

**PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL
COMMITTEE, ODISHA HELD ON 09TH APRIL, 2021**

The SEAC met on 09th April, 2021 at 03:00 PM in the Conference Hall of Odisha State Pollution Control Board, Bhubaneswar under the Chairmanship of Sri B.P. Singh. The following members were present in the meeting.

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

CONSIDERATION OF OLD PROPOSALS (COMPLIANCE RECEIVED):

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

(I) PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR M/S CHETTINAD CEMENT CORPORATION PVT. LTD. FOR PROPOSED 2X1.0 MTPA CEMENT GRINDING UNIT AT KALINGANAGAR INDUSTRIAL COMPLEX, TEHSIL: DANGADI, DISTRICT: JAJPUR OF MR. A. ANNADURAI. (EC)

1. The proposal is for Environmental Clearance for M/s Chettinad Cement Corporation Pvt. Ltd. for proposed 2x1.0 MTPA Cement Grinding Unit for production of PPC, PSC, OPC & GGBS cement, over an area of 83.0 Ac. situated at- Kalinganagar Industrial Complex, Tahasil - Dangadi, District- Jajpur of Mr. A. Annadurai.
2. The project falls under Category "B", Project or Activity 3 (b) as per schedule of EIA Notification dated 14th Sep, 2006, as amended from time to time.
3. The total project area is 83.0 acres. About 27 acres (33%) of the total project area will be covered under green belt & plantation.
4. The coordinates of the area are Latitude - 20°56'9.54" N and Longitude - 86°3'14.12" E. Nearest town is Duburi located at a distance of 7.0 Km from the project site. National Highway (NH-200) is at a distance of 8.0 Km from the project site. Nearest village is Jakhapura Village-1.0 Km.
5. No National Park, Wildlife Sanctuary, Biosphere Reserve, Tiger / Elephant Reserve, Wildlife Corridor etc. falls within 10 km radius of the plant site. Total Cost of the proposed project will be ` 120 Crores. Capital cost for environmental protection measures will be ` 290.00 lakhs

and Recurring cost would be ` 30.0 Lakhs.

6. Total power requirement for the proposed project will be 10 MVA which will be sourced from Odisha Power Transmission Corporation Limited. Total nos. of employees will be 185.
7. Total water requirement of proposed project is 100 KLD and sourced from IDCO water supply from nearby Brahmani River.
8. Raw materials required for the proposed project are Clinker, Slag, Gypsum & Flyash. Clinker is proposed to be sourced from CCCPL's units established at Ariyalur, Ariyalur District, Tamil Nadu. Fly ash from nearby Thermal power plants. Gypsum will be procured from Pardeep Phosphate / IFFCO (110 Kms.) and slag would be procured from Jindal Stainless Limited, Tata Steel, Neelachal Ispat Ltd. Kalinganagar. Transportation of raw material and product (cement) would be done by road and railway.
9. Cooling Tower blow down will be re-circulated through cooling and treatment. The entire treated waste water will be recycled for various purposes inside the plant. Waste water generated from plant will be treated in the existing STP. The treated water from STP will be used for dust suppression & green belt development. Zero liquid discharge concept from plant operation shall be adopted
10. High efficient bag filters will be installed to maintain particulate matter emissions within permissible limit. Domestic effluent will be treated in STP and treated water will be used for plantation.
11. Dust collected from various pollution control equipment will be recycled back into the process. STP Sludge will be utilized as manure for plantation. Used oil will be sold to re-processors.
12. Earmuffs will be provided to all operators and employees working near the machinery to control noise pollution.
13. Drainage of the study area shows mainly dendritic pattern and consist of first, second and third order streams. Structurally controlled sub-parallel drainage can also be noted in the area. Overall drainage flow of the study area is from north to south and is mainly controlled by Brahmani River which flows from west to east at a distance of 5.3 Km in south side of the project site. Here, Brahmani River bifurcates into two streams- One stream as Kharsua River, which after flowing, continues to flow in the SW direction and Second stream continues as Brahmani River in south direction.
14. Streams such as Gonda nala, Ghagia nala, Kabari nala, Dhenkasai nala and Jhurjhuri nala flowing from northern part of the study area finally merge into the Brahmani River.
15. Within plant roof top rainwater harvesting shall be implemented. Harvested rain water will be recharged through a recharge pond (12m x 10m x 6m) to increase the ground water level of the area as per guidelines prescribed by Central Ground Water Board shall be taken into consideration for designing of rain water harvesting system. A part of rain water shall be preserved for plant use during lean season.
16. Baseline data collected from March'2019 to May'2019 (Pre - monsoon) as per MoEF&CC,

Govt. of India Office Memorandum dated 29.08.2017.

17. ToR was issued for EIA study by the SEAC vide letter no. 1092/SEAC-173, dated 14.12.2018. Public Hearing was conducted on 06th March 2019.
18. The consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** along with the proponent have made a detailed presentation on the EIA/EMP report on 27.11.2019. The SEAC decided to take decision on the proposal after receipt of the following information / documents from the proponent. The project 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)	Proposed Pollution Control Measures	Pollution Control Measures is enclosed as Annexure-1 .	Conditions to be stipulated in Environmental Clearance.
b)	Certified Copy of agreement that land has been transferred from IDCO to project proponent name	Copy of land agreement attached as Annexure-2	Compiled
c)	Supporting documents regarding land schedule and kissam of land	Land schedule attached as Annexure-3	The land schedule and kissam of land reveals that 81.98 acres is sala, Jhati Jungle under Sabak kissam. The hal kissam of land is "Patita" and "Sarada". The proponent has to submit a certificate from the concerned DFO about the status of the land (forest / non-forest)
d)	Material Balance for each products (Input and Output Balance) PPC, PSC, OPC & GGBS	Material balance for each products enclosed as Annexure-4	Compiled
e)	Use of phospho-gypsum being generated from fertilizer plants in Odisha may be explored in reference to quality requirement of the proponent and cost benefit analysis as well	<ul style="list-style-type: none"> ❖ Phospho-Gypsum from fertilizer Plants in Odisha can be utilized in the proposed Cement Grinding unit. ❖ P₂O₅ present in the Phospho Gypsum increases the setting time reducing the one day strength and moisture present in it reduces the flow ability of 	Conditions to be stipulated in Environmental Clearance as specific condition as confirmed by the proponent.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		<p>material hindering process. Whereas these issues are rarely observed in the Mineral Gypsum.</p> <ul style="list-style-type: none"> ❖ Landing Cost is more in Imported Gypsum. Considering the quality requirement, Operation cost is more in phospho Gypsum. ❖ Considering the above, Phospho Gypsum can be utilised 2-3 % which suits the required quality in the total Gypsum requirement of 5%. 	
f)	Submission of detailed Plant layout showing storage yards of raw materials, coal storage unit, ash generated from coal, products along with garland drains and retaining walls	Detailed Plant Layout is enclosed as Annexure-5	Compiled
g)	Permission Copy from IDCO that water will be supplied for proposed plant use	Permission copy of Water attached as Annexure-6	Conditions to be stipulated in Environmental Clearance as specific condition.
h)	Submission of water balance to be used in this project in detail both monsoon and non-monsoon period	Water Balance enclosed as Annexure-7	Not given for both monsoon and non-monsoon period. Detailed water balance to be given (monsoon and non-monsoon period).
i)	Details of parking provision for incoming and outgoing vehicles in new plant, inside and outside the plant	Parking area inside and outside the plant boundary marked in layout and attached as Annexure-8	Compiled
j)	Details of quantity of materials to be transported by rail and road	Details of quantity of material attached as Annexure-9	Compiled
k)	Details of green belt area and list of plant species selected should be cyclone	Details enclosed as Annexure-10 . Total area of 27 acres (33%) out of 83 acres will be	Conditions to be stipulated in Environmental

