PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ODISHA HELD ON 12TH OCTOBER, 2022

The SEAC met on 12th October, 2022 at 10:30 AM in the Conference Hall of Odisha State Pollution Control Board, Bhubaneswar under the Chairmanship of Sri Sashi Paul. The following members were present in the meeting.

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

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

ITEM NO. 01

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S. SAIL - ROURKELA STEEL PLANT, (ODISHA) FOR UP-GRADATION OF ROURKELA AIR PORT (EXPANSION CASE) UNDER RCS-UDAN SCHEME OF GOI, OVER AN AREA 41.2779 HA. LOCATED AT VILLAGE ROURKELA, DISTRICT - SUNDARGARH – EC.

1. This proposal is for Environment Clearance of M/s. SAIL - Rourkela Steel Plant, (Odisha) for Up-gradation of Rourkela Air Port (expansion case) under RCS-UDAN scheme of GoI, over an area 41.2779 ha. located at Village Rourkela, District – Sundargarh.
2. The project requires prior Environmental Clearance under the provisions of EIA Notification, 2006 and subsequent amendment vide Gazette notification S.O. 1886(E) dated 20.04.2022 covered under item 7(a) column (4)“All expansions projects, including airstrips, which are for commercial use” to the schedule of the EIA Notification & classified as B category project & the commercial operations shall begin only after obtaining environmental clearance from SEIAA, Odisha.
3. “Terms of Reference” (ToR) had been issued for EIA study by SEIAA, Odisha vide letter no. 5235/SIEAA dated 22.08.2022 with exemption from Public Hearing & use of Baseline studies datas conducted during December 2019 to March 2020.
4. The Rourkela airstrip developed in Rourkela Steel Township in 1970’s for private use by SAIL-RSP is located inside the Notified Industrial Township of SAIL - Rourkela Steel Plant (a public sector undertaking of GOI) by Govt. of Odisha. The airstrip is presently licensed for Code 2B aircraft operations. However, the Code-2B category flights by the selected operators have not yet commenced.

5. Keeping in view of the forth coming Hockey World Cup, to be hosted by the Govt. of Odisha, it was decided in the month of Feb., 2021 to go for up-gradation of Rourkela Airport from Code-2B to Code-3C for operation of ATR-72/Q-400 type Aircrafts under RCS-UDAN Scheme. The additional area earmarked for the up gradation & allied works of the airport will be in land already in possession of RSP (SAIL). Therefore, no additional land will be acquired and the project doesn't involve any R&R.

6. The proposal involves Extension & strengthening of Runway of dimensions 605m X 45 m having total useable runway of 1810m x 45m suitable for Q-400, construction of ATC Tower, Provision of Taxiway of Length 128m, width 23m, Construction of Apron of dimension 105m x 80m with shoulder of width 5.5m on all sides for parking of two Q-400, Construction of Prefabricated Terminal Building of area 3505 m^2 The allied facilities proposed are additional utility building for housekeeping and support staff (200 m^2), Construction of a new Toilet Block, Utility vehicle shed (100 m^2 area) separate utility block, CNS equipment, PAPI, internal roads, landscaping, PHE works etc.

7. Present facilities and proposed facilities are as follows:

Sl. No.	Particulars	Present Facility	Proposed Facility after expansion
i)	Suitability of aerodrome	Code 2B	Code-3C
ii)	Aircraft operations	Non-scheduled	Scheduled/Non-scheduled
iii)	Total airport area (Acre)	102 Acre	250 Acre
iv)	Type of traffic permitted	VFR	VFR
v)	**Runway**		
	Runway Length	1760 m	1810 m
	Runway strip width	30 m	45 m
vi)	**Terminal Building**		
	Capacity	Peak Hour Passenger (PHP) Capacity: 50	Peak Hour Passenger (PHP) Capacity: 200
	Car Parking Area	5 no. of cars.	50 no. of cars
vii)	**Apron Details**		
	Number	1 no.	02 (1 no. existing & 1 no. proposed)
	Capacity	1 no.	2 nos. (Aircraft parking bays)

8. Land use breakup of the existing and proposed project are as follows:

SN.	Description	Present (in m^2.)	Total After implementation of Proposed Project (in m^2.)
1.	Total area of terminal building	375	3505 (0.35%)
2.	Surface parking area	2000	48562.3 (4.80%)
3.	Service/utility block area	50	300 (0.03%)
4.	Total Green Area	2000	3,31,865.7 (32.80%)
5.	Total Open Area (runway, taxiways & apron area)	60,636	92,794 (9.17%)
6.	Other (roads/paved/unpaved/open area)	3,46,718	5,34,688 (52.85%)
	Total	**4,12,779 (102 acre)**	**10,11,715 (250 acre)**

9. **Location and Connectivity** - The geo coordinates of project site ARP is 22° 15' 22.46" N & 84° 48' 52.59" E. The nearest National Highway –143 is at ~2.5 km and SH – 10 is at ~ 4.7 km WSW from project site towards West direction. The nearest railway station is Rourkela Junction ~5.7 km SE direction. Rourkela is the nearest town from the project site located at 3.0 km towards East direction. Nearest Reserve Forest is Durgapur RF at 2km. South Koel river at 1.9 km. Nearest village is Bandhaposh located at ~1.0 km WSW.

10. **Water Requirement** - Fresh water demand of 75.6 KLD (Existing: 0.45 KLD, Proposed: 75.15 KLD) will be sourced from Rourkela Steel Township's existing water distribution network.

11. **Power Requirement** - The total power demand is 250 KW (existing: 5 KW & proposed 245 KW) to be sourced from Rourkela Steel Township Power Grid. Power backup is proposed through 2 nos. of 125 KVA DG Set (1 no existing & 1 no proposed).

12. **Parking Details** – Total surface area proposed for car parking within airport premises is 2000 m^2/ 50 nos. of cars. Traffic survey has been conducted for 24 hours at Ring road (Four lane two way). The traffic survey data analysis predicts that the existing LOS value i.e. 'A' remains same for the modified traffic scenario due to the proposed expansion project. Thus, it can be concluded that the present road network is sufficient to bear the increased traffic load. The traffic survey conducted shows that traffic movement in 10 km radius of the study area is about 3692 vehicles per day approximately. The additional load of 48 additional vehicles per day will also be added to the initial count. The existing LOS value i.e. 'A' remains same for the modified traffic scenario due to the proposed expansion project.

13. **Green Belt** - Total area proposed for Greenery Development within airport premises is 333865.7 m^2. (33%) and total trees to be provided is 44,515 nos. and 3 rows plantation around Air Port Boundary following safety guidelines of Directorate General of Civil Aviation will be done for expansion project.

14. **Waste Generation** - The domestic effluent generated from project operations will be 60.5 KLD and will be treated in proposed STP of 75 KLD and treated water will be recycled for plantation purpose. SAIL-RSP will strictly adhere to DGCA/ICAO guidelines for airport operations & DG set stack height shall be kept as per CPCB guidelines. Municipal Solid Waste: 260 kg/day to be segregated & disposed off as per SWM Rules.

15. The estimated capital project cost is ` 50 Crore (Funding from RCS-UDAN Scheme of GoI). The budgetary allocation for EMP is Capital Cost: ` 8.5 Crore & Recurring Cost: ` 17.5 Lakh.

16. The Environment consultant **M/s Gaurang Environmental Solutions Pvt. Ltd., Jaipur (Rajasthan)** along with the proponent made a presentation on the proposal before the Committee.

