PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 10TH MAY, 2023

The SEAC met on 10th May, 2023 at 03:00 PM by both physical and Virtual mode (VC) through video conferencing in Google Meet under the Chairmanship of Sri Sashi Paul. The following members were present in the meeting.

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

CONSIDERATION OF OLD PROPOSALS (COMPLIANCE RECEIVED):

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

ITEM NO. 01

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR BASULEI SAND QUARRY, A SAND MINING PROJECT IN BRAHMANI RIVER OVER AN AREA OF 50.01 ACRE OR 20.24HA. LOCATED IN VILLAGE- BASULEI, TAHASIL - PARAJANG, DIST- DHENKANAL OF TAHSILDAR PARJANG - EC

1. This proposal is for Environmental Clearance for Basulei sand Quarry which is a sand mining project in Brahmani River over an area of 50.01 acre or 20.24ha. located in Village- Basulei, Tahasil - Parajang, Dist.- Dhenkanal of Tahsildar Parjang.
2. **Category**: As per the Environmental Impact Assessment (EIA) Notification dated 14th September 2006 and its subsequent amendments, the proposed Brahmani River Sand Quarry falls under 'Category B1' under Schedule 1(a) – Mining of Minerals, since the lease area is more than 5.0 Ha.
3. The Tahasildar of Parjang issued letter to get approved mining plan and obtaining Environmental Clearance vide letter no. 566, Dt.25/02/2021 after district collector, Dhenkanal approval of New Sand Mine leases and Successful Bidder name will be selected after auction
4. The mining plan was approved by Joint Director of Geology, Zonal Survey, Dhenkanal, Odisha vide Letter No. 309/DZ/28.04. 2021.
5. **Terms of Reference** (TOR) - The ToR application submitted to SEIAA, Odisha on 27 August,2021 with proposal No. SIA/OR/MIN/66827/2021. ToR was issued by SEIAA with No.3013/SEIAA, SIA/ OR/ MIN/66827/2021, Dt. 28.09.2021 and F.No. 66827/147-MINB/08-2021, Dt. 13.11.2021.
6. **Public hearing details**: Public Hearing was conducted on 05.08.2022 at 11.00 AM at Basulei Choupadhi Pala Mandapa, Mouza- Basulei (Khata No. 418, Plot No. 2149, Kissam-Gramya Rasta,

Area Ac.0.11 in Dhenkanal District. News Paper advertisement was given about the sand mining at Basulei on The Times of India and Dharitri on 01.07.2022. Issues raised during public hearing were regarding dust suppression and water pollution control, afforestration programme, local employment opportunities, provision for repair and maintenance of village roads, strict adherence of Sand mining guidelines, supply of sand of the locals with reasonable price/free of cost and speed restriction during school timing etc. Budget allocated for public hearing issues is Rs. 6.9lakhs.

7. **Location and connectivity**: The total extent of the lease area for mining activity is 20.24 Ha at Basulei Village, Parjang Tahasil, Dhenkanal District and Odisha State. Quarry Land is classified as Government land and leased by Tahasildar, Dhenkanal, and Odisha. The area under discussion is featured in Survey of India Topo Sheet No – F45N4 and is bounded between the Latitude -20° 00' 56.48" N to 21° 01' 17.17" N and Longitude – 85° 13' 28.90" E to 85° 13' 42.68" E. The lease area is located at a distance of 1.3 km from village Basulei and at a distance of 13.81 kms from Parjang, 55 kms from the District Headquarters Dhenkanal and 140 kms from the State Capital Bhubaneswar. Talcher Railway station is the nearest railway station located at a distance of 10.24 kms from the lease area. Nearest Road Bridge is at a distance of 1.96 km from the mining lease area. Pucca road connecting to the lease area and with the village – Basulei is at distance of 4.9 km. SH – 63 is at 24.36 km and the nearest major district road is at distance of 5 km. NH- 200 is the nearest National Highway which is at a distance of 5 km.

8. **Mining method:** The proposed mine is spread over an area of 20.24 Ha with total mineable reserves of about 565875 m^3 to produce 15000 m^3 /Annum of Sand Mining. Opencast manual mining method will be adopted. Handpicks, spade, hand shovel will be used by manual labourers for extracting & loading of sand. The sand will be loaded into tippers/ tractors manually and dispatched.

9. **Total Reserves and production** - The total geological reserve has been estimated as 607170 m3. Similarly, the mineable reserve of river bed sand is worked out to be 565875 m^3. The project has been proposed for a total production of 75000 m^3 of Sand from this Quarry. During the plan period maximum of 15000 Cum of sand will be produced per annum.

10. **Replenishment study Report** - As per the replenishment study, Minable area is 188625 Sq.m. Pre-Monsoon and Post-Monsoon Standard Elevation are 70.50 and 70.57 respectively. Difference in Elevation is 0.07. Estimated Annual replenishment Volume is 13204 m^3 or 21126.4 Tones. However, the Minable Reserve as per approved Mining Plan is 565875 m^3 at highest mRL 69.0. The Annual proposed production is 15000 cubic meters. Since the mining is not done yet. if we will take the data during mining plan preparation and post- monsoon period data collection, there is a remarkable change of elevation is 1.57 meter. Estimated Replenishment reserve is 296141.25 m^3. Based on pre-monsoon and post-monsoon volumes found, the sand deposit will be 5,65,875 + 2,96,141 = 8,62,016 cum.

11. **Water requirement**: Water requirement for the project will be 2.5 KLD. Water required in the project will be for drinking purpose and dust suppression, which will be sourced from water tanker.

12. **Power requirement and source**: Power Requirement will not be required for operations as the mining will be worked out during daytime only. Minimal power required for office shall be taken from the General Electric supply of the area.

13. **Manpower**: Employment Generation from the project is 14 nos. of people. OMS has been assumed to be 6.25 cum. Indirect employment through creation of shops/ stalls, hired vehicles, etc. also can be generated to full fill the day-to-day requirements of the mining personals.

14. **Greenbelt**: Plantation work will be carried out at the safety zone of the lease area. 500 number of saplings proposed during plan period will be planted. Plantation shall be done with suitable local species like teak, mango, jammu, jhaun, neem etc. per year and also along the approach road during the plan period.

15. Land Use Details in Lease Area –

Type of land use	Area (Ha.)
Water channel area	Nil
Left over area adjacent to water channel	Nil
Quarry Safety zone area	1.376
Potential Mineable surface area within the plan period	5.0
Untouched Area	13.864
Total	20.24

16. **Baseline study** was conducted during November 2021 – January 2022. Following results were obtained.

PERIOD	October to December 2021	Applicable Standards
AAQ PARAMETERS AT 8 LOCATIONS	PM2.5 –20.5 to 28.8µg/cu.m	60 µg/cu.m
	PM10 – 49.3 to 63 µg/cu.m	100 µg/cu.m
	SO2 – 11.4 to 22.7 µg/cu.m	80 µg/cu.m
	Nox – 18.8 to 28.2 µg/cu.m	80 µg/cu.m
Ground water Quality at 8 Location	pH – 7.21 to 7.93	6.5 to 8.5
	Total Hardness – 235 to 440 mg/l	600 mg/l
	Chloride – 94.76 to 170.5 mg/l	250 mg/l
	Fluorides – 0.33 to 1.1 mg/l	1.5 mg/l
	TDS – 565 to 795 mg/l	1000 mg/l
	Heavy metals (Cd <0.001, As <0.001, Hg<0.0005) mg/l Detection limits of analysis method	Heavy metals (Cd <0.003, As <0.01, Hg<0.001) mg/l
Surface water at 3 locations	pH – 7.63 to 7.78	
	Dissolved Oxygen – 6.9 to 7.1 mg/l	
	Biochemical Oxygen Demand – <2 mg/l	
	Chemical Oxygen demand – 8 to 11 mg/l	
Noise at 8 locations	Day (dBA Leq) 41.5 to 52.4	55
	Night (dBA Leq) - 35.7 to 41.9	45

PERIOD	October to December 2021	Applicable Standards
Soil Quality at 7 locations	pH – 7.23 to 7.82, Potassium – 198 to 312 mg/ kg, Phosphorous – 15.6 to 29.4 mg/ kg, Organic Carbon % – 0.35 to 0.64, Electical Conductivity- 56-125 µshos/Cm	

17. **Project cost:** The total project cost is Rs. 50 Lakhs only. Proposed EMP capital cost is Rs. 2.5lakhs and recurring cost is Rs. 6lakhs.

18. **Environment Consultant**: The proponent along with the consultant **M/s. Rightsource Industrial Solutions Pvt. Ltd, Hyderabad,** made a detailed presentation before the SEAC.

19. The SEAC in its meeting held on dated 12-12-2022 decided to take decision on the proposal after receipt of the following from the proponent followed by site visit of the Sub-Committee of SEAC. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
a)	Submit certificate from concerned DFO that the project does not fall within the elephant corridor of Anantpur - Kanheijena.	The conservator of Forest, I/C Dhenkanal Division has furnished the certificate vide letter No. 1531/Dtd. 09.02.2023 regarding elephant corridor that the source is not coming within the elephant corridor of this Division, but occasionally wild elephant are noticed in the nearby sand quarry which forms a part of this compliance.	DFO letter is attached mentioning occasionally wild elephant are noticed in the nearby sand quarry which forms a part of this compliance.
b)	The KML file submitted reveals that the sand deposit area is surrounded by water; this has to be clarified by the lessee that there will not be any disturbance to the water channel of the river. Also, details of approach road from the sand deposit to be indicated in the map.	The lessee has given undertaking that there will not be any disturbance to the water channel of the river during quarry operation. The undertaking is enclosed herewith for reference. The KML file was captured during rainy season so that the sand deposited area was surrounded by water. The trace map indicating approach road in the map is enclosed for kind reference.	Complied.
c)	Distance of the lease area from the river bank.	The distance of the lease area from the river bank is approximately 220 meters.	Complied.
d)	A school is situated near to the transportation road. The proponent shall submit a detailed plan for plying of vehicle during the school opening time for safety of students. They shall ensure to stop mining activity and transportation during school opening and closing time.	In this regard the project proponent has furnished the undertaking wherein he undertakes that no vehicle will ply during the school opening and closing time in considering the safety measures of the students which is attached for ready reference.	Complied

Proceedings of the SEAC meeting held on 10.05.2023 (Old proposals – compliance received)

Environmental Scientist, SEAC

After detailed discussion, the SEAC decided to take decision on the proposal after a site visit of the Sub-Committee of SEAC.

ITEM NO. 02

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR BAITARINI SAND BED, ANANDAPUR OVER AN AREA OF 20.47 ACRES (8.284 HA.) IS LOCATED IN VILLAGE- ANANDAPUR, TAHASIL – ANANDAPUR, IN DISTRICT KEONJHAR BY SRI MANAS KUMAR BARIK- EC

1. This proposal is for environmental clearance for Baitarini Sand Bed, Anandapur over an area of 20.47 acres (8.284 ha.) is in Village- Anandapur, Tahasil – Anandapur, in district Keonjhar of Sri Manas Kumar Barik**.**
2. **Category:** The project is categorized in Category-B1 of Schedule under item 1(a)-Mining of Minerals in the EIA notification, 2006 and its subsequent amendments.
3. The Mining plan has been approved for a period 2020-21 to 2024-25 by The Joint Director of Geology, Keonjhar. Vide letter no – 2390/CZ, dated 30.07.2020 in favour of Tahsildar, Anandapur.
4. The lease was granted to Mr. Manas Kumar Barik being the successful bidder for tenure of 5(Five) years from the date on which this executed deed is registered.
5. Mining lease is a running mine identified sairat source in the DSR page no 4, Sl No. 34, annexure II.
6. **Public hearing details**: Public hearing was conducted on 22.06.2022 at village Anandapur, Keonjhar district. Issues raised during the public hearing were selling of sand with appropriate price, regular maintenance & monitor of transporting vehicles, PM Indra Aawas & Biju Pucca Ghar beneficiaries shall get sand at reasonable price, protection of dam road & demarcate the area of lease, employment of labour class in sand mining. Budget earmarked for action plan of public hearing amounts to 5 lakhs.
7. **TOR details**: Terms of Reference (ToRs) was issued by SEIAA vide letter no. 241/SEIAA dated 01.02.2021.
8. **Location and connectivity:** The proposed lease area of Baitarani River sand bed quarry situated at village Anandapur, Tahasil- Anandapur, District - Keonjhar. The lease area is under reference featured in the Survey of India Topo sheet no. 73K/4 is on Khata No. 1281, Plot No.3377, Kissam- Nadi. The geo coordinates of the lease area is 21°12'53.78"N 86°07'07.37"E 21°12'58.89"N 86°07'02.63" E. The proposed area is located 6.37 km from District Headquarters Keonjhar and 150 Km from State Capital Bhubaneswar. Nearest railway station is at Tingripal railway station at an distance of 25.0Km. The lease area can be approached from National Highway NH-215(Gumla-Barkote) is at 0.7 Km away from the ML area. State Highway SH-53 (Banarpal-Pallahara) is 1.0 km away (Aerial Distance). Nearest Airport is Bhubaneswar Airport which is at 150Km. The area over 8.284 ha is a non-forest Govt. land of Nadi kissam, having ground elevation of 35 mRL.River bridge is at 1.8 km away and river embankment is 1km away from the proposed lease area.
9. **Topography and drainage:** The general topography of the area around the mine site is general plan agricultural land along the river. The area constitutes almost alluvial plain without any conspicuous topographical features and forms a part of the vast Indo-Gangetic plain. The

proposed area is undulating. The flow rate of the river varies with the quantity of precipitation in the catchment area.

