

**PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL  
COMMITTEE, ODISHA HELD ON 24<sup>th</sup> SEPTEMBER, 2021**

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The SEAC met on 24<sup>th</sup> September, 2021 at 11:00 AM through Video Conferencing in Google Meet under the Chairmanship of Sri. B. P Singh. The following members were present in the meeting.

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

The agenda-wise proceedings and recommendations of the committee are detailed below.

**ITEM NO. 01**

**PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S URBANYX INFRA PVT. LTD FOR PROPOSED CONSTRUCTION OF B+S+11 STORIED RESIDENTIAL APARTMENT OVER AN AREA OF 1.22AC. OR 4940.074 SQM. LOCATED AT DUMDUMA, BHUBANESWAR, DIST – KHORDA WITH TOTAL BUILT UP AREA- 22987.34SQM OF SRI JAVED AKHTAR (DIRECTOR) - EC**

1. The proposal is for Environmental Clearance of M/s. Urbanyx Infra Pvt. Ltd for proposed construction of B+S+11 Storied Residential Apartment over an area of 1.22Ac. or 4940.074 sqm. located at Dumduma, Bhubaneswar, Dist – Khorda with total built up area- 22987.34sqm of Sri Javed Akhtar (Director).
2. The project falls under category “B” or activity 8 (a)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. M/s Urbanyx Infra Pvt. Ltd. proposes to construct B+S+11 Storied Residential Apartments comprising of 1st Floor-3BHK- 7 Flats, 2nd Floor-3BHK-8 Flats and 3rd Floor to 11th Floor - 3BHK-9x10 = 90 Flats. The project is in Plot No.:- Plot No- 561 and 561/3998/4807. Khata No- 432/2853 and Kissam – Gharabari of Mouza- Dumduma, Bhubaneswar, Dist- Khurda, Odisha.
4. **Location and Connectivity** - The proposed site is located at Dumduma near NH-16 in Bhubaneswar, Odisha. The Geographical co-ordinate of the project site is: Latitude 20° 15' 06.13" N & Longitude 85°47' 24.23" E and is in Toposheet No- F45T15. National Highway-16 is at a distance of 0.4 Km in W direction from the project site. Lingaraj Temple Road Railway Station at a distance of about 3.4 Km in E direction from the project site. Biju Patnaik International Airport at a distance of about 3.13 Km in E direction from the project site.
5. The site is coming under Bhubaneswar Development Authority. The project comprises of comprising of 1st Floor-3BHK- 7 Flats, 2nd Floor-3BHK-8 Flats and 3rd Floor to 11th Floor - 3BHK-9x10 = 90 Flats. Total no. of dwelling units is 105 nos.

6. The total plot area is 4940.074 m<sup>2</sup> (0.5034ha) with total built-up area 22987.34 Sq.mt.
7. The Building Details of The Project:

Particular	Proposed
Project Name	M/s. Urbanyx Infra Pvt. Ltd
Plot Area	4940.074 Sqm.
Ground Coverage	1971.71 sqm (39.91 %)
FAR (Floor Area Ratio)	3.57
Built up Area	22987.34sqm
Maximum Height	39.90 m
Total Parking Area	190.34sqm (3.80 %)
Green Belt Area	3421.6 sqm (21.99 %)
Maximum No. of Floor	<ul style="list-style-type: none"> <li>• 1st Floor - 3bhk of 7 flats</li> <li>• 2nd floor - 3BHK of 8 flats</li> <li>• 3rd to 11 floor – 3BHK of 9×10 Flats each floor-90flats</li> </ul>
Power/Electricity Requirement & Sources	Total - 757 KW Solar - 15 KW
No. of DG sets	200 KVA
Water requirement	60 KLD (Fresh)
Sewage Treatment Plant	STP Capacity - 100 KLD
Total Dwelling Units	105 nos.

8. **Water requirement:** The total fresh water requirement is 60KLD which will be sourced from ground water during operation phase. The Flushing water requirement is 34KLD. Treated waste water re-use for Residential building is 79 KLD from STP and the STP capacity is 100KLD. Fresh water will be extracted from ground water through bore well.
9. **Power requirement:** The total power requirement for the purpose project is 757kW. The power will be entirely supplied by Tata Power Central Odisha Distribution Limited (TPCODL). For this purpose a diesel generator having 200KVA (1 Nos.) capacity will be provided and Stack height of the D.G Set is 42.73. 15kW of solar power will be used for common purpose out of 60 kW meant for common use.
10. **Rain Water Harvesting:** The 5 Nos. of recharge pit is required for harvesting rain water from terrace area, hard paved area and natural ground.
11. **Parking Requirement:** Total parking area required 19000.9 sq.mt./728 ECS will be provided.
12. **Fire fighting Installations:** Fire fighting system will be installed as per recommendation of the Fire fighting Officer, Odisha and as per the provisions given in Part-8 “Building Services, Section-2 Electrical and allied installations” of NBCI-2016 and Section-7 of National Electrical code, 2011. No objection certificate of fire safety recommendation with File No-C-54-2020 is approved by Chief fire officer, fire prevention wing, Director of fire services, Odisha, Cuttack.
13. **Green Belt Development:** An adequate landscape on area of 988.01sq.m. (20.50% of the plot area) inside the project site will be developed.