Considering the information furnished and the presentation made by the consultant, **M/s Gaurang Environmental Solutions Pvt. Ltd., Jaipur (Rajasthan) - 302106** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 10 years with stipulated specific and standard conditions as per **Annexure – A.**

ITEM NO. 02

PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S. UTKAL INNOVATION FOR ESTABLISHMENT OF COMMON HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITY (CHWTSDF) OVER AN AREA 63.5 ACRES AT VILLAGE- PARMANPUR, TAHASIL- KOLABIRA, DISTRICT- JHARSUGUDA, ODISHA OF SHRI RAJESH KUMAR AGARWAL (MANAGING PARTNER) – TOR

1. The proposal was considered by the Committee to determine the "Terms of Reference (ToR)" for undertaking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA Notification, 2006 and amendment thereafter.
2. M/s. Utkal Innovation has applied for Terms of Reference (ToR) for Establishment of Common Hazardous Waste Treatment, Storage and Disposal Facility (CHWTSDF) over an area 63.5 acres at Village- Parmanpur, Tahasil- Kolabira,District- Jharsuguda, Odisha.
3. As per EIA Notification dated 14th Sept, 2006, as amended from time to time; this project falls under Category "B", Project or Activity 7 (d). (EIA Notification dated 14th Sep, 2006 as amended on 2009).
4. Utkal Innovation approached Odisha Industrial Infrastructure Development Corporation and State pollution Control Board to set up TSDF in central Odisha to cater the need of industries in Odisha. The land considered is at Village Parmanpur in the District of Jharsuguda. The area of plot is 63.5 acre (25.69 Ha) and the proposed facility will cater the needs of all hazardous generating industries. Jharsuguda is near to the boundary of Sundergarh, Sambalpur industrial estate and major industries like Smelters, Integrated Steel plant, Refractory, Thermal Power, Mines and Small- Medium Reprocess or are operating in this industrial area.
5. The project is located at Village- Parmanpur, Teshil- Kolabira, District- Jharsuguda. The geo coordinates of the project site is Latitude 21°48' 46.77" North & Longitude 84° 06' 53.63" East. The proposed site is on the outskirt of the village and at a distance 0.65km to NH 49. The nearest railway station is Jharsuguda at 11.5km and nearest airport is V.S.S Airport, Jharsuguda 12.5km. Nearest habitation is Kalibahal at a distance of 0.57km. Nearest water body is Kharkhari Nala – 1.05 km (NW). The area of plot is 63.5 acre and the proposed facility will cater the needs of all hazardous waste generated in surrounding industries.

6. Jharsuguda has an average elevation of 218 meter (715 ft). The climate is tropical in Jharsuguda. In winter, there is much less rainfall than in summer. The temperature here averages 33.1°C. The highest temperature recorded during the summer months is 48.0 °C. The annual rainfall is 1,527 mm.

7. The total Capacity of the proposed project of secured landfill and stabilization treatment will be 50000 TPA (Direct landfill: 30000 TPA and Treatment/Stabilization: 20000 TPA). The Facility is located strategically at Dhenkanal District which is the Common Boundary of Industrial cluster like Jharsuguda, Sundargarh, Bargarh, Bolangir, Sambalpur, Angul, Keonjhar and Deogarh Belt of Odisha.

8. **Technology & Process Description**

   Landfill - Secured landfill is the part of waste management facility. This place is final graveyard for the hazardous wastes. This secure landfill is prepared as cells in which waste is encapsulated. These cells have bottom liner, side liners and top liner. The impermeability and reactivity of these liners is of prime importance. After construction of bottom and side liners waste is filled into cells. On complete filling of waste, the top liners are placed and packed. Leachate collection system is provided in cell in order to collect leachate out in well for the further treatment and disposal. The landfill will be designed and constructed as a secure facility to contain the waste material and any Leachate, which is formed by the entrapped moisture or by infiltration of rainfall. To meet these requirements, the base of the landfill shall be designed as an engineered liner constructed prior to the placement of waste and also an engineered capping over the surface after completion of filling to minimize the infiltration of rainfall. The base liner of the landfill containment system is proposed to be a double composite liner with synthetic geo-membrane plus clay. Adequate Leachate collection system shall be incorporated at the base to collect and remove the Leachate. A Leachate collection and removal system shall also be placed over the primary liner to collect and remove any Leachate generated by infiltration of precipitation or by the moisture entrapped in the waste. This makes the secondary system to serve as a leak detection system and an early warning of potential future liabilities to necessitate action for remediation. Above the drainage system of the primary liner shall be placed a geo-textile filter to act as a filter/ barrier between the waste and the drainage system. This entire system would make the base liner a double composite liner meeting the national laws.

9. **Landfill Life, Closure and Post Monitoring** - The proposed landfill life is expected to be 25 years and will be closed with top single liner and covered with top soil minimum 60 cm with vegetation. Gas vent system shall be provided. The post monitoring of soil, leachate and air shall be carried out on regular basis for 30 years

10. **Treatment & Disposal**

    Waste Treatment and Disposal Scheme

    Leachate Management - A leachate collection system shall be designed at the base of all the landfills. It shall comprise of drainage layer i.e. layer of pebbles of greater permeability, leachate collection sump, and its removal i.e. pump. One number of solar evaporation pond with impervious lined (one stand by) shall be provided to manage the leachate as per CPCB guidelines. After collecting the leachate it shall lead to onsite Leachate Treatment Plant, This

involves complete treatment of the leachate to meet the discharge standards for lined drains. Treatment process may be biological, chemical or physical. Leachate collection and removal shall be provided above the geo-membrane in two layers viz., the primary and the secondary liners. The primary liner shall serve as Leachate collection and removal system, while the secondary liner shall serve as leak detection system and a signal of potential liabilities in terms of environmental pollution.

Gaseous Emission Management - This system shall be optional as landfill gas is generated as a product of waste biodegradation or on account of presence of VOCs in the waste. Gas generation can be avoided or reduced by avoiding disposal of biodegradable / organic waste. If the gaseous emissions are anticipated, the gas management strategy shall be (a) controlled passive venting or (b) control collection and treatment /reuse.

11. Anticipated Environmental Impact & Mitigation Measures - A comprehensive environmental management plan (EMP) will developed along with EIA report which will be followed throughout the construction, operational and restoration phase of the project development.
12. **Water Requirement**: Maximum water consumption will be 20 KLD which will be available from JMC (Jharsuguda Municipal corporation) & through1 bore well. The waste water will be treated and waste water will be used in greenbelt. Leachate and effluent from landfill will be treated in Effluent Treatment plant (ETP) with capacity of 10 KLD and Solar evaporation pond (SEP).
13. **Manpower**: During construction phase, the labours and workers will be hired from local village. The total manpower required in construction phase will be 100 and in operation phase will be 60.
14. **Power Requirement**: The power requirement will be met through 420 KVA connecting loads of Tata Power Western Odisha Distribution Limited (TPWODL). In case of power failure, one D.G. Set shall be used (124 KVA capacity) in Emergency only. HSD at rate of 3KL/Month will be used as fuel in D.G. set.
15. **Greenbelt** - A greenbelt development plan will be prepared and implemented along with the project. Total green belt area shall be of 21 acre (33% of 63.5 acre). The main objective of the greenbelt is to provide a barrier between the plant and the surrounding areas.
16. **Project Cost:** The estimated cost of the Project is approximately Rs.46 crore.
17. M/s Utkal Innovation shall be an important endeavour to mitigate the degradation of environment in the region. The Facility is designed to cater to over more than 200 industrial units within Western Odisha who are generating Hazardous waste.
18. The proponent along with the consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar** made a detailed presentation before the SEAC.

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

a) De-reservation of Gocchar land to be done before commencement of project. An undertaking to this effect shall be submitted.

b) Detailed list of type of hazardous wastes to be handled and places of collection.

c) Compliance to the OM of MoEF&CC, Govt. of India, dated 29.08.2016 (Copy enclosed as **Annexure-B**) w.r.t. distance criteria for setting up of Common Hazardous Waste TSDF.

