

**PROCEEDINGS OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL
COMMITTEE, ODISHA HELD ON 24th JUNE, 2021**

The SEAC met on 24th June, 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 (through VC) |
| 2. Dr. K. Murugesan | - | Secretary (through VC) |
| 3. Dr. D. Swain | - | Member (through VC) |
| 4. Prof. (Dr.) P.K. Mohanty | - | Member (through VC) |
| 5. Prof. (Dr.) H.B. Sahu | - | Member (through VC) |
| 6. Sri. J. K. Mahapatra | - | Member (through VC) |
| 7. Sri. K. R. Acharya | - | Member (through VC) |
| 8. Prof. (Dr.) B.K. Satpathy | - | Member (through VC) |
| 9. Dr. K.C.S Panigrahi | - | Member (through VC) |
| 10. Dr. Sailabala Padhi | - | Member (through VC) |
| 11. Dr. S.K. Patnayak | - | Member (through VC) |

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

ITEM NO. 01

PROPOSAL OF ENVIRONMENTAL CLEARANCE OF M/S D.N HOMES PVT LTD. FOR CONSTRUCTION OF RESIDENTIAL COLONY PROJECT OVER TOTAL BUILT UP AREA 1,60,069.25 M² & PLOT AREA 23,216.62 M² (5.736 Acres.) AT - SUNDARPUR, TAHASIL – BHUBANESWAR, DISTRICT – KHORDHA OF SRI RATNAMALA SWAIN (DIRECTOR) – EC.

1. This is a proposal for Environmental Clearance of M/s D.N Homes Pvt Ltd. for construction of Residential colony project over total built up area 1,60,069.25 m² & plot area 23,216.62 m² (5.736 acres) at – Sundarpur, Tahasil – Bhubaneswar, District – Khordha of Sri. Ratnamal Swain.
2. The project falls under category “B” or activity 8 (b)-Township and Area Development projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. M/s D.N Homes Pvt. Ltd. is the developer of Residential colony project located at Hal Plot No. 192, 193,194 and 204 corresponding to sabaka plot no - 740/1412 and Hal Plot No.-184 corresponding to sabaka plot No- 740, Hal Plot no. 181 corresponding to sabaka plot no. 764/1063 and Hal plot no. 180, 180/3470, 179 corresponding to sabaka plot no. 764/1060, Mouza- Sundarpur, Tehsil & District-Khurda, Bhubaneswar, Odisha on a land measuring 5.736 acres or 23,216.62 m². The net plot area is 22,048.62 m².
4. ToR was granted to the project vide letter no. 671/SEIAA dated 26th Feb.,2021.
5. The site is coming under development plan of Bhubaneswar Development Authority. There are total 5 Towers i.e. Residential (Tower A to E) having 4 BHK & 3 BHK and one Commercial (Tower F) having Shops, Restaurant, Business Centre, Service apartment & Club. The project has 2 basements and 31 floors (2B+G+31).

6. **Location and Connectivity** - The plot area of the project site is 23,686.05 m² (or 5.853 acres). The coordinates of the area is Latitude - 20°20'57.86"N and Longitude - 85°46'12.45"E. The site has good connectivity to Khandagiri-Chandaka Road. The nearest railway station is Bhubaneswar New Railway Station approx. 7.5 km from the project site and Biju Patnaik International Airport is at a distance of approx. 9.5 km from the project site. Nearest National Highway is NH 5 at a distance of 8.0km. Nearest town is Aryapalli –2.7 km. Nearest city is Bhubaneswar is 9 km. Nandankanan Wildlife Sanctuary lies at a distance of Approx. 5.6 km (NW) and Chandaka Dampara Wildlife Sanctuary lies at a distance of Approx. 0.02 km (NW).
7. The maximum height of the building will be 109.4 m. AAI NOC for the same has been obtained.
8. The Detailed Area Statement of the project is mentioned in the table:

| SI. NO. | PARTICULARS | AREA (SQ.M.) |
|------------|--|--------------------|
| 1. | Total Plot area | 23,216.62 |
| 2. | Plot Affected by Road | 1,168.00 |
| 3. | Net Plot Area | 22,048.62 |
| 4. | Permissible Ground coverage (@40%) | 8,819.448 |
| 5. | Proposed Ground coverage @ 23.79 % of net plot area) | 5,247.46 |
| 6. | Permissible F.A.R (@ 7 of plot area) | 1,62,516.34 |
| 7. | Proposed F.A.R (@ 4.906 of plot area) | 1,08,182.43 |
| | a. Residential F.A.R | 1,03,700.16 |
| | b. Commercial Area | 3,087.47 |
| 8. | Club | 1,345.80 |
| 9. | Guard Room | 33.00 |
| 10. | Temple | 16.00 |
| 11. | Non F.A.R | 14,796.58 |
| 12. | Basement Area | 37,090.24 |
| 10. | Total Built-up Area (7+8+9+10+11+12) | 1,60,069.25 |
| 11. | Maximum Height of the Building (m) (2B+G+31) | 109.4 |
| 12. | Landscape area (33.98 % of net plot area) | 7493.15 |
| 13. | Total Population | 5167nos |

9. **Green Belt** - Total green is 7,493.15 m² i.e. 33.98 % of the plot area. No. of trees proposed to be planted = 285 trees.
10. **Power Requirement** - Total power requirement for the proposed project will be 4845 kW Source: CESU which will be sourced from Odisha Power Transmission Corporation Limited. Total 4 nos. of DG sets total 6020 kVA (2x2000 kVA+2x1010 kVA) capacity for power back up in the residential block and the services and annexure block. Silent DG sets (Radiator cooled). Separate generator yard will be constructed for the residential block.
11. **Water Requirement** - The total water requirement will be met through Ground water and Bore well which is approx. 582 KLD, out of which total domestic water requirement is 529 KLD. The total domestic water will be 529 KLD, out of which fresh water requirement is approx. 347 KLD & flushing water will 183 KLD. Makeup water for swimming pool will be 1KLD.

12. **Wastewater Generation:** The project will generate approx. 460 KLD of wastewater. The wastewater will be treated in an onsite STP of 560 KLD capacity. The treated water (414 KLD @ 90% of total waste water) will be reused for flushing (183 KLD), horticulture (30 KLD) & Filter backwash (22 KLD). Surplus treated water during dry season (179 KLD), monsoon season (205 KLD) and winter season (196 KLD) will be discharged to external sewer with the requisite permission.
13. **Solid waste Generation:** The project will generate approx. 2147 kg/day of solid waste which will be collected from household units as domestic waste in coloured bins. The local vendors will be hired to provide separate-coloured bins for dry recyclable and Bio-Degradable waste. Litter bin will also be provided in open areas like parks etc. Biodegradable waste will be composted in Organic Waste Converter and Non-biodegradable Waste generated will be disposed through Govt./CPCB approved vendors.
14. **Parking Area:** Total parking area requirement will be 32,763 m² and provision will 33,912.32 m² and Total Parking i.e., 1,067 ECS will be provided.
15. Proposed energy saving measures Solar energy will be harnessed to meet various energy requirements of the project such as:
 - Solar street lights.
 - Solar blinkers.
 - Roof top SPV (Solar Photo voltaic) systems with or without grid interaction.
16. Baseline data collection for the project has been conducted from period October – 2020 to December 2020.
17. 6 nos. of Rain water harvesting pits had been proposed under Rain water harvesting system.
18. Fire fighting Installations will be installed as per recommendation of the Fire fighting Officer, Odisha and as per the guideline of NBC.
19. The total estimated population of the project will be 5167 persons (including Residents +staff +visitors).
20. The total estimated cost of the project is approximately INR ` 120 Crores including land and construction.
21. The consultant **M/s Grass Roots Research & Creation India (P) Ltd. Noida (UP)** along with the proponent have made a detailed presentation on the EIA/EMP report.
22. During the presentation, the members raised certain information / documents to the proponent to comply. The project proponent has furnished compliances to the queries raised during SEAC, Odisha meeting and same has been verified as follows:

| Sl. No. | Information Sought by SEAC | Compliance furnished by the proponent |
|---------|--|--|
| (i) | Permission letter from government or acquisition of land for disposal of treated waste water from project site to nearest municipality drain | Regarding connection of project's open drain, we have obtained the permission from R&B department, Govt. of Odisha granting us Right of Way (ROW) to lay the drain along the side of Govt. road. We will not encroach upon the private |