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	resistant and high green leaf area	used for greenbelt development.	Clearance.
l)	Drainage map showing location of 5 nallahs with distance from project site	Drainage Map is given in Annexure-12	Compiled
m)	ToR Point 4.xi to be complied in detail	ToR point 4.xi to be complied in detail and enclosed as Annexure-12	Compiled
n)	Repeat the study of inversion of temperature in winter season covering neighbouring industries along with the proposed plant and mitigative measures if any. Sampling locations should include residential areas. Inversion study to be done and report submitted from any Govt. Institution of national repute	Mixing Height data as given in the EIA/EMP report in Chapter-4 on hourly basis was taken from Envitrans website. Air Modelling, morning and afternoon mixing height data was referred from 'Atlas of Hourly Mixing Height and Assimilative Capacity of atmosphere of India (IMD, 2008)'. (The cover page of the Atlas is enclosed as Annexure-13a . For this project study on atmospheric inversion data, our consultant has requested to IMD Bhubaneswar and IMD Pune, but they have no data available with them for last 5 years. As per the notification of MoEF&CC, OM letter No.J-11013/41/2006-II (I) (part) dated 29th August 2017(copy of the same enclosed as Annexure-13 b } the baseline data should not be older than three years at the time of submission of proposal for grant of EC, as per the ToRs prescribed. But no data for atmospheric inversion are available for last three year with IMD.	Three years atmospheric inversion data to be given.
o)	Compliance to issues raised in public hearing conducted on 06 March 2019	Compliance to the public hearing issues raised is attached as Annexure-14	Conditions to be stipulated in Environmental Clearance.
p)	Repeat the Iron content analysis in surface water, and if it is high then	Surface water results attached as Annexure-15	Compiled

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	measures taken for reduction of it		
q)	Ground water to be monitored once again and ground water analysis report to be submitted	Ground Water results attached as Annexure-16	Compiled
r)	Traffic Density Study to be carried out by Operational Research (OR) expert and report to be submitted	Details enclosed herewith as Annexure- 17	Not complied. To be submitted as sought by SEAC.
s)	Plan for biodiversity assessment	Detailed enclosed as Annexure-18	Compiled
t)	Separate the budget of Corporate Environment Responsibility and Environment Management and give details of each	Budget of Corporate Environment Responsibility & Environment management Plan are separately provided in EIA Report.	Conditions to be stipulated in Environmental Clearance.
u)	Identify the CSR and CER activities to be done in the proposed project	Activities identified for Corporate Environment Responsibility are separately provided in EIA Report & attached as Annexure-19 CSR activities will be executed after commencement of production.	Conditions to be stipulated in Environmental Clearance.
v)	Specific Occupational health hazard study and check-ups to be done and budget allotted under it. Detail plan to be submitted	CCCPL will undertake regular periodical health checkup of our employees. Besides, One Mobile Medicare Unit will be functional which will provide door step services in villages and also provides medicine with free of cost. We will be operating a full time Occupational Health Centre with a qualified full time doctor. Once the plant will be in operation.	Conditions to be stipulated in Environmental Clearance.
w)	No. of water sprinklers and bag filters to be used	Enclosed as Annexure-20	Conditions to be stipulated in Environmental Clearance.
x)	Percentage of Solar/ renewable energy used in the proposed project and detailed plan	As per the Proceedings of State level single window clearance authority Proceedings (73rd meeting Dt- 29.07.2017), we will meet 5% Energy	Conditions to be stipulated in Environmental Clearance.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		requirement of our proposed Grinding unit through Renewal energy source. Proposed to utilized 5 % Renewal energy in the total power requirement 9MW i.e., around 0.5 MW. 0.5 MW Solar Power plant will be installed in the proposed Grinding unit campus.	
y)	Details of rainwater harvesting proposed in the plant and amount compensated towards water requirement / recharging as well	Details of rainwater harvesting enclosed in Annexure-21	Conditions to be stipulated in Environmental Clearance.
z)	Detailed Carbon balance / budget should be compiled	<p>Coal consumption / year = 46000 T Avg. Calorific value = 3800 k.Cal/kg Expected CO₂ emission = 70111 T Coal Emission CO₂ emission factor – 95.8 g CO₂ / MJ 1 k.cal = 4186.8 J Proposed to utilised 5 % Renewal energy i.e., 0.45 MW i.e., 2970 MW which is equal to 2394 T of CO₂. (0.82 Central electricity authority CO₂ baseline data June 2018) Greenbelt development proposed is 27000 no of trees. CO₂ absorption potential of a 3 year old tree is 3.66 kg / year. i.e., 98 T of carbon dioxide absorption /year. Total carbon offset = 2394 +98 = 2492 T. Total Emission of CO₂ = 70111 T Total CO₂ offset = 2492 T Total CO₂ emission = 67619 T</p>	Complied.

19. The SEAC in its meeting held on 17.06.2020, decided to take decision on the proposal after receipt of certain information/documents from the proponent. The project 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)	The land schedule and kissam of land reveals that 81.98 acres is sala, Jhati Jungle under Sabak kissam. The hal kissam of land is "Patita" and "Sarada". The proponent has to submit a certificate from the concerned DFO about the status of the land (forest / non-forest).	Forest Diversion letter dtd.15th July, 2020 for allotted land of Ac.83.00 in favour for establishment of Cement Grinding Unit at Kalinganagar Industrial Complex, Jajpur of M/s. Chettinad Cement Corporation Private Limited enclosed as Annexure-I .	This is not clear from the enclosed letter that the land proposed for the Cement Plant is coming within the land area diverted as per Annexure-I . Certificate from the concerned DFO has not been furnished.
b)	Detailed water balance to be given (monsoon and non-monsoon period).	Detailed water balance for Monsoon & Non-monsoon period attached as Annexure-II .	Zero Liquid Discharge to be adopted and accordingly specific conditions to be stipulated in Environmental Clearance.
c)	Inversion study needs to be done by the proponent by an expert agency of national repute, preferably Govt. agency.	After commissioning of plant, Inversion study will be carried out.	Specific conditions to be stipulated in Environmental Clearance that the proponent need to submit the study report within 2 months of commercial operation of the plant and mitigation measures as and if necessary thereof to SEIAA. A legal affidavit to be submitted to this effect by the proponent.
d)	Traffic density study to be done through a Govt. Institution.	Traffic study will be conducted after commissioning of plant.	Specific conditions to be stipulated in Environmental Clearance that the proponent need to submit the study report within 2 months of commercial operation of the plant and mitigation measures as and if necessary thereof to SEIAA. A legal affidavit to be submitted to this effect by the proponent.