ITEM NO. 03

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR CHANDANIA STONE QUARRIES CLUSTER OVER AN AREA OF 75.742 ACRES OR 30.651 HECTARES IN MOUZA CHANDANIA HILL, TAHASIL KUKUDAKHANDI IN DISTRICT KUKUDAKHANDI, STATE ODISHA OF TAHASILDAR KUKUDAKHANDI (SUBMITTED UNDER CLUSTER APPROACH WITH TOTAL CLUSTER AREA 30.651 HECTARES WITH CONSISTING OF 5 STONE QUARRIES) - TOR

The project proponent did not attend the meeting. The proposal is deferred to next meeting.

ITEM NO. 04

DEMO FOR VIEWING AND PROCESSING OF ONLINE PROPOSALS IN PARIVESH PORTAL BY TECHNICAL ENGINEER, NIC

The Technical Engineer, NIC gave a presentation on website Parivesh Portal for Environment Clearance of proposals. He briefed about various links available in the Parivesh website, how to track the proposals, to view the supporting documents submitted/uploaded on Parivesh Portal, location of project through KML file and login to Parivesh website and how file processed online.

CONSIDERATION OF OLD PROPOSALS (COMPLIANCE RECEIVED):

ITEM NO. 05

PROPOSAL OF ENVIRONMENTAL CLEARANCE FOR NETRABANDHA PAHAR IRON ORE BLOCK WITH TOTAL EXCAVATION OF 2.680 MTPA [2.0 MTPA (ROM), OB- 0.680 MTPA] ALONG WITH 2X100 TPH MOBILE CRUSHER IN THE MINE LEASE AREA OF 139.223 HA, LOCATED AT VILLAGE BALADIHI, TEHSIL KOIRA, DISTRICT SUNDARGARH OF M/S. BHUSHAN POWER AND STEEL LIMITED OF SRI RAKESH KUMAR KHANDELWAL – EC.

1. Netrabandha Pahar iron ore block mining lease was granted in favour of M/s Bhushan Power & Steel Limited (BPSL) for period of 50 years through e-auction process for winning iron-ore for non-captive purpose of steel manufacturing.
2. The e-auction process was conducted in accordance with the tender document and the mineral auction rule, 2015 for the said mineral block and M/s Bhushan Power & Steel Limited was declared as the preferred bidder under Rule 9(4)(b)(iii) of Mineral (Auction) Rules 2015. Government of Odisha has issued the Letter of Intent (LoI) for grant of mining lease for Netrabandha Pahar Block for Iron Ore over an area of 139.00 Ha vide its letter no.5283/SM.IV(Misc)SM- 52/2017/SM, dt. 24.06.2017. The corrigendum was issued for 139.223 Ha vide letter no. IV(Misc)SM-52/2017/6285/SM, dt. 27.07.2017 and further, it was extended for a period of 6 months vide letter no.4493/ SM-MC1-MISC-0051-2021 Dt. 11.05.2022.
3. BPSL was sub-judice at National Company Law Tribunal (NCLT) since July 2017 and it was managed by Resolution Professional appointed by the Committee of Creditors (COC) till 25th March, 2021. M/s JSW Steel Limited, India's largest steel producer, was the successful Resolution Applicant approved by COC and has taken over possession and management control of BPSL on 26th March 2021, after approval of NCLT. The unit continues to operate with the same name "Bhushan Power & Steel Limited". The project shall continue to undertake statutory clearances and operate in future under the name of "Bhushan Power & Steel Limited" even though the management possession and management control is with M/s JSW Steel Limited.

4. As per LS [Hal-Sabik] certified by Tahasildar, Barbil & Director of Mines, Odisha and subsequently vetted by M/s ORSAC, total lease area includes Forest: 112.621 ha and Non-Forest:26.602 ha. Forest Clearance under FC Act,1980 for diversion of 112.621 ha of forest land has also been applied vide Proposal No. FP/OR/MIN/26965/2017 dated 05.07.2017. on 2nd August 2022 FC meeting was conducted and minutes of meeting are awaited.

5. Netrabandha Pahar Iron Ore Block proposes to produce total excavation of 2.680 MTPA (2.0 MTPA (ROM)+ OB 0.680) along with 2x100 TPH Mobile Crusher in mine lease area of 139.223 ha located at Baladihi village, Koira Tehsil, Sundargarh District, Odisha. Total mineable reserves are 64.577 million tonnes (Mt) as per approved mining plan in the name of M/s BPSL Steel Limited vide letter no. MP/FM/13-ORI/BHU/2017-18 dated 18.10.2017.

6. The key geo-physical aspects related to the project environmental settings are highlighted below:

    - The encompassing geographical coordinate of the project area comprise of the iron ore mine within 139.223 ha lie within Latitude: 21052’05.242” N - 21052’54.542” N, Longitude: 85017’10.449” E - 85017’56.810” E;
    - Land use of ML area includes Forest: 112.621 ha and non-Forest: 26.602 ha;
    - Two seasonal nalas are passing in ML area Khajurdihi seasonal nala is passing through the southern side and other one at Norther side of ML area. Porhadihi Nala (0.3 km, SSE) are the nearest water bodies;
    - Baladihi and Biradihi villages are adjacent to the ML area in NE and E direction;
    - The NH-215 passes at 4.7 km NW of the project site;
    - Nearest major railway stations is Nayagarh RS 14.2 km, E;
    - There are 11 PFs/RFs identified within the study area of the project site;
    - There are no National parks/Wildlife sanctuaries within the 10 km radius of the project site; and
    - Karo - Karampada elephant corridor is located at about 13.31 km from the mine lease area in NNW direction;

7. The mining is proposed to be carried out by fully mechanized method by deployment of earth moving machineries like crawler mounted drill rig, air compressor, backhoe shovels, rock breaker, 25 tonner dumpers etc., will be adopted. During the ensuing plan period, it has been envisaged to make the production of 8 MTPA ROM. Both lateral and depth ward development has been proposed to be undertaken to achieve the targeted production.

8. The benches will be developed systematically following the terrain condition of the area to attain the production of iron ore of 2 million tonnes per annum at the end of 3rd year. The height and width of the benches will be kept at 6m and 10 m respectively for easy vehicular movement. The individual bench faces will be kept at 800 whereas the overall quarry slope angle is proposed to be kept at around 450 with the horizontal. Massive hard iron ore beds/ boulders will be loosened through drilling and blasting. Drilling will be carried out by means of 115 mm dia crawler drill with 610 HP compressor. For secondary breaking hydraulic rock breaker will be deployed. Thus, secondary drilling and blasting is eliminated. Blasting will be carried out with the help of explosives (slurry type) boosters and ANFO and class-VI explosives (TLD, electric detonators and detonating fuse). ROM with SLO, fines, BD will be fed directly to 4x150 TPH mobile screening plants and these screening plants will also be fitted with grizzly. The oversized materials will be fed to 2x100 TPH mobile crushing plant.