14. **Solid Waste Management:** The total municipal solid waste generation is 332 kg/day from which organic solid waste is 150 kg/day which is will be composted by vermi composting micro plant and the inorganic solid waste is 182.5kg/day which will be given to BMC.

15. The total population of project will be 105 persons.

16. The estimated project cost is ` 50 Crores and cost for EMP is 152 lakhs.

17. The project proponent along with the consultant **M/s Global Tech Enviro Experts PVT. LTD., Bhubaneswar, Odisha** made a detailed presentation on the proposal.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Global Tech Enviro Experts PVT. LTD., Bhubaneswar, Odisha**, the SEAC decided to take decision on the proposal after receipt of the following information / documents from the proponent followed by visit of the sub-committee of SEAC to the site.

- i) Layout of drainage system and exact distance of project site to nearest drain and outfall of drain.
- ii) Status of NOC from BMC/ appropriate authority for the above drain for sewage disposal to be submitted.
- iii) Proposal to increase in usage of treated waste water in premises and thereby reducing quantity of discharge to drain. Revised water balance to be submitted to meet the zero discharge of water from premises.
- iv) Adequate parking in terms of ECS for dwelling units with locations including compatibility with the proposed parking space provided needs to be submitted in tabular form with % and number.
- v) Basis/norm of space provided for two wheeler and four wheeler in sub-chapter 10.6 of EMP.
- vi) Fire clearance from the appropriate authority need to be obtained and their observations is to be submitted.
- vii) Plan for solar power with exact calculations to be submitted item wise with % of total power to be used.
- viii) Breakup percentage of green belt i.e. tree cover and landscape area in absolute value and percentage of the total area. Green belt need to be all sides of the boundary alongside the boundary instead of only North side as indicated. This is to be confirmed and revised layout to be submitted accordingly.
- ix) Analysis of *E.Coli* content in treated water and fresh water.
- x) DG set location including installation layout and drawing of the chimney its height be submitted.
- xi) Details of rainwater harvesting and recharge pit designs.
- xii) Traffic study by domain expert need to be undertaken at intersecting point with public road.
- xiii) Status of NOC from CGWA and permission from WR department, Govt. Of Odisha to submitted for drawl of required quantity of ground water.

- xiv) Letter from BMC/ appropriate authority to be submitted that they cannot provide water so that ground water Drawl is unavoidable.

## **ITEM NO. 02**

### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S STALWART PROJECTS PVT. LTD. FOR PROPOSED CONSTRUCTION OF B+S/G+8 COMMERCIAL-CUM-RESIDENTIAL APARTMENT & B+S+5 STORIED RESIDENTIAL APARTMENT BUILDING OVER AN AREA OF 4912.80SQM./1.214AC./0.4912HA., LOCATED AT MOUZA-BARAMUNDA BHUBANESWAR, DIST – KHURDA WITH TOTAL BUILT UP AREA-22555.99SQM. OF SRI SHARAT KUMAR SAHU (MANAGING DIRECTOR) - EC**

1. M/s Stalwart Projects Pvt. Ltd. for proposed construction of B+S/G+8 Commercial-cum-Residential Apartment & B+S+5 storied Residential Apartment building over an area of 4912.80sqm./1.214Ac./0.4912Ha., located at Mouza-Baramunda Bhubaneswar, Dist – Khurda with total built up area-22555.99sqm. of Sri Sharat Kumar Sahu.
2. The project falls under category “B” or activity 8 (a)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. The proposed project comprises of B+S/G+8 floors building (Block-A) is coming under “Commercial-Cum-Residential Building” as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Mixed occupancy of “Mercantile-Cum-Residential” building as per NBCI-2016 and the proposed B+S+5 floors building (Block-B) is coming under “Residential Building” as per Odisha Development Authorities (Planning and Building Standards) Rules, 2020 and Residential Apartment (Group-A, Sub-Division A-4) as per NBCI-2016.
4. The proposed building plan (Existing) has been approved by Bhubaneswar Municipal Corporation vide letter no. 89618, dtd. 10.12.2020 having built-up area 19,489.69 sqm (20,000 sqm as per 2006 EIA Notification, Environmental Clearance is not required). Now the proponent is willing to increase the built-up area from 19,489.69 sqm to 22,555.99 sqm. for which Environment Clearance is mandatory.
5. The Environmental Clearance (EC) application has been submitted in line with the MoEF&CC Notification No. S.O 804(E) dtd. 14.03.2017.
6. **Location and Connectivity** - The project will be constructed over Revenue Plot No. – 1483, 1119, 1120, 1118/3115, 1118/2940/5188, 1118, 1118/2950, 1118/2940, 1118/2562, 1484/2563, 1104/2241/6460, 1105/3493, 1105/2619/3401, 1105/3400, 1105, 1105/2285, 1103/2984, 1105/3400/6171, 1105/2619/3401/6172, 1105/2285/3900, 1106&1105/2619 located at - Soubhagyanagar, Mouza- Baramunda, Bhubaneswar, Dist-Khordha. The Geographical co-ordinates of the project site are: Latitude 20°16'10.90"N to 20°16'11.15"N & Longitude 85°48'10.04"E to 85°48'9.26"E and is in Toposheet No - F45T11, F45T12, F45T15 & F45T16. The project site is at a distance of 1.16 KM-N from NH-16/NH-5. Bhubaneswar Railway Station at a distance of about 4.16 Km in E direction from the project site. Project Site is well connected to a network of existing University-Agriculture-Farm Road (S), connected to Jagamara Road and Jagamara –Bramunda Road (W) and connected to Azad Marg Road at a distance of 0.35 km (E). The project site has two gates that serve the dual purpose of entry and exit. The same service road acts as connecting link between one part of the city with the other which is used by the