10. **Replenishment report:** Considering all the mining constrains, the volume of sand available during pre and post monsoon survey in safe workable area is computed. It is estimated that during pre-monsoon and post-monsoon, the sand available in safe workable area is 14573.22cum and 9904.618cum respectively. The volume of sand available during post monsoon survey around 9904.618m3 which can be treated safe volume to be extracted. Since as per guidelines 60% of extractable sand i.e.5942.77m^3 may be allowed to extract, further permits may be decided by SEIAA, Odisha.
11. **Reserves:** As estimated, geological reserve of sand is 125780cum and mineable reserve is 51840cum.
12. **Mining method:** The open cast manual method and transportation through dumpers and tractors will be carried. No mining activity will be undertaken during the monsoon season. No drilling & blasting will be performed for production requirement. The bench height will be 1m and width will be along the base of deposit. There will be no under cuttings or over hangs. The average thickness of the deposit is 2m.
13. **Water requirement:** Water requirement for the project is 5KLD for domestic, plantation & dust suppression which will be sourced from Govt sources of water.
14. **Power requirement**: The power required for the office is minimal, shall be taken from the General Electric supply of the area. However, if required for lighting in the project area at night power will be sourced from State Grid and for same it is estimate as 1.0 KVA.
15. **Baseline study:** Baseline studies was carried out during period March 2021 to May 2021, PM10 ranges within 65-37 µg/m^3, PM2.5 ranges within 45.0-20µg/m^3, SO_2 ranges within 6.4-4.0 µg/m^3 & NOx ranges within 13.2-9.0 µg/m^3. In Industrial areas daytime noise levels were about 50.3 dB (A) and 42.3 dB (A) during nighttime, which is within prescribed limit by CPCB (75 dB (A) Day time & 70 dB (A) Nighttime). In residential areas daytime noise levels varied from 46.6dB (A) to 55.3 dB (A) and nighttime noise levels varied from 42.3 dB (A) to 50.2dB (A) across the sampling stations. Surface water analysis showed the pH value ranging from 6.8 to 7.2 and within the limits (6.5 – 8.5) of IS 2296:1992. The sulphate content in the collected surface water ranges 3.2 mg/l to 4.0 mg/l. The chloride content in the collected surface water sample ranges from 9.5 mg/l to 11.0 mg/l. DO of the collected surface water sample ranges from 6.0 mg/l to 7.0 mg/l. BOD of the collected surface water sample ranges from 1.4 mg/l to 1.8 mg/l. The ground water results of the study area indicate that the pH range varies between 6.6 and 7.4. It is observed that the pH range is within the limit of IS 10500:2012. The acceptable limit of the chloride content is 250 mg/l and permissible limit is 1000 mg/l. The chloride content in the ground water for study area ranges between 9 mg/l – 10.5 mg/l. It is observed that all are well within the permissible limit of IS 10500:2012. The desirable limit of the sulphate content is 200 mg/l and permissible limit is 400 mg/l. The sulphate content of the ground water of the study area varies between 2.3mg/l – 3.1 mg/l. It is observed that all the samples are within the permissible limit of IS 10500: 2012.
16. **Greenbelt**: It is proposed to plant 50 Nos. per year of native species along with some fruit bearing and medicinal trees during the plan period and a budget of Rs. 0.6 Lakh for plantation

is given in EMP. Common species to be planted are Neem, Peepal, Mango, Shisham,Sirish, Babool, Chakunda.

17. **Manpower requirement:** In the mine for total production of 10368 Cu.m/Annum of River Sand 16 nos. of person are to be employed daily.

18. **Project cost:** The estimated cost of project is 50 Lakhs. EMP capital cost of the project is 11.0 Lakhs and recurring cost is 4.50Lakhs/Annum.

19. **Environment Consultant**: The Environment consultant **M/s EHS 360 Labs Private Limited, Chennai** along with the proponent made a presentation on the proposal before the Committee on 03.03.2023.

20. The SEAC in its meeting dated 03-03-2023 decided to take decision on the proposal after receipt of certain information/ documents from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
a)	Span and length of bridge and Anandapur barrage.	I. The nearest bridge is Salapada bridge is located at a distance of 1.8 km from the Baitarani Sand Bed, Anandapur. The length of bridge is 682 m and span length is 52m II. The Anandapur barrage is located at a distance of 1.0 km. The length of barrage is 490m and spam length is 16 m The distance of bridge and barrage and their spam length as authenticated by Tahasildar, Anandapur is enclosed as **Annexure –A**.
b)	Rainfall data of last year June from the concerned authority.	The Date wise rainfall data as down loaded from website, SRC Odisha validated data is enclosed as **Annexure-B**.
c)	Previous production details and distance of proposed quarry from nearest sanctuary.	Total production during last five year was 30,123 CuM. The nearest sanctuary is Hadagarh Wildlife sanctuary located at a distance of 20 km from Baitarani Sand Bed, Anandapur. The authenticated annual production of the sand bed for last 5 years in enclosed As **Annexure –A**.
d)	The traffic study report vetted by a reputed institute.	The traffic report is attached herewith as **Annexure-C**.

Proceedings of the SEAC meeting held on 10.05.2023 (Old proposals – compliance received)

Environmental Scientist, SEAC

21. The SEAC in its meeting held on dated 27.03.2023 decided to take decision on the proposal after receipt of the following clarification from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
1.	There is net loss of sand as per replenishment study. On what basis extraction is proposed.	This is a new mine and the auction was carried out by Tahasildar, Anandapur in 2020. After getting the Environmental Clearance the mining operation will be carried out. From 2020 there is no mining operation in the applied area. Whatever the Replenishment study carried out in 2022, is only to ascertain the extractable sand deposit not the replenishment as there is no mining operation before the previous monsoon season. As per the 2020 Sand Guide line, Drone Survey has been carried out and the reserve has been calculated after deducting the mine safety zone as well as the safety zone from the embankment. As per approved Mining Plan, the Geological reserve of Sand of this lease area is 1,25,780 CuM and Mineable reserve is 51,840 CuM. However, from the drone survey, it is reveals from the post-monsoon survey data that about 9,904.618 CuM (Sand present during the preparation of mining plan) of extractable sand available in the applied lease area. Out of 9,904.618 CuM of total extractable sand, 5,942.77 CuM of Sand @ of 60 % of 9,904.618 CuM may be consider for the 1st year production.
2.	Bridge is of 682meter length and about 1.8km from the lease area. As per Enforcement and Monitoring Guidelines for Sand Mining 2020 “Sand and gravel shall not be extracted upto a distance of 5X of the length of the bridge on the upstream side”. Taking this criteria sand extraction is not permissible as bridge length is 682 meter.	As per the Enforcement and monitoring Guide lines for the sand mining 2020, “Sand and gravel shall not be extracted up to a distance of 5X of the length of the span of the bridge on the upstream side. As the spam distance of the bridge is 52m, a distance of minimum 260m to be maintain as non-extractable in the upstream side. But here, the Salapada bridge is located on the upstream side of the lease area at a distance of 1.8 km and the lease is in the downstream side of the bridge.

Proceedings of the SEAC meeting held on 10.05.2023 (Old proposals – compliance received)

Environmental Scientist, SEAC

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		Hence, the criteria of sand extraction as per Enforcement and monitoring Guide lines for the sand mining 2020 is not an impediment for the sand extraction from the lease area.

After detailed discussion, the SEAC decided to reject the proposal as follows:

a) In view of net loss of sand as per replenishment study submitted sand mining cannot be allowed at present. PP may submit next replenishment study, as due, to consider the proposal.

ITEM NO. 03

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR PROPOSED COMMERCIAL CUM RESIDENTIAL BUILDING OF M/S. MAHADEV GRIHA NIRMAN PVT. LTD LOCATED AT PLOT NO. 458, 454, 460, 459, 455 / 826 AND 455/796, KHATA NO. 170/168, 170/156, 170/214,170/215 OVER A BUILT-UP AREA 47283.66 SQM IN MOUZA-PADMALAVA NAGAR, TEHSIL-BARANGA, PS-CUTTACK SADAR 16, DIST - CUTTACK OF SRI RAVI KUMAR MODA - EC

1. This proposal is for environmental clearance of proposed commercial cum residential building of M/s. Mahadev Griha Nirman Pvt. Ltd located at Plot no. 458, 454, 460, 459, 455 / 826 and 455/796, Khata No. 170/168, 170/156, 170/214,170/215 over a built-up area 47283.66 sqm in Mouza-Padmalava Nagar, Tehsil-Baranga, Ps-Cuttack Sadar 16, Dist - Cuttack of Sri Ravi Kumar Moda.

2. **Category**: The project requires prior Environmental Clearance under the provisions of EIA Notification, 2006 and subsequent amendment and falls under Category B of activity 8(a)-Building & Construction projects.

3. **Project details**: Project site is spread on area of 11331.11 sq.m (1.133 ha. /2.80 acre). Project involves development of commercial cum residential building with the allied facilities like, club house, shops, waste management system, storm water management system, water supply system, sewerage system, firefighting management, adequate parking facility and green area. Built-up area of project is approx.47283.66 sq.m.

4. **Location and Connectivity**: The Project involves development of proposed commercial cum residential building located at Plot no. 458,454,460,459,455/826 and 455/796, Khata No. 170/168, 170/156, 170/214,170/215 in Mouza-Padmalava Nagar, Tehsil-Baranga, PS-Cuttack Sadar 16, Cuttack, Orissa. The Geographical coordinates are 20°21'12.7"N and 85°46'17.4"E and fall within Toposheet no. F45T15**.** The Project site comes under Cuttack Development Authority and not located within ESZ, ESA and CRZ area. Site is flat land with average elevation of 39.92 m AMSL. Project site is well connected with Banki-Cuttack Road. Site connects to NH-16 which is at 7.52 km towards E direction and to SH 60 at 12.95 km in NE direction. Nearest Railway station is Bhubaneshwar New junction which is at 8.08 km away in S direction. Nearest Airport is Biju Patnaik International Airport at 22.22 km in S. Nearest river is Kathajodi River at 0.74 km, N. Nearest forest is Chudang Garh forest at 1.48, S and nearest habitation is Sandhapur is at 0.40 km, SW.

5. **Land area details**: The total plot area of the project site is 11331.11 sq.m (1.133 ha./2.80 acres). Project involves development of 257 nos. of residential apartments. Built-up area of project after development will be approx. 47283.66 sqm.