9. Total water requirement for the proposed project is about 167 KLD which will be met from Teherai Nala, Ground water and Rainwater. CGWA Application for withdrawal of 4 KLD is applied vide application. no. 21-4/3719/OR/MIN/2022 Dt 24/05/2022 and application for surface water withdrawal is yet to be submitted.
10. No effluent will be generated due to mining. Sewage generated from toilet blocks would be disposed through septic tank and soak pits/STP.
11. Total power requirement for the proposed project is 2.5 MW which will be sourced from WESCO. Subsequently, after getting necessary permission from concerned department, power line will be utilized and DG will be used for emergency purpose.
12. During the five year of mining plan period 1166241 m3 of waste will be generated. The alluvial soil capping the rock bed is the loosen OB that exists in some part of the block. The thickness of the OB is about 1.0 m. This will be removed separately and simultaneously used for plantation. Only temporary storage for top soil is proposed. Proposed generation of waste will be dumping in waste dump site and in the conceptual stage, which will be used for backfilled in 45.632 ha area within mined out pit.
13. Schedule-I species reported in the study area namely Bison, Four horned Antelope, elephant, Leopard cat, Indian Pangolin, Peacock, Indian retel, Flying squirrel, Mouse deer, sloth bear, Rock python. However, they were never spotted/reported in the ML area by locals.
14. To reduce fugitive dust emissions due to handling of ore, dust suppression systems will be installed at appropriate locations. Plain water type dust suppression system will be provided all around the ore stockpiles. In crushing and screening plant, all dust control measures will be adopted to control the dust emissions within prescribed limit.
15. The Netrabandha Pahar Iron Ore block project of M/S BPSL is adjacent to Baladihi village. Based on the requirement of the project BPSL will acquire 12.787 Ha of private land from the Baladihi village. 53 households of Baladihi village will be affected as either their lands or houses will be acquired for the mining. The compensation and other R&R benefits will be fixed as per the Right to Fair Compensation and Transparency in land acquisition, Rehabilitation and Resettlement Act, 2013 (RFCT LARR Act, 2013).
16. 66.785 ha greenbelt will be developed in the backfilled area, bench plantation, safety zone along both sides of the road and Khajurdihi nala. Greenbelt will be developed in non-operating areas. Shrubs and trees will be planted in encircling rows around the project site. About 3.783 ha is proposed to develop in the first 5 years plan period.
17. The total capital investment for the proposed mine facilities is about Rs. 205 crore which includes the cost of mine development, plant & machinery, utility facilities. The proposed EMP cost is about Rs. 9.5 crore and about Rs. 220 lakh under CSR are proposed for 3 years.
18. The proposed mine will boost the socio-economic profile of the region and will act as an engine of economic growth for the country and will open-up employment opportunities for the local people in the region.
19. The project falls under Category-B (≤ 250 ha in respect of major minerals other than Coal) as per MoEF&CC Notification No. S.O. 1886(E) Dated 20th April, 2022.
20. TOR for conducting EIA study was issued by MoEF&CC, Govt. of India vide letter F.No.IA-J-11015/51/2021-IA.II(M) dated 04th August 2021. Baseline Monitoring studies were conducted on Post Monsoon Season 2021. Public hearing for the proposal has been conducted on 27th April 2022.

21. Letter of Intent (LOI) was issued vide letter No.5283/SM. IV (Misc.) SM- 52/2017/SM, dated 24.06.2017 with 5 years validity and Further extension of LOI for six months till 24.12.2022.

22. Mining Plan and Progressive Mine Closure Plan was approved by IBM vide Letter No: MP/FM/13-ORI/BHU/2017-18, dated 18.10.2017.

23. FAC meeting was held on 1st August 2022 in connection with Forest Clearance. Site Specific Wild Life Conservation Plan is under approval stage.

24. Application has been made at CGWA for withdrawal of 4 KLD vide application. no. 21-4/3719/OR/MIN/2022, dated 24/05/2022.

25. Proposed Land Use Area at the End of Plan Period is as follows:

Particulars	Proposed at the end of plan period in Ha	At Ultimate stage in Ha
Area under mining	25.704	102.010
Storage of Top soil	0.500	Nil
Dump	9.607	Nil
Infrastructure (Workshop, admin building)	1.817	NIL
Mine Road	2.306	2.306
Mineral storage S, G, stack	2.154	Nil
Plantation on safety zone	1.00	3.783
Water harvesting	0.066	0.066
Ore Stack	1.835	Nil
Undisturbed area	94.234	31.058
Total	139.223	139.223

26. The proponent has undertaken to comply to the NEERI recommendations.

27. The Environment consultant **M/s Vimta Labs Limited 142, IDA, Phase-II, Cherlapally, Hyderabad–500 051, Telangana State** along with the proponent has made a presentation on the proposal before the Committee on 16.08.2022.

28. The SEAC in its meeting held on dated 16-08-22 decided to take decision on the proposal after receipt of the certain information / documents from the proponent. The proponent has furnished the compliance and the SEAC verified the same as follows:

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
i)	Composition of Overburden waste with Fe grade.	The waste in the mine is mainly Laterite, Shale & BHJ which has grade of less than 45 % Fe.
ii)	Production plan of different grades of Fe. Cut-off grade and it's management plan for next five years.	It is proposed to work in N-Pit & S-Pit for the five-year period. The ROM that is proposed to be mined consists of Ore (Saleable) & Mineral Reject. The cut-off grade considered for Ore (Saleable) is +55 % Fe and for Mineral Reject is +45 – 55 % Fe. During the five-year period, both the ore & mineral reject is proposed to be mined. The mine has iron ore with different grades available throughout the working areas and during mining

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
		there will be natural blending of different grades. The mineral reject proposed to be generated shall be stored separately in earmarked areas.
iii)	Protocol for Magazine management.	No magazine is proposed in the ML area. Based on the production the explosives indent will be moved as per the requirement.
iv)	Magnitude of non-forest land, Kissam of land, status of conversion.	The block of Netrabandha mine lease area consists of 112.621 ha forest land. As per land schedule statistics certified by Tahsildar, Koira & Deputy Director of Mines, Koira vide Lr.No.359 dated: 08.02.2022. Forest: 112.621 ha and Non-Forest: 26.602 ha.
v)	Slope study for mines and dump by domain expert of national repute or reputed national Institute.	A detailed slope stability study is carried out by M/s Uttam Blast Tech and the report is given in **Annexure- I**. OB dump height and slope will be based on slope stability studies; maximum 45° angle as the ultimate slope has been provided in the design. Dumps would be made from top down by end tipping method. The environmental impact will be on account of dump slope failure resulting in dump collapsing, erosion, dust carryover by wind and siltation of surrounding streams.
vi)	Blast and vibration study by domain expert of national repute or reputed national Institute.	A detailed noise vibrational study was conducted by M/s Uttam Blast Tech and the report is enclosed as **Annexure-II.** Blasting will be done by adopting the State of Art technology by using mostly SME (Site Mixed Emulsion Explosives). Nonel (non-electric initiation) and electronic detonators are proposed for blasting. The blasted material will be excavated by shovel and loaded onto 100 tone dumpers for transportation of the ore, subgrade or waste.
vii)	Socioeconomic study by domain expert of national repute or reputed national Institute.	Socio economic study has been carried out by QCI-NABET category- A expert Vimta Labs Ltd., and detailed report is enclosed as **Annexure-III**.
viii)	Traffic study need to be carried out at important intersecting points of vehicles of mines with public vehicles/ public road. Traffic study report to be submitted and vetted by repute institute.	The total PCU of existing traffic as per study observations are found maximum at T4-8699 PCU at Kamando steel plant junction which is less than 30,000 PCU as per IRC standards. And V/C ratio at all the transportation route range between 0.16 to 0.57 and category C to A which is found to be good to excellent. Traffic study details are given in section-4.2.4.2, Chapter-4 of EIA report.
ix)	Detailed report on Rain Water Harvesting and its capacity with contribution towards water requirement including proposed rain water harvesting pond design with capacity and re- submitting the water	During the Initial stage of mining BPSL will be considering 3 no of RWH ponds of 6x3x2m which can accommodate 108 cum of rainwater, Considering total RWH pit as 0.066 ha and with a total annual rainfall of 1300 mm and runoff coefficient as 0.65 with a depth of 5 m BPSL able