visitors and tenant. Biju Patnaik International Airport at a distance of about 2.08 Km in SSE direction from the project site. Nearest protected forest is Bharatpur PF – 2.07 km (NE). Nearest Reserve forest is Dasapur RF – 9.91 km (NW). Nearest River is Kuakhai River – 8.80 km (NE) Nearest canal is Daya Canal – 5.04 km (ESE).

7. The Total plot area- 4912.80 sqm or 1.21 Acres or 0.9412 Ha and total super built-up area- 22555.99 sqm. The Building Details of The Project:

Particular	Proposed
Project Name	M/s. Stalwart Projects Pvt. Ltd
Plot Area	4912.80 Sqm.
Ground Coverage	2833.32 sqm (57.7 %)
FAR (Floor Area Ratio)	Block A – 13476.64sqm and Block B – 4068.58sqm = 17605.05sqm
Built up Area	22555.99sqm
Total Parking Area	5037.3sqm
Green Belt Area	725.74 sqm (14.8 %)
Power/Electricity Requirement & Sources	Total - 1167 KW
No. of DG sets	1x400 KVA + 1x320 KVA Transformers – 1x630 KVA + 1x400 KVA + 1x315 KVA
Water requirement	71 KLD (Fresh)
Sewage Treatment Plant	STP Capacity - 100 KLD
Total Dwelling Units	116 nos.

8. **Water requirement:** Water will be sourced from Ground Water sources (Public Health Department). Total Fresh Water requirement will be 72 m<sup>3</sup>/day, whereas Flushing Water requirement will be 39 m<sup>3</sup>/day. Therefore, Total water requirement will be 111 m<sup>3</sup>/day. The quality of water is good conforms to the desirable drinking water standards as per IS 10500. Raw water will treat & recycle the waste water generated from this project. Recycled water will be used within the project area. The treated water recovered from STP will be (70 KLD) recycled and will be used for toilet flushing, for horticulture in the project site and excess 8 KLD of water will be discharged into the Drain.
9. **Power requirement:** The total power requirement for the purpose project is 1167kW. The power will be entirely supplied by Tata Power Central Odisha Distribution Limited (TPCODL). For this purpose a diesel generator having 400KVA (1 Nos.) & 320KVA (1 nos.) capacity will be provided and Stack height of the D.G Set is 34. 15kW of solar power will be used for common purpose out of 60 kW meant for common use.
10. **Rain Water Harvesting:** The 3 Nos. of recharge pit is required for harvesting rain water from terrace are, hard paved area and natural ground.
11. **Parking Requirement:** Total parking area required 5037.3sqm will be provided.
12. **Fire fighting Installations:** All controls and monitoring of fire alarm systems, pressurization systems, smoke management systems shall happen from this room. Fire Command Centre shall have provisions in accordance with Clause-3.4.12 of Part-4, NBCI-2016. Fire Suppression as per NBC-2016.

13. **Green Belt Development:** An adequate landscape on area of 725.74 sqm (14.8 % of the plot area) inside the project site will be developed.
14. **Solid Waste Management:** Solid waste generated from the project shall mainly be MSW (Municipal Solid Waste) approx. 557 kg/day. Total biodegradable waste generated will be 330.5 kg/day & non-biodegradable waste generated will be 227 kg/day. These will be collected in separate coloured bins. Proper waste management practices will be adopted during the collection, storage, and disposal of the generated solid waste, construction and demolition waste.
15. The total population of project will be 116 persons.
16. The estimated project cost is ` 45.06 Crores and cost for EMP is 69.7 lakhs.
17. The project proponent along with the consultant **M/s Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar, Odisha** made a detailed presentation on the proposal.