| Sl. No. | Information Sought by SEAC | Compliance furnished by the proponent |
|---------|--|---|
| | | land adjacent to the road for construction of this drain to avoid the any kind of litigation in future. This drain will be eventually connected to the existing R&B drain in the lower contour |
| (ii) | Increase in number of trees within the green belt area for more usage of treated water and less disposal to municipality drain | To create a dense green belt around the project boundary, we will be following close spacing of 2mx2m wherever possible. The 3 tier hierarchical plantation methodology will be adopted in staggered manner. This method may accommodate upto 600 trees in the land provided for green belt |
| (iii) | Detailed calculation of ECS (Residential+ Commercial+ Visitors) in Tabulated form along with layout plan for parking area | Details showing Residential, Commercial and visitors parking is attached as Annexure-I . Total Parking Space Provided – 1045ECS or 3333.8sqm |
| (iv) | Reduction in numbers DG sets usage, with higher capacities | The total electric load is 4845 kVA. DG sets proposed earlier were = 2*2000 kVA & 2*1010 kVA. DG sets capacity has been reduced as 1*2000 kVA and 1*1010 kVA and will be kept at a suitable location depending on predominant wind direction so that the vent gases do not enter to the rooms and other area of the site |
| (v) | Revised application for 582 KLD from CGWA and WR Deptt, Govt. of Odisha respectively for drawl of ground water | Our total requirement of water for the project is 582 KLD. Out of which, 347 KLD as fresh make up water will be extracted from Ground water source. Due to typographical mistake, we have applied & obtained the NOC for 327.96 KLD vide letter no:CGWA/NOC/INF/ORIG/2021/11074 dated 23/02/2021 and valid till 22/02/2026. This is sufficient to meet 95% fresh water demand of the project. To cover-up the requisite quantity, we will subsequently revise the NOC from CGWA before seeking water allocation permission from Water Resource Department, Govt. of Odisha. As there is COVID-19 Pandemic, the process is getting delayed. We will get the permission for balance quantity before 100 % occupancy |
| (vi) | As advised during TOR as well as EC presentation, the proponent need to confirm the reduced no. of DG sets | The total electric load is 4845 kVA. DG sets proposed earlier were = 2*2000 kVA & 2*1010 kVA. |

| Sl. No. | Information Sought by SEAC | Compliance furnished by the proponent |
|---------|---|---|
| | and the corresponding capacities to arrest intensity of emissions. Installation drawing of chimney stacks of the respective DG sets with locations and desired heights as per CPCB norm be submitted | DG sets capacity has been reduced as 1*2000 kVA and 1*1010 kVA and will be kept at a suitable location depending on predominant wind direction so that the vent gases do not enter to the rooms and other area of the site |
| (vii) | Detail plan with calculations towards solar power need to be submitted | <p>The amount of solar power will be generated by photo voltaic cell frame installed on the terrace of various buildings of the project.</p> <p>The power generated from solar source will be utilized in common area lighting & other utilities.</p> <p>The total energy saving will be 20% (969 kVA) of total power load (4845 kVA). Breakup of the same is as follows:</p> <ul style="list-style-type: none"> • 5% (242.25 kVA) energy of total power load from solar lighting will be done in the common areas, stair cases, landscape areas, signage, entry/exit gates and boundary walls. • 10% (484.5 kVA) will be through LEDs will be used in all Dwelling Units. • 5% (242.25 kVA) will also be through LED in outdoor and common areas. <p>An undertaking for the same is attached as Annexure-II.</p> <p>Details of Solar energy saving are attached as Annexure- III.</p> |
| (viii) | Permission (NOC) from CGWA for use of ground water obtained is less than the projected requirement. Therefore, permission for differential additional quantity be sought and a copy of the application for the same be submitted. Permission for the required quantity of ground water also need to be sought from Water Resource Deptt., Govt. of Odisha and copy of the application for the same be submitted | <p>Our total requirement of water for the project is 582 KLD. Out of which, 347 KLD as fresh make up water will be extracted from Ground water source. Due to typographical mistake, we have applied & obtained the NOC for 327.96 KLD vide letter no:CGWA/NOC/INF/ORIG/2021/11074 dated 23/02/2021 and valid till 22/02/2026. This is sufficient to meet 95% fresh water demand of the project.</p> <p>To cover-up the requisite quantity, we will subsequently revise the NOC from CGWA before seeking water allocation permission from Water Resource Department, Govt. of Odisha.</p> <p>As there is COVID-19 Pandemic, the process is getting delayed. We will get the permission for balance quantity</p> |