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	balance thereof.	to harvest 2778.5 cum/annum of rainwater from 5th year onwards. Apart from this BPSL has also calculated total rainwater which can be harvested based on the catchment area of nalas and detailed hydrogeology report is enclosed as **Annexure-IV**.
x)	Compliance of NEERI Recommendations with 3D pictures of essential physical features complied or proposed to be complied with definite timeframe including permanent sprinkling arrangement on haulage road & inside mines and parking plaza etc.	BPSL will ensure for construction of cement concrete road connecting mine exit with the main road after commencement of the mining operations. The point wise NEERI compliance is enclosed in **Annexure- V**.
xi)	Design of STP with its capacity and the basis of it.	There is no township in the ML area Hence, No STP is being proposed.
xii)	Silt management details and Nala protection measures to prevent siltation with detailed plan for periodic de-siltation including Agricultural/ Crop land.	Storm water drainage system along the roads is provided to dispose storm water effectively. The surface run-off collected in the storm water drains are channelized through a series of settling-cum-percolation ponds before discharged. Staggered trenches are proposed to be constructed along the contours so that during sudden storm, good amount of run-off can be harvested which will maintain a good amount of soil moisture content. De-siltation of nalas and the village ponds surrounding ML area will be undertaken before and after monsoon.
xiii)	Design, dimensions and number of Check dams to be constructed.	Series of 3 check weirs of dimension 3x1.5x1 m each for both the nalas will be provided.
xiv)	Public Hearing details with redress proposed point wise.	The public hearing issues and commitments have been included as Annexure VI in the final EIA report. Proceedings of the Public Hearing are also included as **Annexure-VI**.
xv)	Quantum of water to be taken from Nala.	No water will be withdrawn from the nala. The required amount will be full filled through RWH, Groundwater and mine pit water.
xvi)	Air Modelling details with prediction for next 10 years after this project is operational with control and without control including the control proposed to be used.	The air modelling prediction exercise has been carried out considering next 10 years of mining activities and the findings are presented in **Annexure- VII**.
xvii)	Site specific Wildlife management plan duly approved by PCCF(WL) to be submitted.	BPSL has provided all the required documents to DFO and DFO has prepared the management plan. It is under scrutiny with RCCF, Rourkela. After RCCF approval the proposal will be reviewed by PCCF for final approval.
xviii)	Regional wildlife management plan contribution details.	About Rs. 4.40 crores was proposed for regional wildlife management plan.
xix)	Brief write up on mitigation	The drainage system of the ML area is controlled

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	measures taken towards protection of 3 Nalas nearby.	by Teherai nala flowing to the north of the block and its tributaries. Khajurdihi nala flowing in the southern part of the area controls the drainage in the southern part. The drainage courses in the ML area are seasonal and except Khajurdihi nala in the southern part, others are initial courses and not prominent. Khajurdihi nala passing through the southern part of the ML area will not be disturbed and an embankment of at least 2 m below the alluvial soil existing in part of the block and a vegetative corridor of at least 20 m along the nala will ensure control of any seepage from Khajurdihi nala into mine pits and protection of stream course from the mining activity. Construction of toe walls, Siltation ponds, garland drains and check dams are proposed. However, proper land scaping with native species and avenue plantation will be carried out.
xx)	Detailed plan for protection of endangered, threatened and nearly threatened species.	BPSL has provided all the required documents to DFO and DFO has prepared the management plan. It is under scrutiny with RCCF, Rourkela. After RCCF approval the proposal will be reviewed by PCCF for final approval.
xxi)	Budget of Environment Management Plan.	The EMP has prepared considering both normative and peak total excavation for assessing air and noise pollution. About Rs.9.5 crore capital cost and Rs.2.75 crore recurring cost is allocated for the EMP.
xxii)	Submit copy of the proceedings of FAC, MoEF&CC, Government of India, New Delhi Dated 02.08.2022.	FAC Committee meeting was held on 1st August 2022. Awaiting for FAC Proceedings.
xxiii)	Submit status or copy of the stage 1 FC for 112 Hectares.	FAC Committee meeting was held on 1st August 2022. Awaiting for FAC Proceedings. The FC meeting agenda is enclosed as **Annexure-VIII**.
xxiv)	Submit breakup of 26 Hectares of Non-Forest land in the M.L i.e. private, pasture land or otherwise.	The non-forest area of 26.602 ha is Govt land-13.994 ha and Pvt land- 12.608 ha.
xxv)	Since this is a greenfield ML the PP submitted the biodiversity Conservation Act, 2003 register for the block and the proposed damage likely due to mine pit and OB dump which can be shown in the layout.	IBM approved conceptual plan is enclosed as **Annexure-IX**.
xxvi)	The pp to submit the permission letter from Collector Sundargarh with respect to Forest Rights Act, 2006 along with the proceedings of Gram sabha / Palli sabha and its compliance status report.	FRA meeting was conducted on 17th May 2022. The proceedings has been forwarded to collectorate, Sundergarh for grant of FRA Certificate.

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
xxvii)	PP to submit the NoC from CGWA for the quantity of water drawn from Ground water sources and subsequent application to water resource Department, Government of Odisha for allocation, agreement for the same quantity of water.	NOC has been granted for 4 KLD withdrawal of groundwater. The confirmation acknowledgment is enclosed as **Annexure-X.**
xxviii)	The PP to submit the application water allocation and agreement from water Resource Department, Government of Odisha for establishment of water intake and drawl of water from surface water sources.	No water will be withdrawn from the nala. The required amount will be full filled through RWH, Groundwater and mine pit water.
xxix)	PP to submit the site-specific wildlife management plan prepared by DFO Wildlife and approved by PCCF (Wildlife) - Cum- Chief Wildlife Warden Odisha along with the proof of deposit of funds to the respective organisations.	BPSL has provided all the required documents to DFO and DFO has prepared the management plan. It is under scrutiny with RCCF, Rourkela. After RCCF approval the proposal will be reviewed by PCCF for final approval.
xxx)	It may be clarified whether the proposed 12 Hectare private land acquisition is part of ML or independent of ML.	The 12 ha is part of the ML area.
xxxi)	Accordingly submit the R & R plan with commitments of funds for R&R colony elsewhere.	The Netrabandha Pahar Iron Ore block project of M/S BPSL is adjacent to Baladihi village. Based on the requirement of the project BPSL will acquire 12.787 Ha of private land from the Baladihi village. 53 households of Baladihi village will be affected as either their lands or houses will be acquired for the mining. Out of 53 there are 20 Project displaced families. About Rs.15.70 crores has been anticipated for R&R. The project affected people (PAP) will have to be properly rehabilitated and resettled with a well-planned and beneficial R&R Action Plan fully in conformity with the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLARR Act, 2013) and The Odisha Right To Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2016 as amended from time to time.
xxxii)	The status of Land Acquisition under LARA Act, 2013 and Land Acquisition for R&R colony as per R&R policy, 2013 may be submitted.	Total land is to be acquired is 12.787 ha which will be acquired on mutual consent basis after obtaining statutory approvals. An amount of Rs.15.70 Crores has been earmarked for land acquisition.
xxxiii)	Submit report on Energy	Solar LED lights will be provided at strategic