Table: Area details

S. NO.	DESCRIPTION	Total (SQ M)
i)	Plot Area	11331.11
ii)	Road effected Area	836.99
iii)	Net Plot Area	10494.12
iv)	Proposed Ground Coverage (29.75 % of total plot area)	3371.06
v)	FAR area (@3.19)	36099.9
vi)	NON-FAR area	11092.18
vii)	**Built-up Area**	**47283.66**
viii)	Green Area (@ 1 tree for 80 sqm of plot Plot area)	143 nos
ix)	Open Parking area (@ 8 % of plot Area)	825 sqm
x)	Paved Area (@ 10 % of plot Area)	1133.11
xi)	Open/Amenities (18.9 % of the plot area)	Landscape /green area: 995 sqm
xii)		Podium area: 988 sqm
xiii)		Total: 1983 sqm
xiv)	Height	BLOCK A, B, C : 44.95 mtr BLOCK D: 30.90 mtr CLUB HOUSE: 14.95 mtr
xv)	No of Dwelling Units	257

6. **Total Population**: Population estimated at the site is 1331 which includes residential, commercial, and floating population.

7. **Water requirement**: As per the revised water balance submitted by the Project Proponent in their ADS dated 24.04.2023, Water requirement is 140KLD as per the given table. Revised total water requirement is 140KLD and 38KLD in Non Monsoon period and 51KLD in Monsoon period will be discharged to drain.

Category	Population/Area (sq m)/Capacity	Standard (LPCD)	Water Requirement (KLD)	Fresh Water Requirement (KLD)	Recycled Water requirement (KLD)
Domestic					
Residents	1157	100	116	82	34
Staff	58	45	3	0.9	2.1
Visitors	116	15	2	1.4	0.6
Total Domestic Water Demand			**121**	**84**	**37**
Landscape	2136.78sq.m	6 ltr/sqm	13	-	13
Fire Fighting	-	-	1	-	1
DG cooling	680 KVA	0.9	5	-	5

	(2*250KVA +1*180KVA)	l/kVA/hr			
Total		**-**	**140**	**84**	**56**

8. **Previous water Balance given in presentation** - Source of water during operation phase will be ground water. Permission will be obtained from concerned authority prior extraction of ground water. Application for the same has been submitted via application no. 21-4/4571/OR/INF/2022.Total water requirement during operation phase is 171 KLD out of which domestic water requirement is 161 and freshwater requirement is 111 KLD as shown in table.

Category	Population/Area (sq m)/Capacity	Standard (LPCD)	Water Requirement (KLD)	Fresh Water Requirement (KLD)	Recycled Water requirement (KLD)
Domestic					
Residents	1157	135	156	109	47
Staff	58	45	3	0.9	2.1
Visitors	116	15	2	1.4	0.6
Total Domestic Water Demand			**161**	**111**	**50**
Landscape	995sq.m	3 ltr/sqm	5	-	5
Fire Fighting	-	-	1	-	1
DG cooling	680 KVA (2*250KVA +1*180KVA)	0.9 l/kVA/hr	4	-	4
Total		**-**	**171**	**111**	**60**

9. **Sewage generation**: Sewage generation from the site is expected to be 139 KLD which will be treated in STP of capacity 200 KLD proposed to be constructed at the site. Treated water from the STP will be used for flushing, firefighting, DG cooling and horticulture purpose.

10. **Power requirement**: Maximum power demand for the project during operation phase is estimated to be 1800 KVA. Source of power will be TPCODL. DG sets of total 680 KVA (2*250KVA +1*180KVA) will be provided as power back-up during power failure. The height of the DG Stacks will be 3-6 meter above building height. Provision of Solar power for lighting and water heating is there and generation of Solar Power as per the table given below.

Selection of SOLAR SYSTEM:						
a	Total Connected Load in kW			1872	KW	
b	Solar Power Required in kW @ 5% of the Connected Load			93.6	KW	
c	Solar Power In kW to be generated by Roof Top Solar Panels			94	KW	
d	No. of Solar panel			100	Nos	
SUGGESTED SOLAR SYSTEM : 100 Nos. of Solar Panels suitable for 94 KW LOAD AREA REQUIRED : 2.4 Sq.mtr Per Panel						

11. **Rainwater harvesting**: Rainwater harvesting pits are being proposed for artificial recharge of roof top rainwater within the project premises. Recharge pits will be filled with small pebbles or brick jelly or river sand and bore a well up to deep aquifer with a perforated pipe in permeable layer. As

per norms for 100 sqm roof 6 cum volume rainwater harvesting pit structure to be provided. For 3360 sqm roof area, volume of rainwater harvesting structure is 202 cum. Considering 13 nos of rainwater harvesting structure each rainwater harvesting structure will have de-silting tank and recharge shaft; volume of each de-silting tank is 1.2 cum and volume each Rainwater harvesting pit is 15.6 cum. Total no of rainwater harvesting structure is 13 nos.

12. **Parking details**: Parking area required is 9272.59 sqm and parking area provided is 9289.99 sq.m. Adequate parking will be provided to accommodate the expected vehicles during operation phase of the project in line with the requirement of Local Building by Laws.

LOCATION	SINGLE 4 WHEELER /CAR PARKING	DOUBLE /DEPENDENT 4 WHEELER /CAR PARKING	2 WHEELER/ BIKE PARKING	HANDICAPED PARKING	TYPE OF PARKING
BASEMENT BLOCK A	13 NOS	0 NOS	51 NOS		COVERED PARKING
STILT -1 BLOCK B & C	87 NOS	41 NOS	85 NOS	2 NOS	COVERED PARKING
STILT -2 BLOCK B & C	101 NOS	17 NOS	75 NOS		COVERED PARKING
STILT -1 BLOCK D	0 NOS	16 NOS	28 NOS		2 STACK MECHANICAL COVERED PARKING
VISITORS PARKING NEAR TEMPLE	10 NOS	0 NOS	24 NOS		SURFACE PARKING
VISITORS PARKING NEAR CLUB HOUSE	6 NOS	0 NOS	12 NOS		SURFACE PARKING
FIRE TRUCK	1 NOS	0 NOS	0 NOS		SURFACE PARKING
AMBULANCE	1 NOS	0 NOS	0 NOS		SURFACE PARKING
217 NOS. OF SINGLE 4 WHEELER CAR PARKING 58 NOS. OF DEPENDENT / DOUBLE 4 WHEELER /CAR PARKING 16 NOS OF2 STACK MECHANICAL CAR PARKING 2 NOS OF HANDICAPED 4 WHEELER /CAR PARKING 1 NO OF FIRE TRUCK PARKING 1 NO OF AMBULANCE PARKING 265 NOS OF 2 WHEELER /BIKE PARKING **GRAND TOTAL 291 NOS OF 4 WHEELER /CAR PARKING**					

13. **Traffic study**: Parking space has been provided in the basement, surface, and silt levels parking and the area given to parking is adequate for the proposed 257 units/flats. Further, 7.5-meter-wide roads are proposed in the plan which would not pose any mobility issue if provided. The present 2-lane road needs to be widened to 4-lane for accommodating the normal growth of traffic. The normal growth of traffic is so high that LOS will go beyond LOS C after 10 years without any project. Therefore, the road needs to be widened to 4-lane divided for maintaining LOS level at B.

14. **Firefighting**: The fire protection system for the building is to be designed as per the provisions of National Building Code - 2005 and the directions of local fire service authority. In addition to above, the fire extinguisher system is to be design in accordance with IS: 2190. Fire-fighting facilities provided at the site includes water sprinklers, UG and OH fire tanks, automatic fire alarms, manual call points, fire hooters, fire staircase, fire lifts, signage, smoke detectors, refuge area, DG sets compartmentalization and fireproof electrical installations.

15. **Greenbelt**: As per the revised greenbelt submitted by the Project Proponent in their ADS dated 24.04.2023, Total green area/open area - 2136.78sqm (20.36% of total plot area).

16. **Previous Greenbelt as mentioned in presentation** - Green belt will be developed over an area of 1983 Sq.m by planting 152 nos. of the local species like Cadamba, Cassia, Jacranda, Bauhina, etc. Landscape /green area : 995 sqm out of which {Plantation (Green belt area)Area: 214.5 sqm

(1.89.% of plot area) and Grass Lawn Area: 780.5 Sq.m (6.89 % of plot area).}Podium Green area : 988 Sq.m

17. **Solid waste generation**: During operation phase, waste comprise of municipal waste. It is estimated that approx. 612 kg per day of waste is to be generated from the project site. STP sludge expected to generate is approximately 14 kg/day.

S. No	Description	Occupancy/ Area	kg/capita/day	Total Solid Waste Generation (kg/day)	Recyclable (kg/day)	Non-Recyclable(kg/day)
i)	Residents	1157	0.5	579	463	116
ii)	Staff	58	0.25	15	12	3
iii)	Visitors	116	0.15	17	14	3
iv)	Landscape waste	0.22 acres	0.2 kg/acres	1	-	1
v)	**Domestic Municipal waste generated**			**612**	**290**	**72**
vi)	**STP sludge**	200 KLD	--	14	6	2
Total Waste Generated				**626**	**296**	**74**

18. **Project cost**: Total estimated cost of the project is INR 91.44 Crores. Environment management cost will include 42.1 lakhs (Capital) and 14.5 akhs (recurring) during operation phase.

19. **Environment Consultant**: The Environment consultant **M/s P and M Solution., Noida (Uttar Pradesh)** along with the proponent made a presentation on the proposal before the Committee on 14.02.2023.

20. The SEAC in its meeting held on dated 14.02.2023 recommended the followings;

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

a) NOC/ permission from Water Resources Dept., Govt. of Odisha for discharge of treated water to nearby nallah.

b) Revised water balance.

c) Proposed green belt area is 10% of total built up area. Proposal to increase the peripheral greenbelt area minimum to 20% of total plot area as per norms.

d) Detailed break-up of solar power to be generated, consumed, including capacity of PV cell capacity, connected devices and the percentage of solar energy added total power demand.

e) Copy of structural stability certificate from appropriate authority.

Proceedings of the SEAC meeting held on 10.05.2023 (Old proposals – compliance received)

f) Certificate from the concerned DFO regarding distance of proposed project from Chandaka Dampara Wildlife Sanctuary or any other nearby Sanctuary.

g) Copy of CDA building plan approval letter.

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

a) Environmental settings of the project site.

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

c) Road connectivity to the project site.

d) Drainage network at the site.

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

f) Any other local issues.

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

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
e)	NOC/ permission from Water Resources Dept., Govt. of Odisha for discharge of treated water to nearby nallah.	On enquiry with Prachi division of WRD, they said this case does come under their jurisdiction and directed us to Cuttack drainage division. On enquiry they too said that these areas is not covered, further we asked the RI/Local Amina of barrage tahasil office, he said that this is a local area development initiated by the Panchayat. Enclosure 01 A letter issued by the gram panchayat dt.02-12-2022 vide letter no: 66/2022	NOC from Ramadaspur Gram Panchayat have no objection for construction of Project proponent own drainage system connecting to public drain for disposal of storm water drainage and sewarge to the public drain.
f)	Revised water balance.	Report enclosed Enclosure 02	Revised total water requirement is 140KLD and 38KLD will be discharged to drain in Non Monsoon period and 51KLD in Monsoon period.
g)	Proposed green belt area is 10% of total built up area. Proposal to increase the peripheral greenbelt area minimum to 20% of total plot area as per norms.	Revised drawing attached with compliance Enclosure 03	Enclosure is attached as annexure III
h)	Detailed break-up of solar power to be generated, consumed, including capacity of PV cell capacity, connected devices and the percentage of solar energy added total power	Power break up given by our consultant m/s unit Bangalore. Enclosure 04	Detailed Power break up of solar power had not submitted.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	demand.		
i)	Copy of structural stability certificate from appropriate authority.	Copy of the Stability certificate attached Enclosure 05	Submitted
j)	Certificate from the concerned DFO regarding distance of proposed project from Chandaka Dampara Wildlife Sanctuary or any other nearby Sanctuary.	The Concerned DFO has already given the certificate Enclosure 06	DFO, Chandaka Wildlife division has certified that the mouza Padmalavanagar is not coming within ESZ of Chandaka Dampara Wildlife Sanctuary. Exact distance of proposed project from ESZ is not submitted.
k)	Copy of CDA building plan approval letter.	The CDA building Plan approval letter is attached Enclosure 07	Enclosure is attached as annexure VII.