20. The SEAC in its meeting held on 12.08.2020, decided to take decision on the proposal after receipt of certain information/documents from the proponent. The project 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)	This is not clear from the enclosed letter of the proponent dated 17.07.2020 (Annexure - I) that the land proposed for the Cement Plant is coming within the land area diverted. Certificate from the concerned DFO about the status of the land (forest / non-forest) is to be submitted.	<p>Certificate from the concerned DFO, Cuttack Forest Division vide letter no: 1887/5F dated 10.03.2021 has shown land details</p> <table border="1" data-bbox="391 352 1281 968"> <thead> <tr> <th>Sl.no</th> <th>Khata No.</th> <th>Plot No.</th> <th>Total Area</th> <th>Allotted area in Acre</th> <th>Kissam Sabik</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td rowspan="4">419</td> <td>860</td> <td>83.800</td> <td>12.700</td> <td>Sal Jungle</td> <td rowspan="4">Diverted in favour of IDCO under FC Act.</td> </tr> <tr> <td>2</td> <td>858</td> <td>189.400</td> <td>49.980</td> <td>Sal Jungle</td> </tr> <tr> <td>3</td> <td>859</td> <td>83.100</td> <td>0.800</td> <td>Jhati Jungle</td> </tr> <tr> <td>4</td> <td>844</td> <td>183.800</td> <td>13.00</td> <td>Jhati Jungle</td> </tr> <tr> <td>5</td> <td>420</td> <td>845</td> <td>3.780</td> <td>1.020</td> <td>Rasta</td> <td></td> </tr> <tr> <td>6</td> <td>419/33</td> <td>860/337</td> <td>8.080</td> <td>3.880</td> <td>Sal Jungle</td> <td rowspan="3">The land has not been diverted under FC act.</td> </tr> <tr> <td>7</td> <td rowspan="2">419/13</td> <td>844/3401</td> <td>3.000</td> <td>0.720</td> <td>Sal Jungle</td> </tr> <tr> <td>8</td> <td>844/3402</td> <td>6.260</td> <td>0.900</td> <td>Sal Jungle</td> </tr> </tbody> </table> <p>They have intimated that land measuring 5.5 acres area coming under Sal jungle in Sabik kissam. Further, they have intimated that they will leave away 5.5 acres of Sal Jungle from project activities.</p> <p>The proponent has also intimated that they will not disturb or utilize 5.5 acres of leave away Sal Jungle land for project and other purpose.</p> <p><u>Land use pattern for the Project:</u></p> <table border="1" data-bbox="407 1251 1265 1827"> <thead> <tr> <th>Sl. No.</th> <th>Land use purpose</th> <th>Area in Ac. Acres</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td colspan="3">PLANT AND MACHINERY AREA</td> </tr> <tr> <td></td> <td>i) Raw material storage Yard</td> <td>10.00</td> <td>Silo for clinker storage and Covered shed for slag & gypsum</td> </tr> <tr> <td></td> <td>ii) Cement grinding and Silos</td> <td>16.00</td> <td>Mill for grinding and Silo-3 Nos for storing cement</td> </tr> <tr> <td></td> <td>iii) Packing Plant</td> <td>7.00</td> <td>3 Nos. of packing plants and 8 Nos. of lorry loading machines and 14 Nos. of wagon loading machines</td> </tr> </tbody> </table>	Sl.no	Khata No.	Plot No.	Total Area	Allotted area in Acre	Kissam Sabik	Remarks	1	419	860	83.800	12.700	Sal Jungle	Diverted in favour of IDCO under FC Act.	2	858	189.400	49.980	Sal Jungle	3	859	83.100	0.800	Jhati Jungle	4	844	183.800	13.00	Jhati Jungle	5	420	845	3.780	1.020	Rasta		6	419/33	860/337	8.080	3.880	Sal Jungle	The land has not been diverted under FC act.	7	419/13	844/3401	3.000	0.720	Sal Jungle	8	844/3402	6.260	0.900	Sal Jungle	Sl. No.	Land use purpose	Area in Ac. Acres	Description	1.	PLANT AND MACHINERY AREA				i) Raw material storage Yard	10.00	Silo for clinker storage and Covered shed for slag & gypsum		ii) Cement grinding and Silos	16.00	Mill for grinding and Silo-3 Nos for storing cement		iii) Packing Plant	7.00	3 Nos. of packing plants and 8 Nos. of lorry loading machines and 14 Nos. of wagon loading machines	<p>i) Letter from IDCO that the proponent (Chetnad) has surrendered 5.5 acres of Sal Jungle which IDCO had allotted to them.</p> <p>ii) Details of the infrastructures of the plant shown in the above 5.5 acres of Jungle land and relocation of the same in the rest of the land vis-à-vis the original layout.</p>
Sl.no	Khata No.	Plot No.	Total Area	Allotted area in Acre	Kissam Sabik	Remarks																																																																							
1	419	860	83.800	12.700	Sal Jungle	Diverted in favour of IDCO under FC Act.																																																																							
2		858	189.400	49.980	Sal Jungle																																																																								
3		859	83.100	0.800	Jhati Jungle																																																																								
4		844	183.800	13.00	Jhati Jungle																																																																								
5	420	845	3.780	1.020	Rasta																																																																								
6	419/33	860/337	8.080	3.880	Sal Jungle	The land has not been diverted under FC act.																																																																							
7	419/13	844/3401	3.000	0.720	Sal Jungle																																																																								
8		844/3402	6.260	0.900	Sal Jungle																																																																								
Sl. No.	Land use purpose	Area in Ac. Acres	Description																																																																										
1.	PLANT AND MACHINERY AREA																																																																												
	i) Raw material storage Yard	10.00	Silo for clinker storage and Covered shed for slag & gypsum																																																																										
	ii) Cement grinding and Silos	16.00	Mill for grinding and Silo-3 Nos for storing cement																																																																										
	iii) Packing Plant	7.00	3 Nos. of packing plants and 8 Nos. of lorry loading machines and 14 Nos. of wagon loading machines																																																																										

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent				Views of SEAC
			iv) Electrical yard	2.50	Electrical installations	
		2.	TRUCK PARKING	12.00	Space required for parking approximately 100 trucks	
		3.	GREEN BELT AND VACANT AREA	30	Approximately 1/3rd of the total plant area should be provided for green belt development,	
		Total		77.50		
b)	A legal affidavit that Inversion study to be done by an expert agency of national repute preferably Govt. agency and the study report shall be submitted within 2 months of commercial operation of the plant and mitigation measures as and if necessary thereof to SEIAA.	Legal Affidavit has been furnished.				Specific Conditions to be stipulated in Environmental Clearance.
c)	A legal affidavit that Traffic density study to be done through a Govt. Institution	Legal Affidavit has been furnished.				Specific Conditions to be stipulated in Environmental Clearance.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	and the study report shall be submitted within 2 months of commercial operation of the plant and mitigation measures as and if necessary thereof to SEIAA		

After detailed discussion, the SEAC decided to take decision on the proposal after receipt of the following from the proponent followed by a site visit by SEAC Sub Committee:

- i) Letter from IDCO that the proponent (Chetinad) has surrendered 5.5 acres of Sal Jungle which IDCO had allotted to them.
- ii) Details of the infrastructures of the plant shown in the above 5.5 acres of Jungle land and relocation of the same in the rest of the land vis-à-vis the original layout.

(II) PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF BAITARANI IRON ORE MINES FOR EXPANSION IN PRODUCTION OF IRON ORE FROM 52531 TPA TO 400120 TPA (5,71,600 TPA IRON ORE ROM) ALONG WITH SETTING UP A 200 TPH CRUSHING & SCREENING PLANT AND A 100 TPH BENEFICIATION PLANT (210000 TPA THROUGHPUT) OVER AN MINING LEASE AREA OF 65.397 HA. IN BAITARANI R.F. LOCATED NEAR VILLAGE-INGANIJHARAN, PO- DADUAN, TAHASIL- BARBIL, DISTRICT- KEONJHAR, ODISHA OF DR. SAROJINI PRADHAN (UNDER VIOLATION CASE) – EC

1. This is a proposal for Environmental Clearance for Baitarani Iron Ore Mines for Expansion in Production of Iron Ore from 52531 TPA to 400120 TPA (5,71,600 TPA Iron ore ROM) along with setting up a 200 TPH Crushing & Screening Plant And a 100 TPH Beneficiation Plant (210000 TPA Throughput) over a mining lease area of 65.397 Ha. in Baitarani R.F. located near Village- Inganijharan, PO- Daduan, Tahasil- Barbil, District- Keonjhar, Odisha of Dr. Sarojini Pradhan.
2. The Baitarani Iron Ore Mines over an area 65.397 ha. of forest land is located in the Baitarani R.F., near Village: Inganijharan, Tahasil: Barbil, Dist: Keonjhar, Odisha. The lease was executed by Govt. of Odisha in favour of Dr. Sarojini Pradhan on 16.09.1980 for a period 20 years with affect from 28.07.1978. The lease has been executed in two parts. Baitarani Iron Ore Mines over lease area- 52.892 ha. and 12.505 ha. Lease area 52.892 ha. was executed on 16.09.1980 in favor of Dr. Sarojini Pradhan for a period 20

years with effect from 28.07.1978. Subsequently the lease period was enhanced from 20 years to 30 years i.e up to 28.07.2008 vide proceeding No. 12239 dated 24.09.1980. Lease area over 12.505 ha. adjacent Baitarani Ore mining was executed on 09.05.1986 in favor of Dr. Sarojini Pradhan for a period of 30 years.