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

- i) Layout of drainage system and exact distance of project site to nearest drain and outfall of drain.
- ii) Status of NOC from BMC/ appropriate authority for the above drain for STP treated water disposal to be submitted.
- iii) Proposal to increase in usage of treated waste water in premises and thereby reducing quantity of discharge to drain. Revised water balance to be submitted to meet zero discharge of water from premises.
- iv) Adequate parking in terms of ECS for dwelling units with locations including compatibility with the proposed parking space provided needs to be submitted in tabular form with number and %.
- v) Parking space calculated in terms of ECS (both two and four wheelers need to be checked and confirmed. This need to be compatible with the number of dwelling units, commercial complex visitors for both floating population.
- vi) Fire clearance from the appropriate authority need to be obtained and their observations is to be submitted.
- vii) Increase percentage of solar power with exact calculations to be submitted item wise and as % of total power consumption.
- viii) Breakup percentage of green belt i.e. trees and landscape area.
- ix) Mitigation measures to prevent water logging.
- x) Separate entry and exit gates for commercial purpose and residential purpose with bifurcation in parking area.
- xi) DG set location including installation layout and drawing of the chimney its height be submitted.
- xii) Details of rainwater harvesting and recharge pit designs.

- xiii) Letter from BMC/appropriate authority to be submitted and they cannot provide letter so that ground water drawl is unavoidable.
- xiv) Provision of Solar power with detail calculation submitted.
- xv) Status of NOC from CGWA and permission from WR department Govt. of Odisha for drawl of ground water of required quantity submitted.
- xvi) Traffic study by domain expert to be undertaken at the intersection point with public road.
- xvii) Since it is a low laying area, detail proposal and water logging management to be submitted.
- xviii) Structural stability certificate from authorized structural engineer of BDA/BMC for proposed additional floors to be submitted including permission from Airport authority of India for increasing tower height.

### **ITEM NO. 03**

#### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE OF M/S INDIAN METALS & FERRO ALLOYS LTD. FOR MAHAGIRI MINES (CHROMITE) FOR ENHANCEMENT OF CHROMITE MINERAL PRODUCTION CAPACITY FROM 3 LTPA TO 6 LTPA OVER AN MINING LEASE AREA 73.777 HA. LOCATED AT VILLAGE- KALIAPANI, TEHSIL: SUKINDA, DIST: JAJPUR, ODISHA OF SANJEEV DAS (SR. VICE PRESIDENT AND HEAD – MINING BUSINESS UNIT) – 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. As per EIA Notification dated 14th Sep, 2006 as amended from time to time, the project falls under Category “B”, Project or Activity 1(a) – Mining of Minerals.
3. The proposed project is for M/s Indian Metals & Ferro Alloys Ltd. for Mahagiri mines (Chromite) for enhancement of Chromite mineral production capacity from 3 LTPA to 6 LTPA over an mining lease area 73.777 ha. located at Village- Kaliapani, Tehsil: Sukinda, Dist: Jajpur, Odisha of Sanjeev Das (Sr. Vice President and Head – Mining Business Unit).
4. **Site Location and Connectivity** - The lease area falls in the Survey of India Toposheet no. 73 G/16 (F45N16) at latitude 21°01'16.66"N to 21°01'56.83"N and longitude 85°46'24.94"E to 85°47'13.58"E. NH – 200 is at 11.07km from project site. Nearest Road is Tomka-Mangalpur road at 1.29km. The area comprises hilly and undulating terrain. The Daitari hill range is located in the north and the Mahagiri range occupies the southern portions. The central valley portions of the area is drained by Damsal Nala flowing in westerly direction. It forms the main watershed of the study area. The entire drainage originating from Daitari hills in north and Mahagiri in the south join Damsel Nala.
5. Earlier Environmental Clearance for production of 3.0 LTPA was granted by MoEf&CC vide letter no. J-11015/345/2007-IA.II (M) dated 29.10.2012 and by subsequent amendments dated 02.01.2014 (for extension in EC validity for grant of Forest Clearance regarding diversion of 2.47 ha. Of safety zone by 31.01.2015 ) &