22. The proposed site was visited by the sub-committee of SEAC on 29.04.2023. Following are the observations of the sub-committee**:**

a) PP was present along with other team members. It was observed that the site is adjacent to the main road.

b) The site was clean excepting a small outhouse, which PP informed is temporary for worker and will be demolished once construction is over.

c) The road side has no drain at present but CDA has taken required fee for developing the same later. Till then the PP informed to connect the excess treated water to the nearest Nalla (about 500 mts away) for which they have taken NOC from Panchayat. In this regard PP needs to take permission for constructing drain at one side of the road till the Nalla, from PWD department. Both NOC from Panchayat and PWD to be kept as conditions in the EC.

d) Copy of Revenue map showing the drain/Nalla to be provided.

e) No trees are there, so green belt of minimum 20% to be developed.

f) Documents asked during presentation needs to be submitted.

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

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

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

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

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

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

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

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

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

ITEM NO. 04

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR PROPOSED CONSTRUCTION OF NEW HOSTEL BLOCK BUILDING OF XIM UNIVERSITY BHUBANESWAR OVER A BUILT-UP AREA OF 1,70,773 SQM AT: MOUZA- NIJIGADA KURKI, HARIRAJPUR, DISTPURI OF M/S. XIM UNIVERSITY 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. This proposal is for Terms of References (TORs) for obtaining environmental clearance of proposed construction of new hostel block building of XIM University Bhubaneswar over built-up area of 1,70,773 sqm At Mouza- Nijigada Kurki, Harirajpur, Dist- Puri of M/s. XIM University Bhubaneswar.
3. **Category**: As per EIA notification,2006 and its subsequent amendments, this project falls under category B of schedule 8(b)- Townships and Area Development projects.
4. **Project details**: Earlier, they had applied for environment clearance to SEIAA on 15.09.2014 for 1,44,160.0 sqm built up area and the SEAC presentation was held on 29.11.2014. But as per the Gazette of India, Notification dt. 22nd December 2014; educational Institutes having less than 1,50,000 sq. mtrs. of buildup area are exempted from obtaining Environmental Clearance. So, the project is exempted from obtaining Environment Clearance. Now, they have planned to increase the built-up area from 1,44,160.0 sqm to 1,70,773 sqm due to construction of a new hostel block. Hence, they are applying herewith for the Terms of References (ToRs) to go for Environment Clearance.

5. BDA has approved the building plan for existing project vide letter no. 15450/BDA, Bhubaneswar, dated 30.04.2022.

6. NOC from IDCO for Water Supply has been permitted vide letter no. IDCO/BCD-II/900, dated 18.07.2012.

7. **Location and connectivity**: The campus is located in the Village- Kurki, Mouza- Nijigarh under Pipli Block, Puri District of Odisha. The geographical coordinates of the project site is bounded by Latitude - 20^0 09' 22.18" N & Longitude - 85^0 45' 59.36" E. The site falls in the Survey of India toposheet no. 73H/12 & 73H/16. The site is located about 13.8 kms away from the Baramunda Bus Stand and 11.5 kms from the Biju Patnaik International Airport, Bhubaneswar. Bhubaneswar railway station is approximately 14.7 kms from the campus. Sundarapada-Jatani Road is passing near by the project site, which is connecting to Khurda-Jatani-Pipili Road. The entire property has been planned with well-connected road network/drives/pathways**.**

8. **Area details**: For this project, 2,22,575.42 sqm. (55.0 Acre) of land has already been acquired. Total Built up area of the project is 1,70,773 sqm.

Table: Area details

Particular	Proposed	Permissible
Project Name	NEW HOSTEL OF XIM UNIVERSITY	
Plot Area	2,22,575.42 sqm (55 acre)	
Ground Coverage	34423 .00 sqm. (15.46%)	
Total Built up Area	1,70,773 sqm	
FAR	0.77	
Maximum Height	31.5 m	
Road & Paved Area	114229.4 sqm	
Parking Area	69,706 sqm	69344 sqm (40% of BUA)
Green Belt Area	73,923 sqm (33.2% of the plot area)	44,515 sqm (20% of the plot area)
Power/Electricity Requirement & Sources	800 KVA Source: TPCODL	
No. of DG sets	2x500 KVA, 4x250 KVA, 1x125 KVA,1x62.5 KVA	
Fresh Water requirement & Sources	273.0 KLD Source: IDCO Supply	--
Sewage Treatment Plant	STP – 0.55 MLD	
Estimated Population-Residential, Floating	Residential – 3000 Nos. Floating – 600 Nos.	

9. **Drainage:** The study area is drained by a number of streams of different order. The drainage is mainly defined by the Gidighai Nala. They all act as distributaries of Daya River which flows in the extreme South direction of the buffer zone. The drainage in project area shows a radial and dendritic pattern and is mostly the result of topography rather than structurally controlled.

10. **Land breakup:**

Particular	Existing	Proposed	Total
Plot Area	1,41,169.0 sqm (35 Acre)	81,406.4 sqm (20 Acre)	2,22,575.40 sqm (55 acre)
Ground Coverage	31,389.0 sqm (14.10%)	3,034.0 sqm (1.36%)	34,423.0 sqm (15.46%)
Total Built up Area	**1,44,160.0 sqm**	**26,613.0 sqm**	**1,70,773.0 sqm**
FAR	0.65	0.12	0.77
Maximum Height	--	--	28 m
Road & Paved Area	--	--	114229.4 sqm
Basement Parking	1,050.0 sqm	--	1,050.0 sqm
Stilt Parking	1,538.0 sqm	--	1,538.0 sqm
Surface Parking	55,438.0 sqm	9,092.0 sqm	67,118.0 sqm
Total Parking Area	**58,026.0 sqm**	**9,092.0 sqm**	**69,706.0 sqm**
Green Belt Area	29,075.0 sqm	44,848.0 sqm	73,923 sqm (33.2% of the plot area)
Power/Electricity Requirement & Sources	1283 KW Source: TPCODL	235.0 KW Source: TPCODL	1518.0 KW Source: TPCODL
No. of DG sets	2x500 KVA & 1x300 KVA	--	2x500 KVA & 1x300 KVA
Fresh Water requirement & Sources	192.0 KLD Source: IDCO Supply	81.0 KLD Source: IDCO Supply	273.0 KLD Source: IDCO Supply
Sewage Treatment Plant	STP – 300 KLD	STP – 250 KLD	STP – 550 KLD

11. **Water requirement:** Freshwater make up of 273.0 m^3/day will be required for the project which will be sourced from IDCO supply water.

12. **Wastewater generation and Treatment:** Every building generates wastewater amounting about 80% of total water consumed. The major source of wastewater includes the grey water from kitchens, bathrooms, and black water from toilets. It is expected that project will generate approx. 353.4 m^3/day of wastewater. The wastewater will be treated in the STP of capacity of 550 KLD provided within the complex.

13. **Rainwater harvesting:** Rainwater harvesting has been catered to and designed as per the guideline of CGWA. Peak hourly rainfall has been considered as 37 mm/hr. The recharge pit of size 4.0 m diameter and 2.5 m effective depth is constructed for recharging the water. At the bottom of the recharge well, a filter media is provided to avoid choking of the recharge bore. Total no. of proposed rainwater harvesting pits are 40.

14. **Power requirement:** The daily power requirement for the institutional building is preliminarily assessed as 1518.0 KW which will be sourced from TPCODL. To meet emergency power requirements during the grid failure, there is provision of DG set having 2 nos. of 500 KVA, 4 nos. of 250 KVA, 1 no. of 125 KVA & 1 no. of 62.5 KVA capacities for power back up in the institutional building project. The XIM Campus have installed 620 KV Solar Panel.

15. **Firefighting**: Firefighting system will be installed as per recommendation of the Firefighting Officer, Odisha, Bhubaneswar and as per the guideline of NBC (part-4). The firefighting system comprises of hose reel, down comer, manual operated electric fire alarm system, terrace tank,

extinguisher, and terrace pump. Safe evacuation route for building residents should be cleared marked to ensure safety of residents during any emergency.

16. **Greenbelt**: The plantation matrix adopted for the green belt development includes pit of 0.3 m x 0.3 m size with a spacing of 2 m x 2 m. Multi-layered plantation comprising of medium height trees (7 m to 10 m) and shrubs (5 m height) are proposed for the green belt. Green belt will be developed over an area of 73,923 sqm (33.2 %) of the plot area by using the local species like Radhachuda, Nageswar, Akash Neem, Ashok, Polanga, Karang, Bela, Pijilu, Kaniara, Tagar, Hena, etc.

17. **Parking details**: Total Parking Area provided is 69706 sqm

Parking Area Provided			
Basement Parking			1050.0sqm
Stilt Parking			1538.0 sqm
Surface Parking			67118.0sqm
Total Parking	--	--	**69706.0sqm**
Equivalent Car Space Provided			
	Area(sqm)	**Area/ECS**	
Basement Parking	1050	32	33 ECS
Stilt Parking	1538	28	55 ECS
Surface Parking	67118	25	2685 ECS
Total Parking Provided			**2773 ECS**

18. **Solid waste generation**: During operation phase, from the residential complex solid waste in form of food waste from kitchen and miscellaneous waste will be generated @ 0.45 kg/person/day, which will be about 1350 kg/day. Around 40 kg/day of STP sludge will be generated.

Table: Solid waste Generation

S. No.	Category	Counts (heads)	Waste generated (kg/day)
1.	Residential	3000 @ 0.45 kg/day	1350.0
2.	Floating Population	600 @ 0.15 kg/day	90.0
3.	STP sludge		40.0
Total Solid Waste Generated			**1480.0 kg/day**

19. **Project Cost**: Estimated cost of the proposed project is 20 crores. EMP cost includes capital cost of 262 lakhs.

20. **Environment Consultant**: The Environment consultant **M/s Centre for Envotech and Management Consultancy Pvt. Ltd, Bhubaneswar** along with the proponent made a presentation on the proposal before the Committee on 14.02.2023.

21. The SEAC in its meeting dated 14-02-2023 recommended the followings;

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

a) Built up area constructed after 14th September, 2006.

b) Total built up area of the existing project and proposed built up area.

c) Copy of all the building plan approval letters.

d) Justification as to why, this will not be considered as violation case.

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

a) Construction activity, if any started for the proposed project at the site and to verify details of construction activity of existing building.

b) Any other issues.

22. The proposed site was visited by the sub-committee of SEAC on 29.03.2023. Following are the observations of the sub-committee**:**

a) PP and Consultant were present.

b) The PP explained that 1.4 lakh sqm approval was taken earlier and completed. Later they applied for additional 24077 sqm approval when the EC was required. Out of this, construction of about 10000 sqm has been done structurally. PP was asked to submit an explanation, why the proposal cannot be a violation case.

c) Since it is an IDCO allotted land, Road and Drain connectivity will be provided by IDCO. However, Road connectivity is there and they have developed a small pond for excess treated besides RWH.

d) Plantations (green belt) are available in existing building and to be extended to the new facilities.

e) PP informed 610 KW solar facility already installed.

f) Documents asked during presentation needs to be submitted.

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

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
1.	Built up area constructed after 14th September, 2006.	New Campus has constructed 1.4lakhs sq.m with the approval of competent authority. Later they applied for additional 24077 sqm approval when the EC was required. Out of this, construction of about 10000 sqm has been done structurally.
2.	Total built up area of the existing project and proposed built up area.	Not submitted.
3.	Copy of all the building plan approval letters.	BDA approval plan vide letter no.15450 dated 30.04.2022 has been granted for total built up area 144160.00sqm.
4.	Justification as to why, this will not be considered as violation case.	Not submitted

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

following from the proponent:

a) The PP explained that 1.4 lakh sqm approval was taken earlier and completed. Later they applied for additional 24077 sqm approval when the EC was required. Out of this, construction of about 10000 sqm has been done structurally. PP has to justify, why the proposal cannot be a violation case.

b) To submit the information as asked in point no. 2 i.e. Total built up area of the existing project and proposed built up area.

