
32. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
33. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
34. Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
35. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical

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examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

36. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
37. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
38. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
39. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
40. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
41. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
42. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
43. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
44. Besides the above, the below mentioned general points are also to be followed
  - a) All documents to be properly referenced with index and continuous page numbering.
  - b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
  - c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
  - d) Where the documents provided are in a language other than English, an English translation should be provided.
  - e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
  - f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

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- g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
  - h) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
  - i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.
45. **The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP report..**

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**STANDARD TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT  
IMPACT ASSESSMENT STUDY FOR DISTILLERIES AND INFORMATION TO BE  
INCLUDED IN EIA/EMP REPORT**

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**A. SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR DISTILLERIES**

- 1) List of existing distillery units in the study area along with their capacity and sourcing of raw material.
- 2) Number of working days of the distillery unit.
- 3) Details of raw materials such as molasses/grains, their source with availability.
- 4) Details of the use of steam from the boiler.
- 5) Surface and Ground water quality around proposed spent wash storage lagoon, and compost yard.
- 6) Plan to reduce spent wash generation within 6-8 KL/KL of alcohol produced.
- 7) Proposed effluent treatment system for molasses / grain-based distillery (spent wash, spent lees, condensate and utilities) as well as domestic sewage and scheme for achieving zero effluent discharge (ZLD).
- 8) Proposed action to restrict fresh water consumption within 10 KL/KL of alcohol production.
- 9) Details about capacity of spent wash holding tank, material used, design consideration. No. of peizometers to be proposed around spent wash holding tank.
- 10) Action plan to control ground water pollution.
- 11) Details of solid waste management including management of boiler ash, yeast, etc. Details of incinerated spent wash ash generation and its disposal.
- 12) Details of bio-composting yard (if applicable).
- 13) Action plan to control odour pollution.
- 14) Arrangements for installation of continuous online monitoring system (24x7 monitoring device)

**B. STANDARD TERMS OF REFERENCE**

- 1) Executive Summary
- 2) Introduction
  - i. Details of the EIA Consultant including NABET accreditation
  - ii. Information about the project proponent
  - iii. Importance and benefits of the project
- 3) Project Description
  - i. Cost of project and time of completion.



- ii. Products with capacities for the proposed project.
- iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
- iv. List of raw materials required and their source along with mode of transportation.
- v. Other chemicals and materials required with quantities and storage capacities
- vi. Details of Emission, effluents, hazardous waste generation and their management.
- vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
- viii. Process description along with major equipments and machineries, process flow sheet (quantitative ) from raw material to products to be provided
- ix. Hazard identification and details of proposed safety systems.
- x. Expansion/modernization proposals:
  - a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing existing operation of the project from SPCB shall be attached with the EIA-EMP report.
  - b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

#### 4) Site Details

- i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.
- ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)
- iii. Details w.r.t. option analysis for selection of site
- iv. Co-ordinates (lat-long) of all four corners of the site.
- v. Google map-Earth downloaded of the project site.
- vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an

Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.

- vii. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
  - viii. Land use break-up of total land of the project site (identified and acquired), government/ private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)
  - ix. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area
  - x. Geological features and Geo-hydrological status of the study area shall be included.
  - xi. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
  - xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
  - xiii. R&R details in respect of land in line with state Government policy
- 5) Forest and wildlife related issues (if applicable):
- i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable)
  - ii. Land use map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (in case of projects involving forest land more than 40 ha)
  - iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
  - iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon
  - v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area
  - vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife
- 6) Environmental Status
- i. Determination of atmospheric inversion level at the project site and site-

specific micro- meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.

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- ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with - min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iv. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.
- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- xi. Socio-economic status of the study area.

## 7) Impact and Environment Management Plan

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modelling - in case of discharge in water body
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard,

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options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor- cum-rail transport shall be examined.

- iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control
- vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

#### 8) Occupational health

- i. Plan and fund allocation to ensure the occupational health & safety of all contract and casualworkers
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other

ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.

- iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
- iv. Annual report of health status of workers with special reference to Occupational Health and Safety.

9) Corporate Environment Policy

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
- ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
- iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
- iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report

10) Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

11) Enterprise Social Commitment (ESC)

- i. Adequate funds (at least 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

12) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

13) A tabular chart with index for points wise compliance of above TOR.

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