- 17.03.2015 (deletion of specific condition (iii) of EC letter dated 29.10.2012 & 02.01.2014) .
6. Mine lease was granted 20.09.2005 for a period of 30 years i.e. 19.09.2035. Lease validity is deemed to be extended upto 19.09.2055 as per amended MMDR, Act 2015.
  7. The latest modified mine plan was approved from IBM vide letter no. MRMP/A/17-ORI/BHU/2020-21 dated 11.08.2021 for the period 2020-21 to 2024-25, the proposed production capacity of 3.0 to 4.5 LTPA from fully mechanized underground mining. But in subsequent year, the proposed production from underground is envisaged to be maximum 6.0 LTPA during next mining plan period i.e., 2025-26 to 2029-30.
  8. At the time of grant of lease, ML area consisted of 66.380 ha. of forest land & 7.397 ha. of non- forest land as per HAL revenue record, but as per Sabik record as on 1980, entire lease area was deemed as forest land for which Stage II Forest Clearance for entire lease area i.e. 73.777 ha had been obtained vide letter no. 8-116/2002-FC (Vol.I) dated 30.10.2018.
  9. NOC from CGWA has been obtained for extraction of 1000 KLD of groundwater vide letter no.21-4(107)/SER/CGWA/2008-1212. Public Hearing was conducted in 15th December 2020.
  10. CTO was obtained from State Pollution Control Board vide letter no. 5353/ind-i-con-5331 dated 27.03.2021 which was valid upto 31.03.2026.
  11. Wildlife Conservation Plan has been approved by Chief Wildlife Warden vide letter no 720/7WL-FD&WLC/209/2020 dated 25.01.2021.
  12. Reserves - Geological Reserves is 17.245 Million Tonnes and Mineable Reserves is 10.267 Million Tonnes (as on 01.04.2021).
  13. Fully mechanized underground mining with drilling and blasting is being done and the same will be done. Drilling is being done by single/double boom jumbo drill & blasting is being done using slurry explosives for development in waste and ore drives.
  14. Crushing/Screening plant with a belt conveyor of 150TPH & Mobile crushing plant of 150 TPH along with screening plant and secondary crusher.
  15. Waste generated from underground is proposed to be used in backfilling of opencast mined-out pit and underground stopes void. Backfilling plant of 100 cum/hr has been installed and is being operated with sand & cement mix for backfilling the underground stopes.
  16. Installation of another vertical shaft of 6m finished diameter from surface to -400mRL. Shaft shall be used for hoisting of ore/waste from underground as well as men and material. It is proposed to install another ventilation shaft from surface to 145 mRL level in the F/w of the ore body in the western lease boundary.
  17. Life of Mine is 27 years, i.e. upto 2051-52 keeping a maximum production level of 6 lakh tonnes per annum from underground mine from FY. 2029-30 and onwards.



18. **Water Requirement:** The proposed water requirement after expansion of the project will be 603 KLD which comprises drinking & domestic water (60 KLD), sprinkling (90 KLD), plantation (143 KLD), underground drilling (150 KLD) & for backfilling plant (160 KLD). The source of water for domestic & drinking purposes will be met from the underground seepage water. CGWA NOC has been obtained for extraction of 1000 KLD of groundwater vide letter no. 21-4(107)/SER/CGWA/2008-1212 dated 12.06.2018 where 10 KLD water abstraction is allowed from the borewell for drinking & domestic purpose while 990 KLD is through dewatering of mine seepage water. Out of 1000 KLD abstracted water, 603 KLD will be used within the mining & allied activities, the rest 430 KLD will be discharged to the natural drainage.
19. **Power Requirement:** The daily consumption of diesel for running machineries & DG sets is 5 KLD and after expansion will be 10 KLD. The diesel will be sourced from the M/s Indian Oil Corporation Limited (IOCL). Total power requirement after the proposed expansion project will be 4.0 MVA and it will be met from the Central Electricity Supply Utility of Odisha (CESU) grid line. A 2000 KVA Substation has been established with 33 KV/433V transformers. Three 750 KVA, D.G. sets have been installed for illumination, ventilation and operation of pumps in case of power failure.
20. **Solid waste Management** - For approx. 1077 workers (Existing 746 & Proposed 331), 161 kg/day of municipal solid waste will be generated. Out of which 64 kg/day of biodegradable waste will be treated in an organic waste converter located within the mine lease & 97 kg/day of recyclable waste will be given to the authorised recycler. Latrines and Toilets are provided within the mine lease.
21. **Employment Potential** - The project will generate 331 manpower for the proposed expansion in the mine apart from existing 746 employees.
22. **Greenbelt / plantation** Total plantation done from year 2006-07 to 2020-21 is 41011nos. and proposed is 1000nos
23. Total Cost of the proposed project will be ` Rs 154.30 Crores.
24. The project proponent along with the environment consultant **M/s Perfect Enviro Solutions Pvt Ltd, New Delhi** made a detailed presentation before the SEAC.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Perfect Enviro Solutions Pvt Ltd, New Delhi**, the SEAC prescribed the following specific ToRs in addition to standard ToRs as per **Annexure – A** for conducting detailed EIA study

- i) Any updated or latest technology is used for treatment and management of hexavalent chromium in effluent or mines run off water, may be elaborated with mechanism and output characteristics. Any previous data if available to be provided also.
- ii) Complete material balance of the whole process occurring in Plant. Material Balance for existing and proposed, overburden waste, ETP and waste land.
- iii) Details of current production.
- iv) Latest EC compliance report and CTO Compliance report.