3. Subsequently, both mining lease area were amalgamated to 65.397 ha. and the supplementary lease deed period was executed till 27.07.2008 by the Collector, Keonjhar post issuance of Amalgamation Grant Order vide Department of Steel & Mines, Govt. of Odisha proceedings No. IV(AB)SM-96/2006/5553/SM dated 22.06.2007.
4. The said mining lease has been deemed Granted till 27.07.2028 U/s 8(A)(3) of the Amended MMDR Act, 1957. The same have been communicated by the Directorate of Mines, Department of Steel & Mines, Govt. of Odisha vide letter dated 31.01.2020.
5. The total land is forest land for which stage-I clearance has been approved vide MoEF&CC, Govt. of India letter No.F .NO.8-58/2008-FC dated 27.04.2009. The area does not have any eco sensitivity area. The wild life conservation plan has been approved Vide letter No 770/7WL-FD&WLC-100/2020, dated 27.01.2021.
6. **Violation under Environmental Protection Act:**
 - (i) Maximum Production before 1994: 60,551.50 TPA
 - (ii) Permissible limit as per CTO : 52531 TPA

Year	Production (in T)
1994	65017
1995	70224
2003-04	1,79,012
2004-05	2,35,652
2005-06	210,308
2006-07	266,743
2007-08	245,307
2008-09	245629

7. Violation under Forest Act:

- Broken up land Surveyed & Certified by D.F.O, Keonjhar as on 2009 during submission of FC application was 15.045 Ha.
- Stage-I Forest clearance for diversion of 61.543 Ha. excluding the safety zone area has been obtained vide MoEF&CC, Govt. of India letter No. F No. 8-58/2008-FC dated 27.4.2009.
- On direction of Hon'ble Supreme Court to determine the existing land use within mining lease joint survey was conducted by officials of Revenue, Forest, Mining & ORSAC (from 12.07.2017-24.07.2017) comes to 17.50Ha.

8. Following action has been taken against violation:

Particulars	Remedial steps taken against violation		
	Concerned Authority	Directions	Remedial Steps
Violation under Environmental Protection Act	Hon'ble Supreme Court in W.P.(c) No. 114/2014	The State Govt. has raised demand of Rs.93.79 Cr. Under section 21(5) of the MMDR Act	The Project Proponent has committed to pay the said amount prior to operation of mining
	Violation U/s 19 of Environment Protection Act, 1986	Court of the Collector & District Magistrate, Keonjhar has file Misc. Case No. 31 of 2012 vide Show Cause notice dated 15.09.2012	The case is currently being heard in the Court of J.M.F.C, Barbil, Order No. 213/2018 to 266/2018 dated 26/11/2018

9. The MoEF&CC, Govt. of India vide letter dated 06.04.2020 have accorded Forest clearance U/s 2(ii) of the FC Act for diversion of 61.534 Ha. of Forest Land. The Department of Environment & Forest, Govt. of Odisha vide letter dated 19.11.2020 have accorded Forest Clearance U/s 2(iii) of the FC Act over 3.863 Ha. of forest land coming within the safety zone as lease.
10. Mining will be carried out by open cast other than fully mechanized (Category-A) and the beneficiation process will be wet process. Mining will be eight hourly shift basis. Excavation, loading, sizing, (crushing & screening) and transportation are the various mining operations.
11. Total Mineable reserve for Iron is 5985685 T and Geological reserve is 8517340 T. The mining life will be considered 09 years i.e. July 2028.
12. The existing 25 TPH crushing plant and 100 TPH & 50 TPH screening plants are proposed to be replaced by a 200 TPH crushing & screening plant along with beneficiation plant of 100 TPH in order to improve the grade of iron ore to suit the market demand. The screening plant will be commissioned in the lease area where run-off mine will be screened into fines (-10mm) and two types of lumps such as +10-30mm and +30-80mm. Oversize iron ore obtained from the screens and run-off mine ore (+30mm-300mm) will be broken/crushed in the jaw crusher (200 TPH). Saleable ore in the form of product of the crusher will be in two forms i.e. lumps and fines.

13. The sub grade ore and low-grade ore will be homogenously blended to form an ore mix of average 52 % Fe. This will be processed through a wet beneficiation flow sheet to yield a coarse concentrate with 5-18mm size and 62% Fe content which is saleable as preferred DRI feed material and a fine concentrate -150 μ in size and 62% Fe content which is saleable as good pellet feed material. Total recovery of concentrate will be 58% by weight and the tailings generated will be 42% by weight with 38.19% Fe content.
14. Mining activities will be carried out within the lease area of 65.397 Ha excluding safety zone. Type of land of the total lease area is Reserved Forest.
15. Total make up water requirement for both the mine and beneficiation plant will be 1920 m³/day. The source of water will be bore well and mining pit accumulated water. The water table in study area is 6-6.5 m bgl. The general elevation of mining lease is 490 MSL. Likely depth of water table is anticipated to be 450 MSL. Water table is anticipated to be 45 m bgl (at 450 MSL) in rainy season and 50 m bgl (445 MSL) in pre-monsoon.
16. The Central Ground Water Authority (CGWA) vide letter dated 19.02.2021 have accorded approval for usage of ground water of 36 KLD. Approval for extraction of additional water if required for mining operations will be taken from the CGWA.
17. The total power requirement for the mines and beneficiation plant is estimated to be about 3100 KVA.
18. Total manpower required during construction period of the beneficiation plant shall vary from 100 to 200. Most of the unskilled workers shall be from local area only. During Operation phase total 400 manpower will be required.
19. Estimated capital cost of the project is ` 37 Crores.
20. The waste has been dumped in overburden and subgrade stack. As mining operation has stopped since 2009 and subsequently IBM has lowered the threshold value of Iron Ore, hence, detailed chemical analysis of the existing dump will be undertaken by the project proponent to assess the quantity of above threshold level of Iron Ore and take necessary permission to sale such which is a national resource. A total of 1256994 m³ of waste will be generated conceptually, which will be dumped in Dump-1A, Dump-2 and Dump-3.
21. Green belt: 2588 saplings have been done over 1.6 ha. and 2500 sapling will be done over 1.5 ha. during scheme period.
22. The project will benefit local people with respect to employment, as they will be preferred for project recruitments. They will also be benefited by indirect employment because of inflow of personnel to the area during project operation.
23. Total lease hold area of the mining project is entirely reserve forest. The lease hold area does not involve any house outsees or land outsees.
24. The mining project and proposed beneficiation plant will have following operational advantages:
 - Fulfill the raw material requirement of the existing and expanding steel units of the region.

- Improve the existing environment which is degraded on continuous basis due to handling, storage and disposal of iron ore Sub grade and fines.
 - Increase in revenue in terms of taxes at local, state and national level;
 - Opportunity to create direct and indirect employment
25. The project proponent has already spent ` 2,79,86,162.00.
 26. Application for Environmental Clearance was submitted for the expansion of the project with Beneficiation Plant to MoEF&CC, Govt. of India in proper format on 24.01.2012.
 27. ToR obtained on 19.07.2012 for the enhancement of production from 52531 TPA to 400120 TPA along with beneficiation plant with 2,10,000 TPA through put.
 28. Public hearing was conducted accordingly on 20.02.2014.
 29. The Final EIA/EMP report was submitted to MoEF&CC, Govt. of India on 17.7.2014 within prescribed time to the MoEF&CC, Govt. of India for consideration of Environment Clearance. However, the same was kept on hold due to non-acceptance of NEERI report on carrying capacity study of project affected area and due to the pendency of the W.P.(C) No. 114/2014 in the Hon'ble Supreme Court of India.
 30. As per the MoEF&CC, Govt. of India notification dated 14.03.2017 this project comes under the violation for which an additional set of TOR conditions are to be issued in addition to existing Environment Clearance Letter or modification of Final EIA/EMP report if Environment Clearance is yet not obtained.
 31. As per new notification S. O. 3977(E) dated 14.08.2018, the mining lease area less than 100 Ha. falls in Category B and the project has hence been submitted with the SEIAA/SEAC for consideration on issuance of additional TOR conditions.
 32. The project proponent submitted the Affidavit in compliance with the MoEF&CC, Govt. of India OM no. 3-50/2017-IA-III (Pt.) dated 30th May 2018.
 33. The project proponent requested to issue specific ToR as per MoEF&CC, Govt. of India notification dated 14.03.2017 "for preparing an independent chapter comprising assessment of ecological damage, remediation plan and natural & community resource augmentation plan through accredited consultants" and for submitting the same along with the Final EIA / EMP report already prepared and submitted with the public hearing held on 20.02.2014 for grant of Environmental Clearance.
 34. The SEAC Odisha in its meeting dated 06.12.2018 had confirmed the case to be of violation of the EIA Notification, 2006 in terms of provisions of the MoEF&CC, Govt. of India Notification dated 14.03.2017 and had recommended issue of Standard Term of Reference, Specific Term of Reference along with additional specific conditions as recommended by CSIR-NEERI on carrying capacity study.
 35. The State Govt. in accordance with the judgement of the Hon'ble Supreme Court in W.P.(c) No. 114 of 2014 have levied a demand of ` 93.79 crores U/s 21(5) of the MMDR Act on the said mining lease. Accordingly, the project proponent has made partial

payment of the said demand. The project proponent has submitted a sworn notarized affidavit to make complete payment of the said demand prior to operationalization of the project.