ITEM NO. 05

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR BAITARINI SAND BED, PANCHUPALLY OVER AN AREA OF 5.058 HA. AT MOUZA - PANCHUPALLY UNDER ANANDAPUR TAHASIL OF KEONJHAR DISTRICT OF SMT. JYOTSHNA PANDA - EC

1. This proposal is for environmental clearance for Baitarini sand bed, Panchupally over an area of 5.058 ha. at Mouza - Panchupally under Anandapur Tahasil of Keonjhar district of Smt. Jyotshna Panda.
2. **Category:** As per the EIA Notification, 2006 and its subsequent amendments, this project falls in category B1 under Schedule of activity 1(a)- Mining of Minerals.
3. Smt. Jyotsna Panda has been selected as successful bidder by Tahasildar, Anandapur vide letter no – 6454 on dated 29.06.2021.
4. The Mining plan has been approved for a period of five years by The Joint Director of Geology, Keonjhar. Vide letter no – 703/CZ, on dated 28.04.2021 in favour of Tahasildar, Anandapur. The area over 5.058ha. is a non-forest Govt. land of Nadi kissam, having ground elevation of 38 mRL.
5. The District Survey Report for River Sand in respect of Keonjhar district has been prepared in accordance with Appendix – x, Para – 7 (iii) (a) of S.O. No – 3611(E) dated 25.07.2018 of MoEF & CC, New Delhi and approved by Collector, Keonjhar on dated 28.01.2020.
6. The mining lease is an identied sairat source in DSR bearing Page no-4, Sl. No-32, Annexure II.
7. **TOR details**: Terms of Reference (TORs) has been granted by SEIAA, Odisha vide letter no – 3511/SEIAA on dated 25.11.2021
8. **Public hearing details:** Public hearing of Baitarini Sand bed, Panchupally for production of river sand over an area of 5.058ha. at Panchupally village under Anandapur tahasil of Keonjhar district was conducted on 29.09.2022 at 11.00AM at Khata no – 1112 (Rakhita), Plot no- 603 of Panchupally village of Keonjhar district. Issues raised were no transportation of vehicles carrying sand on the Baitarani River dyke near village Panchupally, safety measures for protection of the river dyke of Baitarani of Panchupally village, finding alternate route for transportation of sand from mines avoiding dyke road. A budget of 2 lakhs is earmarked for the action plan for issues in public hearing.
9. **Location and connectivity**: The Baitarini Sand Bed, Panchupally is in survey of India Topo Sheet No. F45 O/4, bounded by Latitude: $21^0$09’51.8” to $21^0$10’1.3” N, Longitude: $86^0$11’30.6” to $86^0$11’44.9” E bearing Khata no 1115, Plot no 6203/1. The Lease area is accessible from Tukuna - Panchupally PWD road at 0.20 km, which is well connected to Highways. The nearest railway station is Sagadapata at distance 25 km from the lease area. The area over 5.058 ha is a

non-forest Govt. land of Nadi kissam, having ground elevation of 38 mRL. Nearest river bridge and the nearest river embankment is located 8 Km and 0.6 Km respectively away from the proposed site. Hadagarh Sanctuary is at 20Km away at North of the proposed site. Ratibandh reserve forests is at 4.0km at North of the proposed site.

10. There are no National parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors; Tiger/Elephant reserves (existing as well as proposed) present within 10 km of the applied mine lease area

11. **Topography and drainage**: The Sand bed is on the river Baitarini. The Panchupally sand bed deposit represents a gentle sloping to almost flat terrain with highest altitude of 38 mRL. The general slope is towards east. Vegetation is scanty with small bushes existing in the auction hold area. There is no human settlement within the area. The Baitarini River along with its distributaries controls the drainage system of the area and traverses the area from north-west to south. There are several water bodies in the buffer zone.

12. **Reserves and total production**: The total geological resource has been estimated as 50580cum. Similarly, the mineable reserve of riverbed sand is worked out to be 42925cum. 8585 cum/annum total production of River Sand is proposed as per approved Mining Plan.

Year	SURFACE AREA (m^2)	THICKNESS	PRODUCTION (m^3)
1st year	8585	1m	8585
2nd year	8585	1m	8585
3rd year	8585	1m	8585
4th year	8585	1m	8585
5th year	8585	1m	8585
TOTAL	**42925**		**42925**

13. Total lease area is 5.058ha. of non-forest Govt. land of “Nadi” kisam. And the lessee is going to work within the said area for 5 years from 2021-22 to 2025-26 with a maximum production of 8585cum per annum with a total production of 42925cum during plan period. The land belongs to Baitarini River bed area and got huge amount of sand deposited at the site. Mining operation shall be carried out 240 days in a year excluding monsoon period. The study area falls under zone-II of seismic zone.

14. **Replenishment Study Report**: The replenishment study has been done by UAV/Drone survey (volumetric survey) method. Two surveys were carried out for data acquisition, the first one for pre-monsoon data on 15.06.2022 and the second one for post monsoon data on 12.11.2022 by using UAV/ Drone. Considering a common safe workable area of 2055.2 m^2, it is observed that replenishment of 838.96m^3 has been done with an average thickness of 0.408m. The safe workable area for pre- monsoon survey was 3101.62 m^2 and for post-monsoon survey was 8652.43 m^2.The volume of sand available during post monsoon and pre-monsoon survey around 6813.16 m^3 and 1496.55 m^3, which can be treated as safe extractable within the framework of the study.

15. **Method of mining**: As per the Approved Mining Plan, the mining of sand will be done by open cast manual method for excavation & then loading into dumpers/ tractors/tippers for transport to the user’s destination. The quarry will be mined for five years. The maximum depth of mining will be of 1m or up to water table whichever is less. Mine is planned to produce 8585cum of sand annually. Since the riverbed sand deposit is devoid of any over burden, development for over-

burden does not arise. Mining will be carried out in lean period only, during monsoon the mining will be stopped.

16. **Baseline details**: To depict the present environmental scenario, data on environment factors like air, water, soil, have been collected & analysed during the Winter season starting from December 2021 to February 2022.

17. **Air Environment**: Ambient air quality of the study area has been monitored at 6 locations for 12 air quality parameters. The AAQ analysis indicates that the concentration of PM_{10} varied from 19 $\mu g/m^3$ to 48 $\mu g/m^3$, $PM_{2.5}$ from 08 $\mu g/m^3$ to 30 $\mu g/m^3$, SO_2 from BDL to 6.5 $\mu g/m^3$, NOx from BDL to 13.6 $\mu g/m^3$. Benzene, BaP. Ni, As, & Pb were found below detection limit.

18. **Surface water**: pH values varied between 6.9 to 7.2 while Turbidity varies from 13 to 14.0 NTU, Dissolved Solids varied from 102 mg/L to 124 mg/L, Dissolved oxygen varies from 6.2 mg/L to 7.0 mg/L, BOD varied from 1.4 mg/L to 1.8 mg/L and Chloride values varied between 9.5 mg/L to 10 mg/L. Iron values varied from 0.28 mg/L to 0.44 mg/L, Manganese values varied from 0.02 mg/L to 0.04 mg/L. Sulphate values varied from 3.2 mg/L to 5.0 mg/L and Nitrate values varied from 3.0 mg/L to 3.3 mg/L. Zinc 0.1 mg/L to 0.12 mg/L. Copper BDL to 0.002. Fluoride, Arsenic, Lead, Chromium, Cyanide, Selenium, Fluoride, Phenolic compound, and Cadmium have been observed below detection limit and Total Coliform varies from 989 to 1118 MPN/100 ml.

19. **Ground water**: pH values varied between 6.9 to 7.3 while Turbidity ranged from 2.6 to 2.8 NTU. Dissolved Solids varied between 96 mg/L to 118 mg/l and total hardness varied from 80 mg/L to 99 mg/l. Chloride values varied between 7 mg/L to 10.7 mg/l. Calcium values varied between 17.1 mg/L to 18 mg/l while Magnesium values varied between 8.6 mg/L to 10 mg/l, Sulphate values varied from 2.3 mg/L to 3.1 mg/l and Nitrate values varied from 2 mg/L to 3.6 mg/l. Zinc values varied from 0.16 mg/l to 0.2 mg/l & Boron from 0.10 mg/l to 0.21 mg/l. Lead, Copper, Manganese, Fluoride, Mercury, Cadmium, Cyanide, Arsenic, Selenium, Chromium, Phenolic compounds and Aluminium have been observed below detection limit.

20. **Soil study:** Soil of the study area is acidic in nature. The bulk density of soil samples varies from 1.4 gm/cm^3 to 1.6 gm/cm^3, while porosity varies from 40 to 44 %.

    a) **Noise Environment**: Noise monitoring was carried out at 6 locations as per the standard prescribed by CPCB. Noise level monitoring was carried out continuously for 24 hours at one hour interval starting at 06:15 hrs to 05:15 hrs next day once in a month for 3 months during the study period, at all locations. Noise level varies from 49 to 54 dB (A) during Day time and 38 to 42 dB (A) during Night time, which are below the prescribed limits of CPCB.

21. **Water requirement**: Total water approx., 1 KLD will be required for different purposes like Domestic, Dust suppression, plantation purposes & sourced from as per the availability. As the requirement of water is not so huge, the mine will draw water as per suitability in accordance to the existing guidelines.

22. **Greenbelt**: During five years, about 250 saplings of local varieties of trees will be planted along the roads. Schedule planned for green belt development will be checked every year and any modification required will be implemented. Post plantation status will be regularly monitored in every season. Phase wise development in the areas of plantation including rate of growth, survival rate etc., will be recorded.

23. **Manpower requirement**: 2nos. supervisory personnel preferably Mining Mate with Certificate of Competency from DGMS and 2nos. statutory personnel will be employed. As per OMS, 3 skilled and 9 unskilled persons will be employed. So total 16 nos. are required for the manpower of this project.

24. **Project cost**: Estimated cost of the project is 70 Lakhs and an EMP cost of 4.5 lakhs (capital cost) & 1.0 lakhs as recurring cost is proposed.

EMP BUDGET		
Particulars	**Capital Cost (Rs. in Lakhs)**	**Recurring Cost (Rs. Lakhs/Annum)**
Environmental Monitoring	2.0	0.2
Environmental Management		0.2
Green belt development	0.5	0.1
CSR	2.0	0.5
Total	**4.5**	**1.0**

25. **Environment Consultant**: The Environment consultant **M/s Srushti Seva Private Ltd.,** along with the proponent made a presentation on the proposal before the Committee on 10.03.2023.

26. The SEAC in its meeting dated 10-03-2023 decided to take the decision on the proposal after receipt of the following from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
a)	Copy of Joint verification report regarding transportation route.	In compliance to the issue raised during public hearing regarding use of road for sand transportation, a joint inquiry was conducted by Superintending Engineer, Baitarini Irrigation Project, Anandapur and Sub-Collector Anandapur. Detailed report is annexed as **Appendix-1**.	Complied and Appendix-1 is attached.
b)	NOC from concerned Water Resources Department for construction of temporary road from river bed to embankment.	As per detailed inquiry report, one temporary road will be constructed by the lessee from the lease area to Kundeswar Temple and a heavy ramp will also be constructed from the ending point of the river bed towards the embankment road. The route is duly finalized by Water Resources department and Revenue department. The route chart is enclosed in inquiry report.	submitted
c)	Sand availability in the lease area as KML file shows less sand deposit.	Since, the KML was taken during October'22, the lease area seemed less deposit due to water logged. Presently, with advancement of summer, the water level fall down which is resulting in	Google map of October and December 2022 is attached.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		increase in sand expose area and accordingly, the quantum of extractable sand is also enhanced to some extent. Image showing the sand expose area in Oct'22 & Dec'22 is annexed in **Appendix- 2**. However, as per present situation almost the lease area is devoid of water and fully exposed of sand.	
d)	Sand Replenishment Report.	The detailed Replenishment study has been carried out by Drone Survey method. During post monsoon survey, i.e on 12.11.2022, the volume of sand available in the lease area was around 68113.16 m3. The sand Replenishment Report is annexed as **Appendix – 3**.	Detailed Replenishment study is attached as Appendix – 3
e)	Water requirement is 1 KLD in EIA report and in presentation it is 5 KLD. This has to be clarified with water balance.	Total 1 KLD of water will be required, out of which 200 ltrs for domestic purpose, 300 ltrs for plantation purpose & 500 ltrs dust suppression purposes.	--
f)	Recurring cost for EMP is mentioned 2.5 lakhs in Brief Summary, 0.5lakhs in EIA and 1.0 lakhs in presentation. This has to be clarified.	Recurring cost for EMP is 0.5 lakhs. In the presentation copy, 1.0 lakh was mentioned adding 0.5 lakhs of CSR cost.	-
g)	During the public hearing, villagers objected that if sand mining will be carried out, there will be risk to river embankment. This has to be clarified.	As regards to the public objection & recommendation of Joint inquiry report, we agree to transport the sand from the source without using the whole embankment road, only use 200m near Kundeswar temple. An undertaking has been submitted to Tahasildar regarding maintenance of the road enclosed in inquiry report.	Complied.