- v) Brief write up proposed for 6 lakhs production/annum whereas IBM has permitted for 4.5 lakhs/ annum.
- vi) Surface runoff management and details of treatment facility for surface runoff with analysis for Cr+6. The Provision of management of surface runoff from Mahagiri hill entering into the mine lease area.
- vii) STP installation with design.
- viii) Detailed layout showing Damsal Nala from project site.
- ix) Details of Disaster Management for this mine.
- x) Study report of Biodiversity of that area. Maintenance of Biodiversity register.
- xi) Detailed proposal to adopt Zero Liquid Discharge (ZLD) concept.
- xii) Source of waste water. Details of Effluent Treatment Plant for treatment of waste water containing hexavalent chromium and the monitoring mechanism.
- xiii) Mitigative measures to be taken for serious occupational health hazards due to hexavalent chromium - SOP of measures to be undertaken for employees.
- xiv) Analysis result of surface and ground water and soil within study area w.r.t. hexavalent chromium.
- xv) Since, IBM in August 2021 has approved proposed expansion from 3.0 LTPA to 4.5 LTPA underground mining during review mining plan period from 2020-21 to 2024-25, TOR need to restricted to 4.5 LTPA only not beyond. The proponent has to furnish revised approved mining plan for the proposed expansion of production capacity from 3.0 LTPA to 6.0 LTPA.
- xvi) Since CGWA permission expired on 03/06/21, justification/ basis of drawl ground water for domestic use and seepage water be submitted beyond by above date.
- xvii) How much quantity of water is recharged viz-a-viz norm of CGWA.
- xviii) Network of flow of runoff water till main sump at Sukhinda mines of the existing proposed expansion be submitted.
- xix) Design and capacity of Tailing Pond (existing and proposed) including SOP of disposal of sludge be submitted and similarly of ETP as well.
- xx) Permission from the appropriate authority of "Damsala" Nala discharge treated waste water in to it be submitted including chemical analysis of the Said discharge water.
- xxi) How is the waste from underground treated and shown in the returns. Is that below the threshold grade of IBM and if so then the same has to be explained. Treatment also must be explained as per returns
- xxii) Consent to Operate of the SPC Board, Odisha for back filling plant to be submitted.
- xxiii) Botanical garden as per compliance under FC clearance received in 2005 must have been done and the protected forest notification should be attached.
- xxiv) Change of land use from open cast to underground after the same was changed should be attached duly certified by MOEF&CC, Govt. of India.

xxv) Details of crushing and screening plant operating in the mine with their permission status.

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

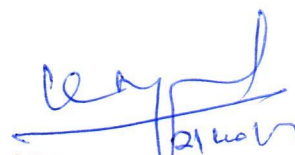
#### **PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR BALANDA STONE QUARRY CLUSTER (1,2,3,5,6,7,8,9,10) OVER AN AREA OF 93.688 ACRES OR 37.915 HECTARES IN VILLAGE BALANDA UNDER LATHIKATA TAHASIL OF SUNDARGARH DISTRICT ODISHA OF SRI PREM KUMAR SAHU - TOR**

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. As per EIA Notification dated 14th Sep, 2006 as amended from time to time, the project falls under Category "B", Project or Activity 1(a) – Mining of Minerals.
3. The proposal is for Balanda Stone Quarry Cluster (1,2,3,5,6,7,8,9,10) over an area Of 93.688 Acres Or 37.915 Hectares In Village Balanda Under Lathikata Tahasil Of Sundargarh District Odisha of Sri Prem Kumar Sahu.
4. The project falls under Category "B1", as per Notification of MOEF & CC vide S.O. No. 3977(E), Appendix- XI, dated the 14th August, 2018.
5. The total area is non-forest land Govt. land comprising of 10 nos. quarry leases covering a total mineralised area of 37.915Hectares or 93.688Acres. The lease area is bounded by Latitude - 22°11'04.80"N to 22°11'37.30"N and Longitude - 84°44'46.6"E to 84°45'52.3"E with Toposheet no. F45G16 (73B/16) and Khata no. 504, 506, 238, 239, Plot No. 1897/P, 1893/P, 2009/P &2010/P,1890/P, 2473/P, 2292/P & 1899/P. Kissam is Parbat.
6. **Connectivity** - The quarry is well connected to District head quarter of Sundargarh District. The nearest Kansbahal Railway Station at a distance of 4.2 km in NW. The nearest airport is Bhubaneswar at a distance of 280 Km. All types of infrastructure facilities such as water, electricity, medical, education etc. are available at Rourkela within a distance of 9 Km. Nearest State Highway is SH 10 at 1.3km and NH 143 is 6.2km. Nearest river is Brahmani river at 6.2km. Nearest Reserve forest is Sogjor RF at 1.7km.
7. The Mining Plan has been approved by Office of the Deputy Director of Mines, Rourkela Circle, Rourkela & Joint Director Geology, Sambalpur. For each of individual Project.
8. The total Geological reserve of cluster area is 9899266.5 Cum and Movable reserve is 5231379.5 Cum.
9. The method of mining is opencast semi-mechanized mining method. Around 38307.2 Cu.m per month will be dispatches from the mine. Total working months are 10 months in a year. The excavated Stone will be directly sent to the nearest stone crusher for crushing. During plan period 232356.8 cum of waste will be generated from the total cluster area. For dumping these waste materials a proposed dump has been suggested in the SE part of quarry area covering an area of 0.082 Ha. Around 40% of waste will be utilized in the development mine haulage road.