36. Assessment of ecological damage caused due to excess iron ore production post implementation of EIA 1994 cutoff date with respect to air, water, land and other environmental attributes has been done by NABET accredited consultant by field visits and collection of information from State Govt authorities, private institutions and the local population.
37. The total Environment/Ecological Damage has been assessed to be ` 2.2 Crores. Towards this the project proponent has already spent ` 2.8 Crores as CSR costs during the period of violation. However, the project proponent has proposed to submit a Bank Guarantee of an amount of ` 2.2 crores as per conditions of the ToR with the SEIAA. The equivalent amount has been proposed to be spent by the project proponent over three years post operationalization of the project subject to which the said Bank Guarantee will be released by the SEIAA.
38. The total cost of the project is ` 39.25 crores which is inclusive of capital cost of ` 37 crores and Environment Management & CER cost of ` 2.23 crores constituting 4% of the project cost. The Capital cost of implementing EMP is ` 68.25 Lakhs whereas the annual recurring cost for implementation of EMP is ` 16.75 Lakhs.
39. The project proponent along with the consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** made a detailed presentation on the proposal.
40. The SEAC in its meeting held on Dt: 19.02.2021 decided to take decision on the proposal after receipt of the following information / documents from the proponent. The project proponent has furnished the compliance and the SEAC verified the same as follows.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
i.	FC details with copy of all FC	The MoEF&CC, Govt. of India vide order dated 06.04.2020, have accorded Stage-II order U/s 2(ii) of the FC Act for diversion of 61.534 Ha. of land to be utilized for mining activity and for the balance safety zone area of 3.863 Ha., the Department of Environment & Forest, Govt. of Odisha vide letter dated 19.11.2020 have accorded Forest Clearance U/s 2(iii) of the FC Act. Copy submitted.	---

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
ii.	Copy of lease document	Supplementary lease deed submitted	---
iii.	Details of continuous monitoring station installed in Joda/Badbil and additional air quality monitoring station to be installed at entry and exit of mines and haulage road, buffer zone and schools and habitations	As Per Govt. Of India Rules, continuous monitoring station installed in Joda/Badbil area. As the Mining will be in operation additional air quality monitoring station will be installed at entry and exit of mines and haulage road, buffer zone and schools and habitations.	Specific condition to be stipulated in Environmental Clearance
iv.	Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage	Details of waste management submitted in compliance report	Specific condition to be stipulated in Environmental Clearance
v.	Details of silt, waste and water Management should include the design of drainage structures reworking stand alone for mines and Beneficiation Plant and then integration of both, starting with total water requirement, make up water recycling after necessary treatment, usage	Detailed compliance furnished.	Specific condition to be stipulated in Environmental Clearance

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	of rain water harvesting and use of it to reduce the total water requirement with water balance diagram		
vi.	Details of Rain water Harvesting and use of the harvested water	A rain water harvesting pond of dimensions 140 m x 50 m x 8 m will be created to have a total water harvesting capacity of 55,000 m ³ . The water harvested will be utilized in the lean period for water requirement of the mining operations. Thus, the harvested water can sustain 120 days of operations of the project.	Specific condition to be stipulated in Environmental Clearance
vii.	Details of year wise water consumption per tons of Iron production from 3 rd year onwards with water balance diagram	Details submitted in compliance report.	-----
viii.	Proposal for installation of STP and reuse of treated waste water details	Total of 18 KLD (45 @400 lpcd) will be sent to Sewage Treatment Plant of 20 KLD Capacity.	Specific condition to be stipulated in Environmental Clearance
ix.	Documents related to permission letter from WR Deptt, Govt. of Odisha for drawl of ground water	The Project Proponent has submitted the application with the WR Dept., Govt. of Odisha for drawal of ground water vide application no. DSP/PO/GC-51/BTMGW/33/2019 dated 28.03.2019. The WR Dept., Govt. of Odisha will issue the Grant Order for drawal of ground water post submission of Environment Clearance letter of the project. The application dated 28.03.2019 is attached.	Specific condition to be stipulated in Environmental Clearance
x.	Mitigation measures for	Details submitted in compliance report.	Specific condition to be stipulated in

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	dust suppression, environment protection in catchment area		Environmental Clearance
xi.	Layout plan for parking plaza showing / calculating the parking area with respect to no. of vehicles to be parked dynamically with basic amenities / facilities	Details submitted in compliance report.	Specific condition to be stipulated in Environmental Clearance
xii.	Progressive mine closure plan to be submitted	The PMCP has been approved along with the scheme of mining plan vide IBM letter no. RMP/A/47-ORI/BHU/2019-20 dated 21.02.2020. A copy of the approved mining plan along with the PMCP is attached	----
xiii.	Undertaking in form of legal affidavit by project proponent for payment of entire levy amount raised by the State Government for excess production before going for operation of the mine	Legal affidavit by project proponent has been submitted	Specific condition to be stipulated in Environmental Clearance
xiv.	Periodical health checkup of employees due to Occupational Health Hazards by occupational health expert, at least once in six months, both for employees as well as people of	Details submitted in compliance report.	Specific condition to be stipulated in Environmental Clearance

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	neighboring habitation		
xv.	Since, the River Baitarani is passing nearby, detailed measures to be taken to protect the River due to mining activity	Details submitted in compliance report.	Specific condition to be stipulated in Environmental Clearance
xvi.	Details of Beneficiation plant along with technological support	Details of Beneficiation plant have been submitted.	Specific condition to be stipulated in Environmental Clearance
xvii.	Details tailing management	Details tailing management along with location map has been submitted.	Specific condition to be stipulated in Environmental Clearance
xviii.	Land use breakup for Beneficiation Plant	Land use breakup for Beneficiation Plant has been submitted.	----
xix.	Programme in details to address issues raised during public hearing	Issues raised during public hearing and various programmes to be adopted alongwith budget has been submitted.	Specific condition to be stipulated in Environmental Clearance
xx.	Undertaking in the form of legal affidavit that they will obtain Modified Mining Plan beyond 3 years as it will expire after 3 years	legal affidavit has been submitted.	Specific condition to be stipulated in Environmental Clearance
xxi.	Details of Corporate Environmental Responsibility (CER) beyond 3 years of expiry of mining plan	Tabulated form Corporate Environmental Responsibility (CER) beyond 3 years of expiry of mining plan alongwith budget has been submitted.	Specific condition to be stipulated in Environmental Clearance

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
xxii.	Under taking in form of legal affidavit that No overlap of activities proposed for augmenting environmental loss with CER activities	legal affidavit has been submitted.	Specific condition to be stipulated in Environmental Clearance
xxiii.	Compliance to NEERI recommendations	Compliance to NEERI recommendations has been submitted.	Specific condition to be stipulated in Environmental Clearance
xxiv.	Since the plant is located in Barbil, analysis of hexavalent chromium in the nearby drain, water body, effluent to be submitted with limit value	Exact value is not submitted as it is below detection level.	Specific condition to be stipulated in Environmental Clearance
xxv.	The percentage of iron in the final waste generated and not used as iron ore or its upgradation	ROM in the final waste generated will have iron ore percentage of <45% Fe. Details analysis submitted.	----
xxvi.	To submit "Zero dust Re-suppression Management" with SOP both inside the mines, screening / crushing plant, beneficiation plant and haulage road and all mineral carrying roads with SOP	Details submitted in compliance report	Specific condition to be stipulated in Environmental Clearance
xxvii.	To submit internal road network with dimensions	A total of 3250 m of internal mine road will be created having an average width of 7 m. The map showing the proposed	Specific condition to be stipulated in Environmental Clearance