Considering the information furnished and the presentation made by the consultant, **M/s Srushti Seva Private Ltd.,** along with the project proponent, the SEAC recommended for grant of Environmental Clearance for the proposal for extraction of sand as per replenishment study i.e. 838.96 cum valid upto lease period with stipulated conditions as per **Annexure – A** and following specific conditions:

a) Amended EIA Notification dated 25th July, 2018, Guidelines for sustainable sand mining, 2016 and Enforcement and Monitoring Guidelines for Sand Mining, January 2020 of MoEF&CC, Govt. of India shall be adhered to in execution of Mining as per **Annexure – B**.

b) Regular replenishment study as per guidelines to be conducted and report to be submitted.

c) Provision of Bio-toilet shall be made at the site.

d) 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.

e) Stone patching with plantation in between along the stretch of the bank associated with sand mining and necessary ramp construction shall be made.

ITEM NO. 06

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR M/S INDALC SPIRITS PVT. LTD. OF PROPOSED GRAIN BASED DISTILLARY UNIT (100 KLPD) WITH CO-GENERATING POWER PLANT (3MW) PROJECT TO BE SET UP OVER AN AREA OF 19.9 ACRES (8.053 HA) AT SAPTASAJYA, DHENKANAL OF SRI AKASH AGARWAL – EC

1. This proposal is for Environmental Clearance for M/s Indalc Spirits Pvt. Ltd. of proposed Grain Based Distillary unit (100 KLPD) with Co-generating Power plant (3MW) project to be set up over an area of 19.9 Acres (8.053 Ha) at Saptasajya, Dhenkanal of Sri Akash Agarwal.
2. **Category:** As per the EIA Notification Ministry of Environment and Forests and Climate Change (MoEF& CC), Government of India, dated 14th September 2006 and its subsequent amendments and Gazette vide S.O. 1960 (E) Dated: 13.06.2019 "All the Non – molasses-based distilleries with production capacity less than or equal to 200 KLD falls under Category B1" of Schedule -5 (g)-Distilleries.
3. **TOR details**: The Terms of Reference (TORs) was approved by SEIAA, Odisha vide Letter. No. 4964/SEIAA Dated: 28.07.2022.
4. **Public hearing details**: Public hearing was conducted by the Odisha Pollution Control Board (OSPCB) on 02.11.2022 at Saptasajaya village (near Banadurga Temple) under Dhenkanal Sadar of Dhenkanal District and public hearing proceeding were received from SPCB Odisha with No. 2415/IND-II-PH-1085 Dated: 29.12.2022**.** Issues raised during public hearing are employment generation, health care, road construction and maintenance, educational development, women empowerment programme, development of agriculture, drinking water supply, solar street lighting, green belt development and formation of village committee. Budget for time bound action plan to address issues raised in compliance with public hearing is 84.50 Lakhs.
5. Earlier CTE was granted by OSPCB vide letter no 1444 dated 03.02.2023.
6. The project site (Village Saptasajya Mouza) has not been found in the DLC report of Dhenkanal Tahasil of Dhenkanal District is cited vide letter no 5969 dated 20.08.2022.
7. No Objection Certificate (NOC) for ground water abstraction was granted by CGWA vide NOC No. CGWA/NOC/IND/ORIG/2022/1617 valid upto 11/08/2025.
8. **Location and connectivity:** The proposed plant will be in Khata No. 8/462 & Plot No. 1200/2586, Khata No. 8/470 & Plot No. 1200/2580 & 1200/2585, Khata No. 8/482 & Plot No. 1200/2583 and Khata No. 8/483, Plot No. 1200/2582, 8/473 & 1201/2581 of Saptasajya village, Dhenkanal Sadar Tehsil in Dhenkanal District, Odisha over an area of 19.90 Acres/8.05 Ha. The latitude of the area is 20° 35' 44.49" N to 20° 35' 56.30" N, 85° 33' 21.64" E to 85° 33' 34.56" E and located in toposheet number 73H/10. Nearest National Highway and State Highway is NH 55 – 5.5 km - NE and Saptasajya Road – 3.70 km – NE, respectively. Nearest Railway station is Dhenkanal Railway station – 9.30 km - NE. Nearest Airport is Bhubaneshwar Airport at 46.65 km. Nearest habitation is Madyasahi Village at 0.65 km and Saptasajyaparah Village at 1.25 k. The distance of Kapilas wildlife sanctuary is 12.56 Km and ESZ is 11.26 Km from the plant boundary. Major drainage of the district is Brahmani River and there is no river located within 1 Km from the project site. The river Sapua is located at 6.5 Km from the project site. Nearest Reserve/Protected Forests are Saptasajya RF – 1.0 km - SW, Mayuri RF – 1.60 km – NE and Kanakarhaharha RF – 2.35 km – NW. The project site and buffer zone is devoid of any wildlife sanctuary, Biosphere reserve/ corridors. It falls under Seismic Zone – III.

9. **Topography & Drainage**: The proposed plant is in Saptasajya village, Dhenkanal Sadar Tehsil in Dhenkanal District, Odisha over an area of 19.90 Acres/8.05 Ha. Highest RL of the area is 98 m above msl in the south- western part and the lowest is 92 m above msl in the north-eastern part of the ML area. The buffer zone of the study area is hilly and plain terrain with highest altitude of 591 mRL and lowest altitude of 35 mRL. The river Brahmani and its tributaries control the drainage of the district. The nearest river located within the buffer zone of the project site is Sapua river which is 6.5 km from the project site.
10. **Baseline study:** The ambient air quality monitoring was carried out in the study area in 8 sampling location during the period of March – May 2022.
    a) Ambient Air Quality: During the study period, the concentration of PM10 in the project site varies from 45.3-59.3µg/m3 and from 43.5-75.9 µg/m3 in the nearby villages. The value of PM2.5 in the project site is 24.9- 32.6µg/m3 and the average of PM2.5 varies from 27.2-37.1µg/m3 in the surrounding villages. 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.
    b) Surface water: The pH of the sample water ranges from 7.2 -7.6, D.O ranges from 5.2-6.8 mg/l, BOD in nearby waterbody ranges from less than 2-2.8 mg/L, TDS ranges from 40-180 mg/l, total hardness varies from 24-164, nitrate value ranges from 0.8-1.9 mg/l, Fluoride content ranges from 0.3- 0.83 mg/l
    c) Ground water: As Per the data it has been observed that the pH of the ground water varies from 6.5 To 7.15 mg/l, Chlorides Ranges From 12-60 Mg/L, Sulphates value found to be 5-80 mg/l, Fluoride Ranges from 0.33 – 0.85 mg/l, Hardness varies from 48-80 mg/l, Total dissolved solid 68-230 mg/l. The ground water has been analyzed as per IS 3025:PART05:2018 and found to be suitable for drinking purpose.
    d) Noise study: The study area includes industrial and residential areas. The ambient noise levels were measured in 8 sampling locations. The noise level varies from 32.4 to 52.6 dB (A) during day time and 25.7 to 43.3 dB(A) during night time. The noise level remains within the prescribed standard.
    e) Soil quality: pH of the soil varies from 5.2 to 6.8; Total Organic Carbon varies from 0.88 to 1.58 Kg/Ha; Available Phosphorous varies from 10.5 to 45.5 Kg/Ha; Available Nitrogen varies from 188 to 264 Kg/Ha; Available Potassium varies from 204 to 370 Kg/Ha
11. **Raw materials used:** The major raw material for the unit will be broken rice, Rice husk and enzymes and transported by trucks. The raw material will be sourced from the local market. Enzyme is required for distillery unit. 21.12 TPH steam will be required.

S. No.	Description	Proposed
1.	Item of Manufacturing	Extra Neutral Alcohol/Ethanol
2.	Raw Material	Grain (Rice, maize etc..,)
3.	Production Capacity	100.0 KLPD
4.	By products	
	Compressed CO_2	62.0 TPD
	DWGS	95.0 TPD
	DDGS	41.0 TPD

	Co-generation power plant	3.0 MW

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

12. **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.
13. **List of Products:**

S. No.	Description	Proposed
1.	Item of Manufacturing	Extra Neutral Alcohol/Ethanol
2.	Raw Material	Grain (Rice, maize etc..,)
3.	Production Capacity	100.0 KLPD
4.	By products	
	Compressed CO_2	62.0 TPD
	DWGS	95.0 TPD
	DDGS	41.0 TPD
	Co-generation power plant	3.0 MW

14. **Water requirement:** The total water requirement is (100% Ethanol -1863 KLD (Fresh water – 492 KLD & Recycled water – 1405 KLD); 100% ENA -2097 KLD (Fresh Water – 602 KLD & Recycled Water - 1495 KLD). The maximum water requirement will not exceed 2097 KLD and makeup water will not exceed 602 KLD. So, total water requirement for the project will be a maximum of 602 KLD which will be sourced from ground water and rainwater harvesting.
15. **Wastewater management**: The company will adopt "Zero Liquid Discharge" Scheme. The treated water will be reused in the process, make up water streams, green belt development, spraying in fuel & ash storage areas etc. The wastewater generated form the process will be tried through 900 KLD CPU and reutilise in the process. Spent wash will not be stored in the lagoons and compost yard. The spent wash generated will be treated in MEE followed by CPU and the treated water will be reused in the plant premises. The spent wash generation is within the range of 6 – 8 KL /KL of alcohol produced. The spent wash generated will be treated in MEE, followed by CPU and the treated water will be reused in the plant premises.
16. **STP**: The Domestic sewage will be treated in STP of 10 KLD and treated water will be used for gardening.
17. **Rainwater harvesting**: Proposal for rainwater harvesting structure over an area of 3752 sqm with a total storage capacity of 18000 cum. Further, 5 no. of reached sump up to 200 cum capacity will be concentrated for ground water recharge.

S. No	Description	Area (m2)	Runoff Co-efficient	Rainfall m/hr	Total Runoff (m^3/hr)
1.	Roof Top (Concrete)	4284	0.8	0.1	342.7
2.	Roof Top (Corrugated)	18280	0.8	0.1	1462.4
3.	Road and Open space	20515	0.6	0.1	1230.9
4.	Green Area	27235	0.2	0.1	544.70
	Total				**3580.7**

Total recharge time proposed is 15 min
No of recharge pits proposed = 5 no.'s with capacity 200 cu. m each
Total ground water recharge capacity is 4000 cu.m/ hr and Surface runoff available for recharge is 3556 Cu.m/hr
Further, there is the proposal for rain water harvesting structure over an area of 3752 Sq. m. with a total storage capacity of 18000 Cu. m. The rain water stored in the storage tank will used in the process, dust suppression and green belt development.