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	Conservation Plan as per Energy Conservation Act, 2002.	locations (Mine haul roads and mine pit area) along with solar piezometer and flow meter.
xxxiv)	Submit plan for provision of solar power in the ML area.	Solar LED lights will be provided at strategic locations (Mine haul roads and mine pit area) along with solar piezometer and flow meter.
xxxv)	Submit the numbers and make the capacity of HEMM to be deployed in the mining operation along with its vehicular pollution potential.	25-35 MT capacity 17 no HEMM will be deployed. PUC check will be outsourced for vehicle pollution potential.
xxxvi)	Submit the skin of suppression of dust at the mining face, Haulage Roads, Stockpiles and crushing unit.	BPSL has proposed to engage 5 water tankers of 8 and 12 KL capacity. Along with this 2 no of crushing and 4 no screen plant with dry fog systems.
xxxvii)	Status of obtaining consent to establish from SPCB, Odisha under Water Act and Air act.	CTE application has been filed vide application.no.4353115.
xxxviii)	Compilation of data on collection and storage of hazardous waste and its disposal along with the permission from SPCB Odisha be submitted.	Hazardous waste collection and storage will be carried out after obtaining CTO.
xxxix)	Coverage of occupational health services for the employees by their own centre or through any other arrangements may be submitted.	BPSL will start Initial medical examination before starting the mining operations at Netrabandha.
xl)	The copy of Disaster Management Plan duly approved by the Competent Authority under the provision of Disaster Management Act, 2005 be submitted.	Disaster management plan prepared by the District collectorate will be referred for addressing any emergencies. Apart from that a specific DMP is given in Chapter-7 of EIA report.
xli)	On account of safety the onsite Emergency plan for the unit and the offsite Emergency plan drawn off with District Administration may be submitted.	Onsite and offsite emergency plan were given in Chapter-7 of EIA report.
xlii)	Planning for implementation of QMS, EMS, OHMS and SA as per ISO standards in this unit may be furnished.	JSW has integrated management system in place for other mines. The same will be implemented in BPSL mine after obtaining all the statutory clearances.
xliii)	Provision of installation of Weather Monitoring Station in the unit may be furnished.	Weather monitoring stations will be undertaken as a part of post project monitoring with MoEF&CC approved agencies.
xliv)	Approval of Chief Controller of explosive Government of India, Nagpur for establishment of magazine and its operation be furnished.	There is no magazine is proposed in the ML area. Based on the production the explosives indent will be moved as per the requirement. If required approval from the concern authority will be taken before the time frame.
xlv)	Status of permission under DG Rule, Battery Rule, SWM Rule, Hazardous Chemical Rule, BMW Rule for	Hazardous waste collection and storage will be carried out after obtaining CTO. Subsequently annual and 6 monthly returns will be filed as per

Sl. No.	Information Sought by SEAC	Compliance furnished by the proponent
	dispensary etc. be furnished.	the waste management rules.
xlvi)	Before starting the operation, the DGMS permission, Surface Right Permission for Forest land and consent to operate from SPCB Odisha be obtained and submitted to SEIAA Odisha.	Mining operations will commence after obtaining CTO, Forest and surface rights permission and DGMS.
xlvii)	The applicability of PESA Act in this Mines of Sundargarh may be verified and implemented if required.	If applicable BPSL will implement it.
xlviii)	Submission of the organogram for pollution control, Environment Management, Forest & Green belt Management, Wildlife Management, Safety Management and Environment health issues may be sanctioned internally and submitted to us.	BPSL Organogram is given in section-10.3, chapter-10 of EIA report.

Considering the information furnished and the presentation made by the consultant **M/s Vimta Labs Limited 142, IDA, Phase-II, Cherlapally, Hyderabad–500 051, Telangana State** along with the project proponent, the SEAC recommended for grant of Environmental Clearance with stipulated conditions as per **Annexure – C. However, the Environmental Clearance shall be issued by the SEIAA, Odisha after receipt of Stage-I Forest Clearance from the proponent as stipulated in MoEF&CC, Govt. of India office memorandum no. J-11013/41/2006-IA.II(I), dated 09.09.2011 and office memorandum no. J-11013/41/2006-IA.II(I), dated 18th May, 2012.**

Member Secretary, SEAC

Chairman, SEAC

ANNEXURE-A

SPECIFIC AND STANDARD CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S. SAIL - ROURKELA STEEL PLANT, (ODISHA) FOR UP-GRADATION OF ROURKELA AIR PORT (EXPANSION CASE) UNDER RCS-UDAN SCHEME OF GOI, OVER AN AREA 41.2779 HA. LOCATED AT VILLAGE ROURKELA, DISTRICT - SUNDARGARH – EC.

A. Specific Conditions -

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

(ii) Notification GSR 94 (E) dated 25.01.2018 of MoEF&CC, Govt. of India regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities shall be complied with.

(iii) Total water requirement is estimated as 75.6 KLD. Water requirement will be met from Rourkela Steel Township's existing water distribution network.

(iv) Aircraft maintenance, sensitivity of the location where activities are undertaken, and control of runoff of potential contaminants, chemicals etc. shall be properly implemented and reported.

(v) The domestic effluent generated from project operations will be 60.5 KLD and will be treated in proposed STP of 75 KLD and Treated waste water shall be used for landscaping, flushing and HVAC. There will be zero discharge of treated waste water from airport.

(vi) During construction and operational phase AAQ monitoring should include PM_{10}, $PM_{2.5}$, SO_2, NOx, NH_3, CO, CH_4 and Benzene.

(vii) During airport operation period, noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations. A monitoring station for ambient air and noise levels shall be provided in the village nearest to the airport.

(viii) An onsite disaster management plan shall be drawn up to account for risks and accidents. This onsite plan shall be dovetailed with the onsite management plan for the district.

(ix) The landscape planning should include plantation of native species. The plantation species should be carefully chosen to avoid bird nesting and to improve pollution control and noise control measures. Water intensive and/or invasive species should not be used for landscaping. As proposed, 3333865.7

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m^2 (33%) area shall be developed for green area. Species to be planted in green belt should be with consultation with local forest officer. Quality of soil to be checked before taking up plantation so that more trees could thrive.

(x) Proper Drainage system shall be maintained to avoid water logging.

B. Standard Conditions -

I. Statutory compliance:

(i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

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

(iii) The project proponent shall prepare a Site-Specific Wildlife Conservation and Management Plan and the same shall be approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six- monthly compliance report (in case of the presence of Schedule-I species in the study area).

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

(v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water/from the competent authority concerned in case of drawl of surface water required for the project.

(vi) Clearance from Directorate General of Civil Aviation (DGCA) and Airports Authority of India (AAI) for safety and project facilities shall be obtained.

(vii) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.

(viii) AII other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation:

(i) The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g., PM_{10} and $PM_{2.5}$ in reference to PM emission, and SO_2 and NOx in reference to SO_2 and NOx emissions) within and outside the airport area at least at four locations (one within and three outside the plant area at an angle of 120°each), covering upwind and downwind directions.

(ii) Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.

(iii) A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

(iv) Soil and other construction materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet

(v) The excavation working area should be sprayed with water after operation so as to maintain the entire surface wet.

(vi) Excavated materials shall be handled and transported in a manner that they do not cause any problems of air pollution.

(vii) The soil/construction materials carried by the vehicle should be covered by impervious sheeting to ensure that the dusty materials do not leak from the vehicle.

III. Water quality monitoring and preservation:

(i) Run off from chemicals and other contaminants from aircraft maintenance and other areas within the airport shall be suitably contained and treated before disposal. A spillage and contaminant containment plan shall be drawn up and implemented to the satisfaction of the State Pollution Control Board.

(ii) Proper drainage systems, emergency containment in the event of a major spill during monsoon season etc. shall be provided.

(iii) The runoff from paved structures like Runways, Taxiways, can be routed through drains to oil separation tanks and sedimentation basins before being discharged into rainwater harvesting structures.

(iv) Storm water drains are to be built for discharging storm water from the air-field to avoid flooding/water logging in project area. Domestic and industrial waste water shall not be allowed to be discharged into storm water drains.

(v) Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Rain water harvesting structures shall conform to CGWA designs. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.

(vi) Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.

(vii) Sewage Treatment Plant shall be provided to treat the wastewater generated from airport. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression

(viii) A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public Sewer/ disposal/drainage systems along with the final disposal point should be obtained.

(ix) A detailed drainage plan for rain water shall be drawn up and implemented.

IV. Noise monitoring and prevention:

(i) Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

(ii) Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced.

Attention should also be given to muffler maintenance and enclosure of noisy equipment.

(iii) Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

(iv) During airport operation period, noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.

(v) Where construction activity is likely to cause noise nuisance to nearby residents, restrict operation hours between 7 am to 6 pm.

V. Energy Conservation measures:

(i) Energy conservation measures like installation of LED/CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning.