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
		internal mine road network is submitted.	
xxviii.	Disaster Management in case of intersection with ground water during mining and water logging thereof	Details submitted in compliance report	Specific condition to be stipulated in Environmental Clearance
xxix.	Details of plantation with species alongside the haulage road to be submitted	Species to be planted is mentioned.	Specific condition to be stipulated in Environmental Clearance

41. The SEAC observed the following:

- a) The proposal was considered by the State Level Expert Appraisal Committee (SEAC), Odisha in its meeting held on 06th December, 2018 for appraisal of the proposal for ToR in pursuance of the MoEF&CC, Govt. of India Notification dated 14th March, 2017. The SEAC, after deliberations on the proposal in terms of the provisions of the Notification dated 14th March, 2017, confirmed the case to be of violation of the EIA Notification, 2006 and recommended for the following:
 - (i) The State Government to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986, and further no Consent to Operate to be issued till the project is granted Environmental Clearance.
 - (ii) The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of Environmental Clearance. The quantum is recommended by the SEAC based on EIA report and finalized by the regulatory authority i.e. SEIAA, Odisha. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the SEAC and approval of the regulatory authority i.e. SEIAA, Odisha.
 - (iii) Public hearing has already been conducted for the proposal earlier on 20.02.2014, a copy of which is also furnished with EIA/EMP. For this reason, conducting a fresh Public Hearing has been exempted. But, CER issues raised as per MoM of public hearing will be put as physical as specific condition.
- b) EIA/EMP study report has been prepared by a NABET Accredited / NABL Accredited Consultant namely **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar.**
- c) Detailed assessment of Ecological Damage, Remediation Plan and Natural and Community Resource Augmentation Plan has been incorporated in the EIA report.
- d) An amount of ` 2.2 Crores has been estimated in the EIA / EMP report towards the cost of

assessment of Environmental / Ecological damage due to violation as well as Natural and Community Resource Augmentation Plan.

- e) There is no specific guideline issued by the MoEF&CC, Govt. of India for assessment of Environmental and Ecological Damage as well as estimation of cost for remediation plan as well as Natural and Community Resource Augmentation Plan.
- f) In the absence of any guidelines, the cost as suggested by the proponent in the EIA report above to be taken into account for remediation plan as well as Natural and Community Resource Augmentation Plan. However, the proponent has to abide by the guidelines if issued by the MoEF&CC, Govt. of India in future and accordingly the proponent has to comply. To this effect, they have to submit an undertaking in form of a legal affidavit.
- g) Court of the Collector & District Magistrate, Keonjhar has file Misc. Case No. 31 of 2012 vide Show Cause notice dated 15.09.2012 under the provisions of section 19 of the Environment (Protection) Act, 1986 for violation of the EIA Notification, 2006.

After detailed discussion, the SEAC recommended for grant of Environmental Clearance for expansion in production of iron ore from 52531 TPA to 400120 (5,71,600 TPA Iron Ore ROM) along with setting up a 200 TPH Crushing & Screening Plant and a 100 TPH Beneficiation Plant (210000 TPA throughput) over mining lease area of 65.397 ha. in Baitarani R.F. located near village-Inganijharan, Po- Daduan, Tahasil- Barbil, District- Keonjhar, Odisha of Dr. Sarojini Pradhan with the following specific conditions in terms of the provisions of the MoEF&CC, Govt. of India notification dated 14th March, 2017 in addition to the conditions stipulated as per **Annexure – A. However, the Environmental Clearance shall be issued by the SEIAA after receipt of relevant bank guarantee and legal affidavit as indicated below.**

- (i) The SEAC recommended for an amount of ` 2.2 Crores towards Remediation plan and Natural and Community Resource Augmentation plan as the proponent has gone for excess production of chromite Ore without prior Environmental Clearance under EIA Notification, 2006.
- (ii) The project proponent shall be required to submit a bank guarantee of an amount of ` 2.2 Crores towards Remediation plan and Natural and Community Resource Augmentation plan with the State Pollution Control Board, Odisha prior to the grant of Environmental Clearance.
- (iii) The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the SEAC, Odisha and approval of the regulatory authority (i.e. SEIAA, Odisha).
- (iv) The proponent has to abide by the guidelines if issued by the MoEF&CC, Govt. of India in future for assessment of Environmental and Ecological Damage as well as estimation of cost for remediation plan as well as Natural and Community Resource Augmentation Plan.

- (v) The State Govt. in accordance with the judgement of the Hon'ble Supreme Court in W.P.(C) No. 114 of 2014 have levied a demand of ₹ 93.79 crores U/s 21(5) of the MMDR Act on the said mining lease. Accordingly, the project proponent has made partial payment of the said demand. The project proponent has submitted a sworn notarized affidavit to make complete payment of the said demand prior to operationalization of the project. The project proponent shall pay entire levy amount of ₹ 93.79 crores raised by the State Government prior to operationalization of the project as per the legal affidavit submitted.
- a) Additional air quality monitoring station shall be installed at entry and exit of mines and haulage road, buffer zone and schools and habitations
 - b) The mine shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of Environment Impact Assessment (EIA) report
 - c) A rain water harvesting pond of dimensions 140 m x 50 m x 8 m shall be created to have a total water harvesting capacity of 55,000 m³ as proposed. The water harvested shall be utilized in the lean period for water requirement of the mining operations. Thus, the harvested water can sustain 120 days of operations of the project.
 - d) The proponent shall install STP of capacity 20 KLD for treatment of domestic waste water and treated water shall be reused.
 - e) The proponent shall obtain permission from WR Deptt, Govt. of Odisha for drawl of ground water.
 - f) Adequate mitigation measures shall be taken for dust suppression, environment protection in catchment area
 - g) The proponent shall carryout periodical health check-up of employees due to Occupational Health Hazards by occupational health expert, at least once in six months, both for employees as well as people of neighbouring habitation.
 - h) Since, the River Baitarani is passing nearby, the proponent shall take adequate measures to protect the River due to mining activity.
 - i) The transportation of mineral shall be carried out through the covered trucks. Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in beneficiation operations and in transportation of ore to the beneficiation plant. The vehicles carrying the mineral shall not be overloaded.
 - j) Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.

- k) Garland drains with appropriate size, gradient and length shall be constructed to arrest silt and sediment flows from ore dumps and directly into the water bodies. The water so collected shall be utilized for watering the roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- l) The Tailings in Dilute Slurry Form shall be sent to a slime thickener, from where it shall be fed to a Filter Press system to recover most of the clean water contained in the tailings for recycling into the process. The solids shall be separated and discharged from the filter press in the form of a cake. This cake shall be transported by dumpers/tippers or a conveyor belt system, to be disposed off in pre-assigned disposal areas, which shall be rehabilitated by plantation in a phased manner.
- m) The proponent shall adopt Zero Liquid Discharge concept in Beneficiation Plant.
- n) Public Hearing for the project was conducted on 20.04.2014 at 11.00 AM at Daduan village in Keonjhar district of Odisha. The proponent shall comply to all the commitments made to the issues raised by the Public during the public hearing.
- o) The proponent shall comply to the NEERI recommendations.
- p) The proponent shall follow the SOPs as submitted for “Zero dust Re-suppression Management” both inside the mines, screening / crushing plant, beneficiation plant and haulage road and all mineral carrying roads.
- q) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

(III) PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF B.D. PATNAIK MINERALS PVT. LTD FOR PRODUCTION OF 0.25 MILLION TPA LIMESTONE & DOLOMITE MINES OVER AN MINING LEASE AREA OF 44.742HA LOCATED AT VILLAGES - SARUMUHAN AND CHUNAGHUTI, TAHASIL- RAJGANGPUR, DISTRICT- SUNDERGARH, ODISHA OF SRI AJAY KUMAR PATNAIK (UNDER VIOLATION CASE) - EC

1. This is a proposal for Environmental Clearance for Sarumuhan-Chunaghuti Limestone & Dolomite Mines of M/s B.D. Pattnaik Minerals (P) LTD. has proposed for production of 0.25 MTPA of limestone over an area of 44.742 ha. at Villages - Sarumuhan and Chunaghuti , P.S- Rajgangpur, Dist: Sundargarh, Odisha.
2. The mine is situated at Sarumuhan and Chunaghuti Villages, P.S. Rajgangpur in Sundargarh District of Odisha. The latitude is 22^o 17' 25" to 22^o 18' 10" N and longitude is 84^o 36' 01" to 84^o 36' 13" E. Mandira reservoir is situated at a distance of 0.3 km north side of the ML area. The mine is well connected by all weathered murrum road diverted from the main road of Sundargarh- Raurkela on SH-10. The nearest railway station/bus stand is available at Rajgangpur (12km), the nearest airport is Jharsuguda (70 km) & the nearest city is Rourkela (23 km). Sundargarh is the district headquarters situated at 62 km & Bhubaneswar, state capital 260 Km in Odisha from the mines.