10. Out of 37.915 hectares only 15.4001 hectares will be use for mining of stone during plan period.
11. **Water requirement:** The total water requirement will be approx, 6 kilo liters / day for different purposes like Domestic, Dust suppression, plantation purposes.
12. **Power requirement:** the mining operation will be carried out during day time only no electrical power required. Minimal power required for office which taken from the general electric supply of the area.
13. **Green Belt Development:** No. of Tress plantation around the safety zone is 8869nos.
14. A total of 150 workers (Skilled-30nos., Semi-skilled-30nos. and Un-skilled-63 nos.& Mines Manager – 9nos, Supervisor – 9nos and Manager-9nos) will be employed during mining operation..
15. The estimated project cost is ₹ 4 Crores and cost for EMP is 32,74,000 lakhs.
16. The project proponent along with the consultant **M/s Atmos Sustainable Solutions Pvt. Ltd., Noida** made a detailed presentation on the proposal.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Atmos Sustainable Solutions Pvt. Ltd., Noida**, the SEAC prescribed the following specific ToRs in addition to standard ToRs in cluster approach as per **Annexure – B** for conducting detailed EIA study.

- i. Installation of STP of adequate capacity and requisite design.
- ii. Traffic study by domain expert in haulage road and intersecting point with state highway (SH-10) located at 1.3 km distance.
- iii. Green belt in safety zone of each mine and all-round the clusters to be confirmed with details.
- iv. Arrangement of pipeline sprinkling (permanent water line) to be explored and confirmed.
- v. Silt management and SOP for the same to arrest /remedy of silt ingress to surrounding agricultural lands.
- vi. Kisam of land to be submitted.
- vii. Safety measures during blasting including provision of warning to be submitted.

  
SECRETARY, SEAC

Approved  
  
CHAIRMAN, SEAC

**TERMS OF REFERENCE (ToR) FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR M/S INDIAN METALS & FERRO ALLOYS LTD. FOR MAHAGIRI MINES (CHROMITE) FOR ENHANCEMENT OF CHROMITE MINERAL PRODUCTION CAPACITY FROM 3 LTPA TO 6 LTPA OVER AN MINING LEASE AREA 73.777 HA. LOCATED AT VILLAGE- KALIAPANI, TEHSIL: SUKINDA, DIST: JAJPUR, ODISHA OF SANJEEV DAS (SR. VICE PRESIDENT AND HEAD – MINING BUSINESS UNIT) - TOR**

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**A. ADDITIONAL TOR's:**

- i) Project proponent should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after grant of EC.
- ii) Project proponent should submit the revenue plan for mining lease, revenue plan should be superimposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.
- iii) Project proponent should submit the real-time aerial footage & video of the mining lease area and of the transportation route. Project proponent should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and greenbelt development in and around the mining lease. The Project proponent should submit the number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this project proponent should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted. Presently in India there are many agencies which are developing forest in short interval of time. Thus, for the plantation activities details of the experts/agencies to be engaged needs to be provided with budgetary provisions.
- iv) Project proponent should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this project proponent should submit a detailed plan for rain water harvesting measures to be taken. Project proponent should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- v) Project proponent should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this Project proponent should mention the number and designation of person to be engaged for implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted.

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- vi) Project proponent Should submit the year- wise, activity wise and time bound budget earmarked for EMP, occupational health surveillance & corporate Environmental Responsibility. The capital and recurring expenditure to be incurred needs to be submitted.
- vii) Project proponent should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral. Project proponent should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.
- viii) Project proponent should clearly show the transport route of the mineral and protection and mitigative measure to be adopted while transportation of the mineral. The impact from the centre line of the road on either side should be clearly brought out supported with the line source modelling and isopleth. Further, frequency of testing of Poly Achromatic Hydrocarbon needs to be submitted along with budget. Based on the above study the compensation to be paid in the event of damage to the crop and land on the either side of the road needs to be mentioned. The Project proponent should provide the source of equations used and complete calculations for computing the emission rate from the various sources.
- ix) Project proponent should clearly bring out that what is the specific diesel consumption and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.
- x) Project proponent should bring out the awareness campaign to be carried out on various environmental issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.
- xi) The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC Conditions published by the MoEF&CC, Govt. of India. After perusal of Standard EC conditions if agreed, project proponent should also submit an undertaking by the way of affidavit for Compliance of Standard EC conditions already prescribed by the Ministry vide O.M. No and Specific condition if prescribed by the SEAC / MoEF&CC.
- xii) The project proponent should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. Project proponent shall ensure that accreditation of consultant shall be valid during the collection of baseline data, preparation of EIA/EMP report and during the appraisal process. The Project proponent and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and Project proponent and consultant are fully accountable for the same.
- xiii) The project proponent should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this Project proponent should submit the original test reports and certificates of the labs which will analyse the samples.