VI. Waste management:

(i) Soil stockpile shall be managed in such a manner that dust emission and sediment runoff are minimized. Ensure that soil stockpiles are designed with no slope greater than 2:1 (horizontal/vertical).

(ii) The project activity shall conform to the Fly Ash notification issued under the E.P. Act of 1986.

(iii) Solid inert waste found on construction sites consists of building rubble, demolition material, concrete; bricks, timber, plastic, glass, metals, bitumen etc. shall be reused/recycled or disposed off as per Solid Waste Management Rules, 2016 and Construction and Demolition Waste Management Rules, 2016.

(iv) Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.

(v) The project proponents shall implement a management plan duly approved by the State Pollution Control Board and obtain its permissions for the safe handling and disposal of:

a. Trash collected in flight and disposed at the airport including segregation, collection and disposed.

b. Toilet wastes and sewage collected from aircrafts and disposed at the Airport.

c. Wastes arising out of maintenance and workshops

d. Wastes arising out of eateries and shops situated inside the airport complex.

e. Hazardous and other wastes

(vi) The solid wastes shall be segregated as per the norms of the Solid Waste Management Rules, 2016. Recycling of wastes such as paper, glass (produced from terminals and aircraft caterers), metal (at aircraft maintenance site), plastics (from aircrafts, terminals and offices), wood, waste oil and solvents (from maintenance and engineering operations), kitchen wastes and vegetable oils (from caterers) shall be carried out. Solid wastes shall be disposed in accordance to the Solid Waste Management Rules, 2016 as amended.

(vii) A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.

(viii) Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

VII. Green Belt:

(i) Green belt shall be developed in area as provided in project details, with native tree species in accordance with Forest Department. The greenbelt shall inter alia cover the entire periphery of the Air Port.

(ii) Top soil shall be separately stored and used in the development of green belt.

VIII. Human health issues:

(i) Construction site should be adequately barricaded before the construction begins.

(ii) Traffic congestion near the entry and exit points from the roads adjoining the airport shall be avoided. Parking should be fully internalized and no public space should be utilized.

(iii) Provision of Electro-mechanical doors for toilets meant for disabled passengers. Children nursing/feeding room to be located conveniently near arrival and departure gates.

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

implemented.

(v) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

(vi) Occupational health surveillance of the workers shall be done on a regular basis.

IX. Miscellaneous:

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

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

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

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

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

(vi) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall

have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholder's / stake holders. The copy of the board resolution in this regard shall be submitted to the SEIAA, Odisha and Regional Office of MoEF&CC, Bhubaneswar as a part of six-monthly report.

(vii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

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

(ix) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

(x) The criteria pollutant levels namely; PM_{10}, $PM_{2.5}$, SO_2, NOx (ambient levels) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

(xi) The project proponent shall inform the SEIAA, Odisha / Regional Office of MoEF&CC, Bhubaneswar, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

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

(xiii) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during their presentation to the State Level Expert Appraisal Committee (SEAC), Odisha.

(xiv) No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA, Odisha.

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

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

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

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

(xix) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts/NGT and any other Court of Law relating to the subject matter.

(xx) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Environmental Scientist, SEAC

F.No.23-122/2016-HSMD
Government of India
Ministry of Environment, Forest and Climate Change
(HSM Division)
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August 29, 2016

OFFICE MEMORANDUM

Sub: Distance criteria for setting up of Treatment Storage and Disposal Facility (TSDF) – Clarification reg.

The subject matter of setting up of Treatment Storage and Disposal Facility (TSDF) for hazardous waste has been examined in the Ministry.

2. In this regard, it is to state that Central Pollution Control Board (CPCB) guidance document - "Criteria for Hazardous Waste Landfill" of 2001 prescribes the locational criteria in terms of distance of location of facilities from lake / pond, river, flood plain, highways, public park etc. Copy of the said guidance document is available on CPCB website.

3. In addition, the additional criteria in terms of distance between TSDFs as prescribed by Ministry's O.M. No.12-30/2013-HSMD dated 20/06/2013 shall also be adhered to for setting up of new projects of common TSDF for hazardous waste in the country. The O.M. mandates that the new project of common treatment facilities within a distance of 400 km radius of the existing TSDFs for hazardous wastes is not permissible.

4. The copy of the O.M. is enclosed herewith for reference.

Encl: as above

(Bishwanath Sinha)
Joint Secretary to the Government of India

Chairman
All SPCBs / PCC as per list enclosed

Copy to: The Chairman, Central Pollution Control Board, New Delhi

MOST IMMEDIATE
BY SPEED POST/ FAX

F.No.12-30/2013 HSMD
Government of India
Ministry of Environment and Forests
(HSM Division)

Room No.738, Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi-110003

Dated: 20th June, 2013

OFFICE MEMORANDUM

Sub: Waste Management in the country – regarding.

The undersigned is directed to forward herewith a copy of the action points emerged during the meeting held on 17th May, 2013 with the representatives of various waste management companies, namely, industrial hazardous waste, bio medical waste and municipal solid waste in the country, under the chairmanship of Dr. V. Rajagopalan, Secretary (Environment and Forests), at the Ministry of Environment and Forests, New Delhi, for your information and necessary action.

(M. Subba Rao)
Director (HSMD)
Telefax: 011-24361410
Email- wowsubbarao@yahoo.co.in

Encl: As above.

To,

1) Shri Ram N. Agnihotri, National Head – IWM,
M/s. Ramky Infrastructure Limited
6-3-1089/G/10 & 11, 1st Floor,
Gulmohar Avenue,
Raj Bhavan Road, Somajiguda,
Hyderabad - 500 082, A.P.

2) Shri Sunil Kumar, GM,
M/s. Ramky Infrastructure Limited,
6-3-1089/G/10 & 11, 1st Floor,
Gulmohar Avenue,
Raj Bhavan Road, Somajiguda,
Hyderabad - 500 082, A.P

Action Points for Waste Management in the Country

A meeting was held with the representatives of various companies, engaged in the business of waste management, namely, industrial hazardous waste, bio medical waste and municipal solid waste in the country under the chairmanship of Dr. V. Rajagopalan, Secretary (E&F) on 17th May, 2013 at MoEF, New Delhi. The meeting was also attended by the representatives of the concerned Government Departments. The list of participants at Annex.

2. The representatives of companies who attended the meeting made presentations covering their present activities in waste management and challenges/problems being faced by them. Subsequently, the issues were discussed in detail.

3. The following action points emerged during the discussions:

(i) The concept of integrated waste management facilities needs to be encouraged. Integrated facilities for treatment and disposal of hazardous waste, bio medical waste and electronic waste in the same premises may be considered so that the infrastructure cost and land resources could be optimized. Similarly, there should be integrated facilities for treating Municipal Waste, composting, waste-to-energy, etc.

(ii) Allowing the treatment and disposal of bio medical waste in the hazardous waste incineration facilities should be examined.

(iii) It was suggested that the co-processing of high calorific/burnable hazardous waste of various industries for which trial runs were carried out by CPCB, in cement, steel, thermal power plants, may be routed through the Treatment, Storage and Disposal Facilities (TSDFs), so that only appropriate hazardous waste is sent for co-incineration. Suggestion was also made for allowing Refused Derived Fuel (RDF) in cement kilns. It was also suggested to consider for allowing POP waste for coincineration after suitable blending/dilution for its destruction. These suggestions be examined in consultation with CPCB for taking a view.

(iv) Delays in granting state subsidies/financial commitments by the concerned State Governments for setting up of TSDFs may be addressed by writing to the concerned SPCBs/PCCs.

(v) Many States do not have TSDFs and delays are being caused for getting permissions for inter-state transportation of hazardous waste. In some States, NOCs are given for inter-state transportation of hazardous waste affecting the viability of TSDFs located within their States. This issue may be examined.