18. Total quantity of DDGS generated will be 41 TPD which will be sold as cattle feed
19. **Solid Waste management**: Fly ash generated from the project will be 1.2 TPH and bottom ash will be 0.5 TPH (29.0 TPD). The Solid waste DWGS/DDGS will be stored in shed and will sold as cattle feed directly. The boiler ash generated will be used for brick manufacturing industries and low land filling.
20. **Ash management**: The air pollution control system, for the new boiler furnace, will comprise of ash vessels, conveying pipes, ash silo, ash storage and ash disposal. This ash handling will be totally enclosed system. The ash handling system shall be designed to take care of 100% fuel

burning. Ash collected from the bottom of furnace (bottom ash) and the ash collected in the air heater hoppers and ESP (air pollution control system) hoppers will be taken to an ash silo through a pneumatic conveying system. Ash silo will have the capacity of storage for 8 hours of ash. The ash from the silo will be unloaded through the ash conditioner and bagged as fertilizer. The fly ash and bottom ash can be used for brick manufacturing units.

21. **Power requirement**: The estimated power requirement for the proposed project is 3.0 MW. Initially the power will be sourced from the OSPDCL and after the operation of co-generation power plant the power requirement will be met from captive source. It is proposed to install a 1 x 250 KVA DG set for power back up for the system.
22. **Fuel Requirement**: Coal/Rice Husk will be used as fuel for the 25.0 TPH boiler. The fuel requirements for 100 KLPD (100% ENA/Ethanol) production will be 6.83 TPH coal and 7.36 TPH rice husk with 100% boiler capacity. The steam requirement for the proposed project will be 21.12TPH will be sourced from proposed 25.0 TPH Boiler.
23. **Greenbelt**: Green belt will be developed over an area of 6.74 acres (33%) of the total plant area with plantation @ 2500 sapling per Ha. At present there is the proposal for development of green belt over an area of 6.74 acres (33%) of the total plant area i.e., 19.9 acres. There is the proposal for plantation of 7000 saplings for green belt development. An amount of Rs.10,00,000 has been allocated for development of greenbelt and annual expenses for green belt maintenance will be Rs. 2,00,000.00.

S. No	**Year**	**Sapling Nos**	**Area to be Covered (Ac.)**	**Species Type**	**Location**
1.	2022-23	2000	2.0	Palash, Teak, Sisoo, Kadam, Arjun, Neem, Mango, Siris, Ashoka, Saal, Jackfruit, Bamboo, Radhachuda, Mahaneem, Custard apple, Guava, Krushnachuda etc..,	Raw material storage area, office Building, car & truck parking area, inside the plant boundary wall, near water reservoir, internal roads etc..,
2.	2023-24	3000	2.73		
3.	2024-25	2000	2.0		
Total		**7000**	**6.73**		
An amount Rs. 15.0 Lakhs has been allocated for development of green belt and annual expenses for green belt maintenance will be Rs. 5.0 Lakhs					

24. **Manpower Requirement**: Total number of manpower will be around 140 including skilled and unskilled labours (supervisory personnel 40 nos and non-supervisory personnel 100 persons). Unskilled and skilled are hired from in and around the nearby areas while skilled, technical experts are hired from outside. There will be projection of about 250 no.'s of additional persons ingress due to the project activity.
25. **Project cost**: Total cost of the project will be 102.0 Crores. The capital cost of environmental mitigation measures is estimated to be Rs. 19.75 Cores, and the estimated recurring cost of environmental mitigation measures for the proposed project has been estimated to be Rs. 2.21 Crores/Annum. The CSR commitment is 84.5 lakhs.

S. No.	Description	Capital Cost in Lakhs	Recurring Cost in Lakhs/Annum
1.	Air Pollution		
	Pollution Control Equipment for 25 TPH Boiler (ESP & Stack height of 50.0 meters)	220.0	15.0
	OCEMS	15.0	5.0
	Dust Suppression	--	3.0
2.	Water Pollution		
	Rain water harvesting pond along with collection pits	20.0	2.0
	CPU, MEE & RO	1500.0	120.0
3.	Noise Pollution		
	PPE (Ear Plugs, Ear muffs, Insulations, Barriers)	70.0	10.0
4.	DWGS Handling, DDGS Drying, Handling, Storage, weighing bagging etc..,	60.0	8.0
5.	Environmental Monitoring & Management		
	Ambient Air, Stack, Noise, Soil, Water & Wastewater etc..,	--	15.0
6.	Landscaping/Green Belt Development		
	Plantation	15.0	5.0
7.	Occupational Health & Safety		
	Annual health Check-up, OHC, Fire Fighting	25.0	8.0
8.	Setting of Environmental Laboratory	50.0	--
9.	Risk Mitigation and Safety Plan	--	10.0
10.	Environmental Management Department	--	10.0
11.	Implementation & Control of measures to minimize the impact due to transportation & traffic	--	10.0
	Total	**1970.00**	**220.00**

26. The Environment consultant **M/s SV Enviro Labs & Consultants, Visakhapatnam,** along with the proponent made a presentation on the proposal before the Committee on 12.04.2023.

27. The SEAC in its meeting held on dated **12-04-2023** decided to take the decision on the proposal after receipt of certain information/ documents from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
3.	ToR has been approved based on the presentation of consultant M/s Kalyani Laboratory Ltd., Bhubaneswar	M/s. SV Enviro Labs & Consultants, Visakhapatnam; being the EIA Consultant of M/s. Indalc Spirits Pvt Ltd,

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	whereas final EIA has been prepared and presented jointly by M/s Kalyani Laboratory Ltd., Bhubaneswar and M/s SV Enviro Labs & Consultants, Visakhapatnam. This may be clarified.	has attended and deliberate the ToR Presentation. This has been reflected in 84th meeting of SEIAA on Dated. 14.07.2022. M/s. Kalyani Laboratories Pvt Ltd, Bhubaneswar; one of the NABL & MoEF Accredited Laboratory had assigned to generated necessary baseline report for the project and also participated the public hearing meeting as a local agency in association with M/s. SV Enviro Labs. M/s. SV Enviro Labs has presented the final EC Presentation meeting by virtual mode. Kalyani Laboratories was present in the EC presentation meeting to assist the Project Proponent of M/s. Indalc Spirits Pvt Ltd, being assigned to prepare the baseline study report.
4.	Certificate from concerned DFO about the distance of the project site from the boundary of Kapilash Wildlife Sanctuary, Dhenkanal and its Eco-Sensitive Zone.	As certified by the Office of the DFO, Dhenkanal Forest Division vide letter no. 5969 3F / Miss. / 858 / 2022 / Dtd. 20.08.2022; Kapilash Wildlife Sanctuary is located at a distance of 12.56 km and Eco- Sensitive Boundary is located at a distance of 11.24 km from the project site. (Copy of the letter along with map is enclosed herewith as) **Annexure – I.**
5.	In Public hearing, people made allegation about impact of discharge of waste water from the unit on water of a nallah passing nearby. An undertaking to adopt Zero Liquid Discharge (ZLD) concept to be submitted.	In compliance to the presumption of the people during Public Hearing, the Proponent assure to adopt Zero Liquid Discharge (ZLD) concept in order to prevent any discharge of waste water of the industry outside the premises. An undertaken to this effect has been submitted by the Proponent. (**Annexure - II**)

Proceedings of the SEAC meeting held on 10.05.2023 (Old proposals – compliance received)

Environmental Scientist, SEAC

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
6.	Details of Sump tank for Surface run off as a disaster management plan.	Total water requirement for the project will be a maximum of 602 KLD which will be sourced from ground water and rain water and rain water harvesting. There is proposal for rain water harvesting structure over an area of 3752 Sq.m with a total storage capacity of 18000 Cu.m. Further, 5 no. of recharged pit up to 200 Cu.m capacity will be concentrated for ground water recharged. The rain water stored in the storage tank will used in the process, dust suppression and green belt development. Capacity of RWH is calculated on the basis of maximum average rainfall of the city and the worst scenario into consideration. Surface run off Water Management proposed in the following manner: i) Storm water drainage system to collect surface runoff is separately connected to rain water harvesting tank after passing through settling ponds. ii) All effluents containing acid / alkali / organic / toxic will be treated separately and conducted to water storage pond for re-circulation. iii) Sanitary waste be treated in STP and will be utilized for plantation purpose.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		iv) Dewatering of sludge will be carried out and the sludge generating from acid/alkali. Treatment process will be disposed through TSDF. STP sludge will be used for manuring. The P.P assured to follow all necessary measures in order to adopt ZLD system while enabling the industry into operational status.
7.	Utility of CPU unit and characteristics of the condensates along with its chemical constituents after being polished.	A comprehensive note of the working of Condensate Polishing Unit (CPU) has been elaborated in **Annexure – III**.
8.	Land use breakup.	The proposed project is planned on 19.90 acre of land which has been duly acquired by the Company and converted for industrial purpose as well. The detailed land use breakup has been given in **Annexure – IV**.
9.	Brief note on type of condensers to be used.	Two types of condensers will be used in the entire process. 1. One is the PHE (plate type heat exchanger), where liquid will be used in both phases. 2. Second one is the Tube & Shells type heat exchanger, for which liquid will be used in one phase & vapour in another phase.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s SV Enviro Labs & Consultants, Visakhapatnam,** on behalf of the project proponent, the SEAC recommended for grant of Environmental Clearance for the project valid for a period of 10 years with stipulated conditions as per **Annexure – D** in addition to the following conditions.

Proceedings of the SEAC meeting held on 10.05.2023 (Old proposals – compliance received)

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(i) The project proponent shall ensure implementation and adhering of all conditions and guidelines given in the notifications of MOEF&CC, Govt. of India dated 6th July 2018 and any other notifications relevant to the industry, to ensure Zero Liquid Discharge (ZLD) and safe quality monitoring of all products and safety in operation of the plant.

(ii) The Project Proponent should install additional sump tanks, if required to arrest effluent due to any Force Majour and monitor, treat abd record effluent analysis on daily basis.

(iii) The proponent shall create adequate testing facilities to monitor the process and quality of all products.

(iv) Quality of all products to be produced in the plant shall be monitored and tested for all batches on routine basis, by following standard procedures and norms before sent out of the plant and records of all analytical data to be maintained.

(v) The proponent shall get the products tested by outside certified agency for their safe use from time to time and all such records to be maintained.

(vi) The DDGS intended to be used for animal feed shall be tested for its safety by appropriate authority before use.

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

Member Secretary, SEAC

ANNEXURE- A

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

Stipulated Conditions:

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

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

10. Vehicles hired for transportation of sand from the site should be in good condition and should have pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.

11. The vehicles shall not be overloaded and shall be covered with Tarpaulin. The Tahasildar may collect an appropriate road maintenance levy from the lessee as part of the lease conditions on the basis of quantum of sand transported, and utilize the proceeds of the levy for proper maintenance of the extraction paths and roads to prevent their degradation on account of plying of sand trucks.

12. The project proponent shall take all precautionary measures against causing damage to flora and fauna of the locality. The PP shall plant and nurse to full establishment a minimum of 50 number of saplings of native tree species along the approach roads, river banks and in community areas in consultation with the Gram Panchayat.

13. Water spray should be made on the road/extraction paths to control dust emission during transportation of sand.

14. The Project Proponent shall undertake phased restoration, reclamation and rehabilitation of land affected by mining and completes this work before abandonment of mine.

15. Environmental Management Plan (EMP) shall be implemented by PP to ensure compliance with the environmental conditions specified above. The year wise funds earmarked for environmental protection measures shall be kept in separate account and shall be spent according to the plan proposed. Year wise progress of implementation of EMP shall be reported to the SEIAA, Odisha and OSPCB along with the compliance report.

16. The proponent shall take necessary measures to ensure that there is no adverse impact of the mining operations on the human habitation if any, existing nearby.

17. It shall be mandatory for the project management to submit quarterly compliance reports on the status of implementation of the above stipulated environmental safeguards to the SEIAA, Odisha / SPCB, Odisha/ Regional Office of the MoEF&CC, Bhubaneswar, in hard and soft copies on 1stday of January, April, July, October of each calendar year, failing which EC is liable to be revoked.

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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. During transportation of sand, all traffic safety measures shall be taken to avoid any kind of accidents.

20. Bio - toilet provision shall be made.

21. 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.