3. The Mining Lease of 173.087 ha was first granted in favour of M/s B. D. Patnaik on 02.09.2005 for a period of 20 years, which had expired on 01.09.1995. The Lessee submitted his application for 1st renewal of Mining Lease over a reduced area of 44.742 hectares which was granted by the collector, Sundargarh of Odisha vide letter no.7974/M dated on 16.8.1996 for a period of another 20 years i.e. 02.09.1995 to 01.09.2015. In the meantime, the said mining lease over an area of 44.742 hectares in village Sarumuhan and Chunaghuti was transferred from M/s B. D. Patnaik to M/s B. D. Patnaik Minerals (P) Ltd on 25.07.2000. The Mining Lease area involves Non Forest Govt. waste land.
4. As per amendment of MMDR Act 2015, the mining lease is now deemed to have been extended for a period of fifty years i.e. up to 01.09.2025. The total surface right granted to the lessee is to the tune of 27.22 acres and was available to the lessee in two phases.
5. The mine is closed by Deputy Director of Mines, Rourkela since November'2009 vide letter no - 14247 (25) on dated 07 11.2009 due to want of Environmental Clearance (EC) and noticed as violation.
6. The Application for Environmental Clearance was submitted by the proponent to SEIAA, Odisha on 24 01.2013 and accordingly, the ToR was issued on 27.11 2013 Base line data were generated from Dec' 2013 to Feb' 2014. Accordingly, draft EIA/EMP report has been prepared. The Public Hearing for the proposal has already been conducted on 24.06.2015.
7. Accordingly, the final EIA report submitted to SEIAA, Odisha for Environmental Clearance on 24.11.2016 But, in the meantime, a Notification was issued by the MoEF&CC on 14.03 2017 to apply the violation case at Central level and accordingly they had applied to the MoEF&CC, Govt. of India, New Delhi within the stipulated time.
8. Again on 16 03.2018, an OM was issued by the MoEF&CC, Govt. of India mentioning "All the proposals of category 'B' projects/activities pertaining to different sectors, received within six months only i.e. up to 13th September, 2017 on the Ministry's portal, but yet not considered by the EAC in the Ministry, shall be transferred online to the SEAC/SEIAAs in the respective States/UTs' and accordingly, the proposal was transferred to SELAA, Odisha for consideration.
9. This is a case of violation due to production of 637 MT of limestone during 2008-09 and 2009-10 without Environmental Clearance.
10. Deputy Director of Mines, Rourkela vide letter no-2992 on dated 15.11 2017, noticed to show cause for payment of ` 1,78,020/- towards compensation under section 21 (5) for production in violation of Act.
11. The project falls under Category" B" as per MoEF&CC, Govt. of India Notification as the Mining Lease Area is less than 100 ha (as per S.O. 3977, dt.14.08.2018).
12. The SEAC confirmed the case to be of violation of the EIA Notification and recommended for issuing Standard Term of Reference with specific Term of Reference and additional

specific conditions as recommended by CSIR-NEERI on carrying capacity study for undertaking EIA and preparation of Environmental Management Plan (EMP).

13. **Method of Mining** - Mining activities in the lease area is proposed to be worked out by Semi mechanized method of mining under OTFM-A category to produce required production target in the ensuing modified plan period. At first to exploit the limestone from the quarry top soil will be removed by scrapping using excavators. The topsoil will be stacked at the earmarked site for future use. Limestone will be loosened through drilling & blasting. Rock breaker will be used to avoid secondary blasting. Controlled blasting technique will be practised by using delay detonators.
14. After blasting, ROM will be crushed and screened to various sized ore as per the buyer's specification by the proposed 30 TPH crusher-cum-screening plant. All the mining activities like drilling, blasting, excavation, loading and transportation will be carried out by using heavy earth moving machineries to produce 2,50,399 MT (maximum) limestone per annum.
15. Drilling & Blasting: Drilling of the blast holes is proposed to be done by a compressed air jack hammer. Hence 6 nos. of jackhammer are required of which 5 will be in operation & the 6th one will be kept as stand by. The diameter of the drill rod is 32mm. To carry on blasting operation, class III explosive (special gelatine) 80% strength & class VI (detonator and safety fuse of standard length) will be used in the mine.
16. Loading & Transportation: The generated ROM ore will be transported to the crusher site by the 10 T capacity tippers. A total of eleven nos. of 10-tonne capacity tippers will be required to transport the ROM ore to the crusher plant side. The generated waste will be dispatched to the nearby proposed dump. Total trucks required per day is 8.
17. Nature of waste: The limestone deposit of the area is associated with a topsoil of thickness 0.5-1.0 meter. The soil found in the area is fertile in nature. During the development period, some amount of OB will also be generated mainly in the form of phyllite & slate. During the mining activities, there will also be waste generated mainly as an inter burden. As revealed from the quarry sections, bands of phyllite and slate would constitute the inner burden apart from limestone having CaO < 35%.
18. Dumping site: In the ensuing modified plan period, the total quantity of waste as IB and OB to be dumped from the limestone quarries in the year 2020-21 to 2024-25 would be about 1,13,014 m³. It has been proposed to dump this generated waste at the northwestern side of the lease area. This quantity of waste will be stacked in an area of 1.866 hectares with a dump height of 23 m with 3 nos of terraces. At the end of the plan period, the proposed dump will be maintained at 291.7 MRL.
19. Green belt: Enhancement of Green belt development/ plantation will be developed in the project site and in the periphery of the project boundary, which will improve the floral and faunal diversity of the project area. A belt of trees with a thick canopy will be created to intercept dust, gaseous pollutants, and noise.
20. Water Requirement: There will be no use of water in the mining operation. Water will be required for domestic purposes, sprinkling for dust suppression, and green belt development only. The total water requirement for the proposed project will be about 10 m³/day during Non-monsoon as follows. This quantity of water will partly be sourced from