(vi) The common waste treatment facilities are not becoming viable since Industries and Health Care Estbalishments (HCEs) are not sending their waste to such facilities. Hence, third party audit of the Industries and HCEs may be made mandatory by incorporating such provisions in the existing regulatory framework and also by incorporating the same as a condition in the authorizations granted by SPCBs/PCCs to such industries and health care establishments. This would need to be attended to on priority.

(vii) New projects of common treatment facilities within an area of 400 km radius of the existing TSDFs for hazardous wastes and within 150 km radius of the existing bio-medical waste management facilities should not be allowed in order to ensure compliance with the CPCB guidelines. SPCBs/PCCs should give their permissions only after ensuring their compliance with the norms and guidelines of CPCB, particularly relating to distance criteria and considering the need of the area as well as availability of adequate waste in the area for installing common treatment facilities.

(viii) With respect to management of municipal solid wastes, it was informed that the tipping fee payments to waste management companies are very much delayed by the Municipalities. The existing PPP model for municipal waste management doesn't seem to be working well. MoUD may be requested to review the model in consultation with stakeholders.

(ix) With regard to economical viability and sustainability of waste to energy plants (WTE), it was suggested that the power tariffs for waste-to-energy plants may be fixed on line with those applicable for renewables. Also RPO mechanism should be applicable for purchase of power from WTEs. The WTEs should be seen as waste management operations and not electricity generation plants and need the required support of the Government. The matter may accordingly be taken up with the MoUD and MNRE.

(x) It was suggested that demands for compost produced at municipal solid waste treatment and disposal facilities needs to be created. For this purpose, Deptt. of Chemicals & Fertilizers may be requested to implement the recommendations of the Inter-Ministerial Task Force, which recommended that the chemical fertilizer companies should co-market the city compost along with the chemical fertilizers in a basket approach. The Supreme Court has also passed orders based on the recommendations of the above Task Force.

(xi) Since Phosphate Rich Organic Manure (PROM) generated in municipal solid waste compost plants is rich in organic phosphate, it should be brought under the nutrient based subsidy scheme. The Deptt. of Fertilizers may examine this

(xii) Rajasthan State Pollution Control Board (RSPCB) has put the compost plants under red category of industries. The matter be taken up with the RSPCB with a view to promoting setting up of such waste processing facilities.

(xiii) The corpus fund available under the National Clean Energy Fund (NCEF) may be tapped for utilizing it for concessional financing of Waste-to-Energy projects and Integrated Waste Management Projects. A scheme may be formulated to demonstrate this concept by way of a few demo projects keeping in view the need for proper segregation of waste at source for success of these projects.

(xiv) The Master Plans for Towns/Cities should clearly indicate the lands earmarked for setting up of waste management facilities, including the radius of buffer zones required around such facilities.

(xv) The existing regulatory framework on waste management does not cover the solid wastes such as slag from steel industries, etc., which needs to be addressed.

(xvi) The existing regulatory framework also does not cover the management of solid wastes generated from industries other than hazardous industries, such as waste tyres, card boards, debris and construction materials, etc., which need to be addressed.

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Annexure

List of Participants

Sl. No.	Name & Designature	Contacts
1.	Dr. V. Rajagopalan, Secretary (E&F)	In chair
2.	Shri Shashi Sekhar, Addl. Secretary, MoEF	
3.	Shri Ajay Tyagi, Joint Secretary, MoEF	
4.	Shri S. K. Lal, Under Secretary, DIPP	23062906 Sklal@nic.in
5.	Dr. A. B. Akolkar, CPCB	
6.	Shri. O. P. Sharma, Joint Industrial Adviser, D/o Chemicals & Petrochemicals	23061442, 9868160477, opsharma@nic.in
7.	Dr. A. K. Sinha, Plant Protection Adviser, Dte. Of PPQ&S, Faridabad Ministry of Agriculture	2430056 ppa@nic.in
8.	Shri Vipin Bhatnagar, Joint Director (Chemistry), Dte. Of PPQ&S, Faridabad Ministry of Agriculture	9818283340 Vipnagr15@gmail.com
9.	Shri B. R. Mishra, Scientist 'E', MNRE	24368903 9968660066 Mishra.br@nic.in
10.	Shri Shailesh, Deputy Secretary, D/o Agri. & Coop. M/o Agriculture	23382480
11.	Dr. Krishna Bihari, Asstt. Commissioner (INM) D/o Agri. & Coop. M/o Agriculture	23386268
12.	Dr. Rachana Sharma, Manager, ILFS Environment	9818995655 Rachana.sharma@ilfsenv.com
13.	Mr. Mahesh Babu, Managing Director ILFS Environment	011-49691000
14.	Mr. N. B. Majumdar Chief Technical Officer, ILFS Environment	011-49691000
15.	Mr. Dipankar Bhattachary, Dy. Director (Chemistry), Dte. of Plant Protection, Quarantine & Storage, Faridabad Ministry of Agri. & Coop.	0129-2413002 Dipankarb969@yahoo.co

16.	Mr. Bharat Manglani, Bharat Oil & Waste Management Ltd., New Delhi	011 41000710, 2981646[illegible] bharat@bharatoil.com
17.	Mr. Daksha Gupta, Adviser, Shivalik Solid Waste Management Ltd., H.P.	9816022004
18.	Shri Ashok Sharma, CEO, Shivalik Solid Waste Management Ltd., H.P.	9316028131 Ashok.sharma@uplesi.com
19.	Dr. N. K. Pillai, CEO, Kerala Enviro Infrastructure Ltd., Ambulamedu, Kochi, Kerala	0484-3117937 9846618133 drnkpillai@gmail.com
20.	Dr. B. D. Dalwadi, CEO, Bharuch Enviro Infrastructure Ltd, Ankleshwar Enviro Technology Ltd. (ETL) Ankleshwar	02646-253135 9909994950 dalwadibd@uniphos.com
21.	Mr. Tapas Saha, CEO, Synergy Waste Management Pvt. Ltd.	9212310057 tapas@synergyworld.com
22.	Mr. Sanjiv Kumar, GM, Ramky Enviro Engg. Ltd., Hyderabad	9949965282 sksanjiv@ramky.com
23.	Mr. Ram N. Agnihotri, National Head – IWM Ramky Enviro Engg. Ltd., Hyderabad	9963244470 ramnagnihotri@ramky.com
24.	Mr. Shamlal Goyal, Deptt. of Fertilizers	23388481 9999641533 Slg2212@yahoo.com
25.	Dr. M. Subba Rao, Director, MoEF	
26.	Mr. Shard, Deputy Director, MoEF	
27.	Ms. Shubhangi Wankhede, NPC, UNIDO Project	
28.	Shri Rajeev Mishra Assistant Project Coordinator, UNIDO Project	

ANNEXURE- C

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR NETRABANDHA PAHAR IRON ORE BLOCK WITH TOTAL EXCAVATION OF 2.680 MTPA [2.0 MTPA (ROM), OB- 0.680 MTPA] ALONG WITH 2X100 TPH MOBILE CRUSHER IN THE MINE LEASE AREA OF 139.223 HA, LOCATED AT VILLAGE BALADIHI, TEHSIL KOIRA, DISTRICT SUNDARGARH OF M/S. BHUSHAN POWER AND STEEL LIMITED OF SRI RAKESH KUMAR KHANDELWAL – 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-l1013/57/2014-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 m 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) <u>Air quality monitoring and preservation</u>

(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. PM_{10}, $PM_{2.5}$, $NO_{2;}$ CO and SO_2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCl/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 PM_{10} and $PM_{2.5}$ are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from ah 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 supernanted 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) <u>Noise and vibration monitoring and prevention</u>

(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) <u>Mining Plan</u>

(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) <u>Public hearing and human health issues</u>

(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 l4 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) Fe grade -55 and +45 to be attempted to use by blending with higher grade.

(xi) 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.

(xii) 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.

Environmental Scientist, SEAC