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## **B. STANDARD TOR FOR MINING PROJECT**

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

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- xi) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
- xii) A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
- xiii) Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
- xiv) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
- xv) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
- xvi) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
- xvii) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
- xviii) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
- xix) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.
- xx) Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining

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Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

- xxi) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report,
- xxii) One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season); December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.
- xxiii) Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre- dominant wind direction may also be indicated on the map.
- xxiv) The water requirement for the project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the project should be indicated.
- xxv) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
- xxvi) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
- xxvii) Impact of the project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
- xxviii) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for

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pumping of ground water should also be obtained and copy furnished.

- xxix) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.
- xxx) Information on site elevation, working depth, groundwater table etc. should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.
- xxxi) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase- wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
- xxxii) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
- xxxiii) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
- xxxiv) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
- xxxv) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre- placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
- xxxvi) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
- xxxvii) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
- xxxviii) Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
- xxxix) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same

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should be provided and also incorporated in the final EIA/EMP Report of the Project.

- xl) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- xli) The cost of the project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- xlii) A Disaster Management plan shall be prepared and included in the EIA/EMP report.
- xliii) Benefits of the project if the project is implemented should be spelt out. The benefits of the project shall clearly indicate environmental, social, economic, employment potential etc.
- xliv) Activity-wise time-bound action plan on the issues raised and commitment made during public hearing to be submitted as part of the final EMP Report in compliance of the Ministry's OM F.No.22-65/2017- IA.III dated 30th September, 2020

**C.** Besides the above, the below mentioned general points are also to be followed: -

- a) All documents to be properly referenced with index and continuous page numbering.
- b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
- c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
- d) Where the documents provided are in a language other than English, an English translation should be provided.
- e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
- f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J-11013/41/2006- IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
- g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
- h) As per the circular no. J-11011/618/2010-IA.II (I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
- i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections

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and (iii) Sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

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

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**TERMS OF REFERENCE FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY IN CLUSTER APPROACH AND INFORMATION TO BE INCLUDED IN THE EIA/EMP REPORT FOR BALANDA STONE QUARRY CLUSTER (1,2,3,5,6,7,8,9,10) OVER AN AREA OF 93.688 ACRES OR 37.915 HECTARES IN VILLAGE BALANDA UNDER LATHIKATA TAHASIL OF SUNDARGARH DISTRICT ODISHA OF SRI PREM KUMAR SAHU - (TOR FOR CLUSTER APPROACH)**

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1. Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
2. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
3. Name and area of other mines within 500 meter of the lease area.
4. All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
5. All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/Topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
6. Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
7. Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
8. It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
9. Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
10. The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

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

indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.

21. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
22. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
23. One season (non-monsoon) [i.e. March - May (Summer Season); October - December (post monsoon season) ; December - February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.
24. Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
25. Environment Impact Assessment / Environment Management Plan document shall be in accordance with the provisions & generic structure stipulated in the EIA Notification 2006 dated 14.09.2006 & subsequent amendments.
26. EIA-EMP document shall be based on the maximum achievable mineral extraction of the mine and according to the impact of mines in cluster (within 500m) of the said mine.
27. EIA-EMP document shall include complete profile of the all the Project Proponent, implementing organization of mines in cluster (within 500m) of the said mine.
28. EIA-EMP document shall corer land description of project site (plot/survey / khasara number, village, tehsil, district, state & extent of land involved), of mines in cluster (within

500m) of the said mine.

29. EIA-EMP document shall include deposit conditions working depth mining scheme, details of machinery, backfilling of mine pit with type of blasting, drilling and explosives.
30. The general features such as surface drainage, mineral transportation and process flow of beneficiation plant, power and water supply shall be indicated.
31. The baseline environmental status within 10km radius from the boundary limit of mining lease area (buffer zone) and core zone with respect to air, water, noise and soil shall be covered of mines in cluster(within 500m) of the said mine.
32. Baseline data generation for one season (post monsoon) with respect to air, water, noise and soil shall be generated on the same sampling locations for obtaining EC
33. EIA-EMP document shall include land use pattern including agriculture, forest land, water bodies and settlements.
34. Existence of National Park, Wild Life sanctuary, migratory routes of wild animals within 10 km of mine lease area shall be brought out.
35. Topographical map of study area (core & buffer zone -10 km from the boundary of core zone) showing major topographical features shall be included.
36. EIA-EMP document shall include biological environment (flora and fauna) and socio-economic environment within the study area.
37. EIA-EMP document shall include anticipated impacts on land, air, noise and water environment and the mitigation measures of mines in cluster (within 500m) of the said mine.
38. Environmental Monitoring Programme and the environment management plan shall also be covered measures of mines in cluster (within 500m) of the said mine.
39. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
40. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
41. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
42. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
43. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.



44. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
45. Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.
46. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
47. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
48. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
49. Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
50. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
51. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
52. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
53. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
54. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

55. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
56. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
57. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
58. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
59. Besides the above, the below mentioned general points are also to be followed
  - a) All documents to be properly referenced with index and continuous page numbering.
  - b) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
  - c) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
  - d) Where the documents provided are in a language other than English, an English translation should be provided.
  - e) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
  - f) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF vide O.M. No. J- 11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
  - g) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
  - h) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
  - i) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.
60. **The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP report.**