22. Necessary sprinkling on Haulage Road and Avenue plantation shall be done.

23. 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.

24. 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.

25. 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.

26. 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.

27. 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.

28. 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.

29. 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.

30. 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.

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31. 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.

32. 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.

33. 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.

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Annexure - B

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": 1/4the part of the river width (excluding 3/4the central part of the river width) on both sides of the river towards the river bank	4.1.1 (Para - e) Page - 16
2.	a) Distance between two clusters : ≥2.5 km b) Area of mining lease area is a cluster: ≤10 ha.	4.1.1 (Para - k) Page - 19
3.	Concave River Bank : No extraction of sand	
4.	No mining if a) Upstream: Lease is 1 km from major Bridge and high ways or 5(x) of the Bridge / public civil structure / water intakes point subject to lease is located at a minimum 250 meter distance. Where x = Span of the bridge. b) Downstream side: Lease is 1 km from the major bridge and Highways Or 10x of the bridge / public civil structure /water intake point Subject to lease is located at a minimum distance of 500 meter where x = span of the bridge	4.3 (Para - h) Page - 23
5.	Mining depth : ≤ 3 meter (maximum 3 meter)	4.3 (Para - m) Page - 24
6.	Mining distance from river bank: 1/4th 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 : ≤60% of mine lease area	4.3 (Para - s) Page - 25
8.	Minable sand per ha. Available for actual mining : ≤60,000 MT/Annum	
9.	Regular replenishment study and replenishment rate	

ANNEXURE - C

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR FOR ENVIRONMENTAL CLEARANCE FOR PROPOSED COMMERCIAL CUM RESIDENTIAL BUILDING OF M/S. MAHADEV GRIHA NIRMAN PVT. LTD. LOCATED AT PLOT NO. 458, 454, 460, 459, 455 / 826 AND 455/796, KHATA NO. 170/168, 170/156, 170/214,170/215 OVER A BUILT-UP AREA 47283.66 SQM IN MOUZA-PADMALAVA NAGAR, TEHSIL-BARANGA, PS-CUTTACK SADAR 16, DIST - CUTTACK OF SRI RAVI KUMAR MODA - EC

PART A - SPECIFIC CONDITIONS:

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

TOPOGRAPHY AND NATURAL DRAINAGE

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

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

9. As proposed, fresh water requirement from ground water shall not exceed 84 KLD.

10. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
11. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.
12. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
13. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.
14. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
15. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
16. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits of 13 nos. shall be provided.
17. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
18. The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.

SOLID WASTE MANAGEMENT

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

22. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

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

SEWAGE TREATMENT PLANT

24. Sewage shall be treated in STP of capacity 200 KLD. The treated effluent from STP shall be reused for flushing, horticulture & Filter backwash.

25. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.

26. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.

27. Separate large recharge pits shall be constructed inside the project area to accommodate the rainwater in case the housing project period and the CDP of the Govt. does not synchronize with reference to construction of road and drain.

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

29. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.

30. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

31. The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and “Nala” before commencement of any activity at the project site.

ENERGY

32. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.

33. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and

disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.

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

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

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

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

AIR QUALITY AND NOISE

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

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

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

41. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the

noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

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

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

GREEN COVER

44. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m^2 of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed approx. 2136.78sqm (20.36% of total plot area) shall be provided for green area development.

TOP SOIL PRESERVATION AND REUSE

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

TRANSPORT

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

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

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

49. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.
50. A dedicated entry/exit and parking shall be provided for commercial activities.
51. Barricades shall be provided around project boundary.
52. Speed of the vehicles shall be restricted upto 15 kmph by erecting speed bumps at regular intervals at project site and proper signage shall be provided for guided vehicular movement and speed restrictions.
53. Parking shall be prohibited on the access road to the proposed project site.
54. Footpath shall be seamless with sufficient width.
55. No vehicles shall be allowed to stop and stand in front of the gate on main access.
56. A buffer of minimum 10 m shall be maintained between the entry/exit gate and the road to avoid traffic congestion.
57. The Traffic Management Plan prepared by the proponent shall be duly validated and certified by the State Concerned Competent Authority and shall have also their consent before implementation.

ENVIRONMENT MANAGEMENT PLAN

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

OTHERS

59. Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
60. A First Aid Room shall be provided in the project both during construction and operations of the project.
61. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
62. As per the MoEF&CC, Govt. of India Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. As per para 6(ll) of the said O.M. appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local

farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

PART B – GENERAL CONDITIONS

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

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10. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.

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

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

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ANNEXURE - D

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE OF M/S INDALC SPIRITS PVT. LTD. OF PROPOSED GRAIN BASED DISTILLARY UNIT (100 KLPD) WITH CO-GENERATING POWER PLANT (3MW) PROJECT TO BE SET UP OVER AN AREA OF 19.9 ACRES (8.053 HA) AT SAPTASAJYA, DHENKANAL OF SRI AKASH AGARWAL – EC.

A. SPECIFIC CONDITIONS:

i) ESP along with stack of adequate height shall be provided to coal/biomass fired boiler to control particulate emission within 50mg/Nm^3.

ii) The proponent shall obtain permission from concerned authority for drawal of water.

iii) Spent wash shall be treated through decanter and concentrated in multi-effect evaporator (MEE) to form DWGS. DWGS will be sent to dryer to form DOGS. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment. Treated effluent will be used for makeup water of cooling towers and water quality of treated effluent shall meet the norms prescribed by CPCB/SPCB and recycle/reuse.

iv) As proposed, no effluent from distillery shall be discharged outside the plant premises and Zero discharge shall be adopted. Water consumption shall be reduced by adopting 3 R's (Reduce, Reuse and Recycle) concept in the process.

v) Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.

vi) Adequate numbers of ground water quality monitoring stations by providing piezometers around the project area shall be set up. Sampling and trend analysis monitoring must be made on monthly a basis and report submitted to SPCB and SEIAA. The ground water quality monitoring for pH, BOD, COD, Chloride, Sulphate and total dissolved solids shall be monitored. Sampling and trend analysis monitoring must be made on monthly basis and report submitted to the Ministry's Regional Office at Bhubaneswar, SEIAA, Odisha and SPCB.

vii) Continuous online monitoring (24x7) system to be installed within treatment plant and data to be uploaded to company's web site and also provided to respective Regional Office of MoEF&CC, Govt. of India, concerned SPCB/CPCB and SEIAA, Odisha.

viii) The project has to restrict entry of surface water to the shop floors to prevent contamination. Accordingly, drainage system has to be developed within the project area. Contaminated water and effluents from shop floors are to be taken by separate drains to effluent ponds for treatment which will also include boiler blow down water.

ix) All effluents have to be treated and re-used to achieve zero discharge. Care should be taken to prevent any flow towards the agriculture land on the downstream side towards the South.

x) Storage and management of all raw-materials like coal, husks etc. have to be planned properly to avoid pollution.

xi) Bagasse storage shall be done in such a way that it does not get air borne or fly around due to wind.

xii) The cogenerated Carbon Dioxide gas shall be bottled and disposed as a saleable product.

xiii) Boiler ash shall be stored separately as per CPCB guidelines so that it shall not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water. Direct exposure of workers to fly

ash & dust shall be avoided. Bagasse ash and coal ash shall be stored separately.

xiv) Fire-fighting system shall be as per the norms and cover all areas where alcohol is produced, handled and stored. Provision of foam system for fire-fighting shall be made to control fire from the alcohol storage tank. DMP shall be implemented.

xv) Occupational health surveillance programme shall be undertaken as regular exercise for all the employees. The first aid facilities in the occupational health centre shall be strengthened and the regular medical test records of each employee shall be maintained separately.

xvi) Dedicated parking facility for loading and unloading of materials shall be provided in the factory premises. Unit shall develop and implement good traffic management system for their incoming and outgoing vehicles to avoid congestion on the public road.

xvii) As proposed, green belt over 6.74 acres (33%) of the total project area shall be developed within plant premises with at least 05 meter wide green belt on all sides along the periphery of the project area, in downward direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.

xviii) All the commitments made during the Public Hearing/Public Consultation meeting held on 02.11.2022 shall be satisfactorily implemented and adequate budget provision shall be made accordingly.

xix) The project proponent shall ensure implantation and adhering of all conditions and guidelines given in the notifications of MOEF&CC, Govt. of India dated 6th July 2018 and any other notifications relevant to the industry, to ensure Zero Liquid Discharge (ZLD) and safe quality monitoring of all products and safety in operation of the plant.

xx) The proponent shall create adequate testing facilities to monitor the process and quality of all products.

xxi) Quality of all products to be produced in the plant shall be monitored and tested for all batches on routine basis, by following standard procedures and norms before sent out of the plant and records of all analytical data to be maintained.

xxii) The proponent shall get the products tested by outside certified agency for their safe use from time to time and all such records to be maintained.

xxiii) The DDGS intended to be used for animal feed shall be tested for its safety by appropriate authority before use.

xxiv) The proponent shall adhere to all commitments / compliance submitted for the project.

B. STANDARD CONDITIONS:

I. Statutory compliance

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.

ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest

Department. The implementation report shall be furnished along with the six-monthly compliance report, (in case of the presence of schedule-I species in the study area).

iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.

v. The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

vi. The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.

II. **Air quality monitoring and preservation**

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM_{10} and PM_{25} in reference to PM emission, and SO_2 and NOx in reference to SO_2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120^o each), covering upwind and downwind directions, (case to case basis small plants: Manual; Large plants: Continuous) .

iii. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB, SEIAA, Odisha and Regional Office of SPCB along with six- monthly monitoring report.

iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.

v. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be complied with.

vi. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers to control particulate emissions within permissible limits (as applicable). The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.

vii. The DG sets shall be equipped with suitable pollution control devices and the adequate stack height so that the emissions are in conformity with the extant regulations and the guidelines in this regard.

viii. Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.

III. **Water quality monitoring and preservation**

i. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises (applicable in case of the projects achieving ZLD) and connected to SPCB and CPCB online servers.

ii. Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises (applicable in case of the projects achieving the ZLD).

iii. Process effluent/any wastewater shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system.

iv. The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the Air/Water Act, whichever is more stringent.

v. Total fresh water requirement shall not exceed the proposed quantity or as specified by the Committee. Prior permission shall be obtained from the concerned regulatory authority/CGWA in this regard.

vi. Industrial/trade effluent shall be segregated into High COD/TDS and Low COD/TDS effluent streams. High TDS/COD shall be passed through stripper followed by MEE and ATFD (agitated thin film drier). Low TDS effluent stream shall be treated in ETP and then passed through RO system.

vii. The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.

IV. **Noise monitoring and prevention**

i. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.

ii. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation.

iii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

V. **Energy Conservation measures**

i. The energy sources for lighting purposes shall preferably be LED based.

VI. **Waste management**

i. Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.

ii. Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.

iii. The company shall undertake waste minimization measures as below:-

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

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

c) Use of automated filling to minimize spillage.

d) Use of Close Feed system into batch reactors.

e) Venting equipment through vapour recovery system.

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

VII. **Green Belt**

i. Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant

VIII. **Safety, Public hearing and Human health issues**

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

ii. The PP shall provide Personal Protection Equipment (PPE) as per the norms of Factory Act.

iii. Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.

iv. 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.

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

vi. There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places

IX. **Corporate Environment Responsibility**

i. The project proponent shall comply with the provisions contained in the Ministry's OM vide F.No. 22-65/2017-1 A.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC and SEIAA, Odisha as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level,

with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the MoEF&CC, Govt. of India and its Regional Office, SEIAA, Odisha along with the Six Monthly Compliance Report.

v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X**. Miscellaneous**

i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv) The project proponent shall monitor the criteria pollutants level namely; PM_{10}, SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii) The project proponent shall inform the SEIAA, Odisha, Regional Office as well as the MoEF&CC, Govt. of India the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x) No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA, Odisha and Ministry of Environment, Forests and Climate Change (MoEF&CC).

xi) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii) The SEIAA, Odisha may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiii) The SEIAA, Odisha reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

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

xv) The above conditions shall 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, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xvi) Any appeal against this EC 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.

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