- the three water storage tanks (Total Capacity of these Three Tanks will be 450 m3) proposed within the lease area to store harvested rainwater through rainwater harvesting system and partly from the nearby ponds. No groundwater will be used for the purpose.
21. Power requirement: The mining operations will be carried-out by machinery which is run by diesel. No powered equipment will be deployed. 2 No of DG sets 60 and 150KVA will be used.
 22. Employment Generation: The total manpower requirement for this mining project is 95 persons. Preference for employment will be given to locals. The project will also generate indirect employment opportunities for the locals. .
 23. The total cost of the project is ` 3.09 Crores.
 24. The consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** made a detailed presentation on the revised project before the SEAC on behalf of the project proponent.
 25. The SEAC in its meeting held on Dt: 19.02.2021 decided to take decision on the proposal after receipt of the following information / documents from the proponent followed by visit of sub-Committee of the SEAC to the mining site to ascertain possible damage to Mandira Dam and to decide specific conditions for the purpose.
 26. The project proponent has furnished compliances as desired by the committee vide letter no: Nil dated 30.03.2021 and same has been verified as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
i.	Plot wise kissam of land duly certified by concerned Tahasildar	The land document duly certified by Tahasildar is submitted.	-----
ii.	Details of case registered by the State Government under section 19 of Environment (P) Act, 1986 for violation and its current status with supporting documents	The Collector & District Magistrate, Sundargarh has issued the letter to the Public Prosecutor, Sundargarh to take legal action and file the case against the project proponent as per the provisions contained under section 19 of EP Act, 1986. Copy of letter is submitted.	-----
iii.	Mitigation measures to be undertaken during mining to protect Mandira Dam	Mitigation measures towards protection of Mandira Dam is mentioned in compliance report.	Specific condition to be stipulated in EC.
iv.	Identification of occupational health hazards and mitigation measures towards it including periodical visit / health check up by trained occupational health expert, both for employees / workmen / and people of neighboring habitation	Occupational health hazards and mitigation measures to be undertaken is mentioned in compliance report.	Specific condition to be stipulated in EC.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
v.	Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage	Details of waste management is submitted in compliance report.	Specific condition to be stipulated in EC.
vi.	Details of Top soil generation and its utilization	Top soil generated - 25321cum will be stacked over an area of 2100 cum located at southern part of lease.	Specific condition to be stipulated in EC.
vii.	Documents related to permission letter from WR Deptt, Govt. of Odisha for mining activity near to Mandira Dam	Mandira Dam is 6km away from lease. So, there will be no influence of mining activity on Mandira Dam. Hence no permission is required.	Specific condition to be stipulated in EC.
viii.	Total Plantation should be carried out within 2 years and maintenance to be continued in remaining years. Trees present in mining area should be uprooted & transplanted in safety zone	Agreed by proponent. Details given in report.	Specific condition to be stipulated in EC.
ix.	Copy of modified mining plan incorporating progressive mine closure plan	Chapter – 8 of mining plan has been submitted.	----
x.	Undertaking in form of legal affidavit by project proponent for payment of entire levy amount raised by the State Government for excess production before going for operation of the mine	Payment challan has been submitted.	Specific condition to be stipulated in EC.
xi.	Compliance to issues raised in public hearing conducted on 24.06.2015 along with proposed actions to be taken in physical terms on the environmental issues raised during Public Hearing	Issues raised in public hearing will be addressed by project proponent.	Specific condition to be stipulated in EC.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent	Views of SEAC
	raised during Public Hearing		
xii.	The cost of ecological damage assessment is seemed to be very less. This should to be re-calculated with sufficient justification and revised document to be submitted	Total ecological damage cost has been revised to Rs.4,57,300.00	Specific condition to be stipulated in EC.

After detailed discussion, the SEAC decided to take decision on the proposal after visit of sub-Committee of the SEAC to the mining site to ascertain possible damage to Mandira Dam and to decide specific conditions for the purpose.


SECRETARY, SEAC


CHAIRMAN, SEAC

STANDARD ENVIRONMENTAL CLEARANCE CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S BAITARANI IRON ORE MINES FOR EXPANSION IN PRODUCTION OF IRON ORE FROM 52531 TPA TO 400120 TPA (5,71,600 TPA IRON ORE ROM) ALONG WITH SETTING UP A 200 TPH CRUSHING & SCREENING PLANT AND A 100 TPH BENEFICIATION PLANT (210000 TPA THROUGHPUT) OVER AN MINING LEASE AREA OF 65.397 HA. IN BAITARANI R.F. LOCATED NEAR VILLAGE- INGANIJHARAN, PO- DADUAN, TAHASIL- BARBIL, DISTRICT- KEONJHAR, ODISHA OF DR. SAROJINI PRADHAN (UNDER VIOLATION CASE) - EC

(I) Statutory compliance

- (i) This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.
- (ii) The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations.
- (iii) The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgment of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.
- (iv) This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project,
- (v) This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the project.
- (vi) Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board.
- (vii) The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.
- (viii) The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made thereunder in respect of lands which are not owned by it.
- (ix) The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-I1013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related

to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area”.

- (x) The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.
- (xi) A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.
- (xii) State Pollution Control Board shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.
- (xiii) The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board and web site of the Ministry of Environment, Forest and Climate Change (www.environmentclearance.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF&CC Regional Office for compliance and record.
- (xiv) The Project Proponent shall inform the MoEF&CC/SEIAA, Odisha for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

(II) Air quality monitoring and preservation

- (i) The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM₁₀, PM_{2.5}, NO₂, CO and SO₂ etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.
- (ii) Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM₁₀ and PM_{2.5} are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance. Use of suitable water-soluble

chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&CC/ Central Pollution Control Board.

(III) Water quality monitoring and preservation

- (i) In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEF&CC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.
- (ii) Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.
- (iii) Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.
- (iv) The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-a-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC / SEIAA, Odisha. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, SEIAA, Odisha, Central Ground

Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.

- (v) Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J-20012/1 /2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.
 - (vi) The project proponent shall construct retaining wall and settling pond within the lease area. Further, check dams shall be constructed at strategic locations in which rain water passes in rainy season. Finally, the excess supernatant after sedimentation shall be allowed to spill away through stone pitch structure to the nearby valley.
 - (vii) De-silting of agricultural lands in buffer zone and beyond including nearby Nalas/rivers perennially periodically and perpetually caused due to wash up of minerals/OB/dumps shall be done as per SOP submitted. A legal affidavit shall be submitted within 6 months from the date of issue of Environmental Clearance to this effect with periodicity of de-silting.
 - (viii) Detail design of the existing retaining wall and the proposed for the expansion from a chartered Civil Engineer shall be submitted within 6 months from the date of issue of Environmental Clearance to ensure that no silt after wash up is escaped from the core / buffer zone of the mines.
 - (ix) An area of 3.40Ha shall be kept for public use as pond and road. Hence, remaining 52.956Ha shall be planted during life of the mine in a phased manner i.e. within a period of 20 years.
 - (x) Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office, MoEF&CC annually.
 - (xi) Industrial waste water (workshop and waste water from the mine) should be properly collected and treated in an ETP as proposed so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.
 - (xii) The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board.
- (IV) Noise and vibration monitoring and prevention**
- (i) The peak particle velocity at 500m distance or within the nearest habitation,

whichever is closer shall be monitored periodically as per applicable DGMS guidelines.

- (ii) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.
- (iii) The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The worker engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

(V) Mining Plan

- (i) The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.
- (ii) The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.
- (iii) The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-a-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerned Regional Office / SEIAA, Odisha.

(VI) Land reclamation

- (i) The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.
- (ii) The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.
- (iii) The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.
- (iv) The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.
- (v) The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC, Govt. of India, Bhubaneswar as well as SEIAA, Odisha.
- (vi) Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and topsoil / OB / waste dumps to prevent runoff of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.
- (vii) Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the comers of the garland drains.

- (viii) The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.
- (ix) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

(VII) Transportation

- (i) No Transportation of the minerals shall be allowed in case of roads passing through transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.
- (ii) The Main haulage road within the mine lease should be provided with a permanent water arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.
- (iii) Traffic management shall be done as per recommendation of Traffic Management Study Report.
- (iv) The Project Proponent shall provide parking plaza for the heavy vehicles within the lease area as recommendation of NEERI.

(VIII) Green Belt

- (i) The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side

of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

- (ii) The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.
- (iii) The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.
- (iv) The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.
- (v) And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

(IX) Public hearing and human health issues

- (i) The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half-yearly basis.
- (ii) A commitment in form of an undertaking for periodical occupational health checkup of the employee and the local people shall be done through an occupational health expert as per the detailed action plan submitted with the proposal within 6 months from the date of issue of Environmental Clearance.

- (iii) The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.
- (iv) The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x 14 inches and of good quality).
- (v) The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities, (c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1), Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.

- (vi) The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
- (vii) Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.
- (viii) The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.
- (ix) Issues raised and recorded in proceedings of public hearing w.r.t. environment / pollution / CER shall be complied by the Mining Authority as per OM F. No. 22-65/2017-IA.III, dated 30.09.2020 of MoEF&CC, Govt. of India.

(X) Corporate Environment Responsibility (CER)

- (i) The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by SEAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.
- (ii) Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office / SEIAA, Odisha.

(XI) Miscellaneous

- (i) The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.
- (ii) The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- (iii) The project proponent shall establish a solar power plant with 30KVA capacity within the lease area as proposed.

- (iv) The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MoEF&CC & its concerned Regional Office, SEIAA, Odisha, Central Pollution Control Board and State Pollution Control Board.
- (v) A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.
- (vi) The proponent shall comply all the specific conditions as recommended by CSIR-NEERI on carrying capacity study (as applicable) in time bound manner as proposed.
- (vii) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- (viii) The project proponent shall augment infrastructure on drinking water, health care and education in nearby villages as per time bound action plan submitted.
- (ix) The project proponent shall obtain permission from DGMS under 106(2b) to carry out blasting operation within the lease area.
- (x) The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.
- (xi) 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.