| Sl. No. | Information Sought by SEAC | Compliance furnished by the proponent |
|---------|--|--|
| | | before 100 % occupancy |
| (ix) | 'ROW' / Possession shall be obtained by the project proponent for the land in which the drain will be constructed from the premises of the project proponent till it joins the main drain of R&B Deptt., Govt. of Odisha. Drawing for this portion of the drain network with cross-section and dimension be submitted. The proponent need to indicate the system to which ultimately the R&B drain is connected. An undertaking in form of a notarized legal Affidavit shall be submitted by the project proponent to have the possession of the land for the above purpose either in form of purchase of land or "ROW" to avoid any future litigation | Regarding connection of project's open drain, we have obtained the permission from R&B department, Govt. of Odisha granting us Right of Way (ROW) to lay the drain along the side of Govt. road. We will not encroach upon the private land adjacent to the road for construction of this drain to avoid the any kind of litigation in future. This drain will be eventually connected to the existing R&B drain in the lower contour. |
| (x) | To workout and submit the additional no. of trees to be planted to reduce the quantity of treated waste water discharge to the drain and indicate the quantity of waste water discharge that can be reduced | To reduce discharge of treated water to open drain, we will rather use more water for higher number of trees likely to be planted in the project site in the green belt area and also use this treated water for Car wash, floor wash etc. |

Considering the information furnished and the presentation made by the consultant, **M/s Grass Roots Research & Creation India (P) Ltd. Noida (UP)** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 7 years with stipulated conditions as per **Annexure – A** in addition to the following specific conditions.

- i) The Sub-Committee of SEAC will visit the site within 6 months from the date of issue of Environmental Clearance to verify the progress of the project as well as conditions stipulated in Environmental Clearance. However, either during the visit of the SEAC Sub-committee and/or at any time, if it is noticed that stipulated conditions on which Environmental Clearance is granted is not in place or found otherwise, steps will be taken for revocation of EC.
- ii) As proposed, the proponent shall reduce the capacity of DG sets to 1x2000 kVA and 1x1010 kVA from DG sets of capacity 2*2000 kVA & 2*1010 kVA. These DG sets shall be kept at a suitable location depending on predominant wind direction so that the vent gases do not enter to the rooms and other area of the site.
- iii) The proponent shall obtain permission from CGWA and WR Deptt, Govt. of Odisha respectively for drawl of ground water of 582 KLD.
- iv) The proponent shall use solar energy of 5% as proposed.
- v) Trees located within the project area shall be de-rooted and re-rooted / transplanted to alongside the boundary green development area instead of cutting. If there will be any

tree cutting required, requisite permission for the same shall be obtained from the Forest Department.

- vi) To reduce discharge of treated water to open drain, the proponent shall use more water for increased number of trees proposed to be planted in the green belt area & shall also utilize this treated water for car washing, floor washing to minimize the surplus discharge to drain.

ITEM NO. 02

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR RESIDENTIAL PROJECT OVER AN AREA 1.06 ACRES LOCATED AT MOUZA BIDYADHARPUR IN THE DISTRICT OF CUTTACK, ODISHA BY M/S. JMG LIFESTYLE PVT. LTD. WITH TOTAL BUILT-UP AREA IS 21663.8 SQ.MT OF SRI SANDEEP AGARWAL - EC

1. The proposal is for Environmental Clearance of Residential project over an area 1.06 acres located at Mouza - Bidyadharpur in the district of Cuttack, Odisha by M/s. JMG Lifestyle Pvt. Ltd. with total built-up area is 21663.8 Sq.mt of Sri Sandeep Agarwal.
2. The project falls under category “B” or activity 8 (a)-Building and Construction projects under EIA Notification dated 14th September 2006 as amended from time to time.
3. M/s JMG Lifestyle Pvt. Ltd. is located at Khata No.- 10-D1, 941/471 Plot No.- 1240/1696, 1240/3043, 1241/3042 Bidyadharpur, District- Cuttack, Odisha on a land measuring 1.06 acres or 4,273.50 m²
4. The geographical co-ordinates of the project site is: Latitude -20° 27’ 4.53” N to 20° 27’ 7.27” N & Longitude - 85° 55’ 12.97”E to 85° 55’ 15.41”E . Nearest Highway: -NH-42 (approx. 8.0 km towards NNW direction), SH-60 (approx. 10.5 km towards SSW direction), SH-12 (approx. 0.1 km towards SSW), SH-9A (approx. 5 km towards NNE) & NH-5 (approx. 2 km towards WNW) from project site. Nearest Railway Station: - Cuttack Railway Station which is approx. 2.5 km towards NW direction from the project. Nearest Airport: - Biju Patnaik International Airport at 24.5 km towards SSW direction from project site.
5. The site is coming under development plan of Cuttack Development Authority. The project comprises of the following: Building 1 (basement and G+18 floor), Building 2 (Triplex apartment 1 with G+3rd Floor, Triplex Apartment 2 with G+3rd Floor & Triplex Apartment 3 with G+3rd floor).
6. The Building Details of the Project:

| S. No. | Description | Area (m ²) |
|--------|--|------------------------|
| i. | Plot area | 4273.50 |
| ii. | Permissible Ground Coverage (@40% of plot area) | 1709.4 |
| iii. | Proposed Ground Coverage (@ 35.73% of plot area) | 1526.77 |
| iv. | Permissible FAR (@ Base FAR @ 2.00, maximum permissible FAR @ 7.0) | 7.0 |
| v. | Proposed FAR (@ 3.53%) | 15070.97 |
| vi. | Non-FAR Area and services | 3288.28 |

| | | |
|-------|-------------------------------------|-------------|
| vii. | Basement Area (Building 1) | 3304.55 |
| viii. | Total Built-up area | 21663.8 |
| ix. | Landscape area @33.2% of plot area) | 1418.8 |
| x. | Height of the tallest building (m) | 59.4 |
| xi. | Estimated Population | 738 persons |

7. **Water requirement:** The water requirement for the project will be met through Bore well. The total water requirement for the project is approx. 85 KLD, out of which total domestic water requirement is 80 KLD. The total fresh water requirement is approx. 81 KLD.
8. **Waste water details:** It is expected that the project will generate approx. 70 KLD of wastewater. The wastewater will be treated in an onsite STP of 85 KLD capacity (SBR Technology). The treated effluent will be reused for flushing, horticulture. Surplus treated effluent will be discharged to external sewer with the requisite permission.
9. **Power requirement:** The requirement load for the project will be approx. 1193 kVA with Transformer capacity of 1430 kVA will be supplied from TP Central Odisha Distribution Limited (TPCODL). Power Backup: Provision of 2 nos. of DG sets total 400 kVA (1*200 kVA+1*200 kVA) capacity for power back up in the residential block and the services and annexure block. The DG sets will be equipped with acoustic enclosure to minimize noise generation and adequate stack height for proper dispersion.
10. **Rain Water Harvesting:** Rain Water will be harvested through 4 nos. of recharging pits.
11. **Parking Requirement:** Adequate parking i.e 3948.84 m² for 123 ECS in basement & 963.72 m² in Stilt & surface for 33 ECS) provision will be kept for vehicles parking in the project.
12. **Firefighting Installations:** Firefighting system will be installed as per recommendation of the Firefighting Officer, Odisha and as per the guideline of NBC (part-4).
13. **Green Belt Development:** Total green area measures 1418.8 m² i.e. (33.2 % of the net plot area).
14. **Solid Waste Management:** The total solid waste generation will be 311 kg per day.
15. The total population of project after proposed will be 738 persons.
16. The estimated project cost is ` 46.38 Crores
17. The project proponent along with the consultant **M/s Grass Roots Research & Creation India (P) Ltd** made a detailed presentation on the proposal.
18. During the presentation, the members raised certain information / documents to the proponent to comply. The project proponent has furnished compliances to the queries raised during SEAC, Odisha meeting and same has been verified as follows:

| Sl. No. | Information Sought by SEAC | Compliance furnished by the proponent |
|---------|---|---|
| (i) | Permission letter from CMC for disposal of treated waste water from project site to | We have already submitted application to CMC for grant of |

| Sl. No. | Information Sought by SEAC | Compliance furnished by the proponent |
|---------|---|---|
| | nearest municipality drain | NOC for discharge of treated waste water to the CMC drain passing by the rear side of the project. Front side of the project does not have the drain by CMC or by R & B, Govt. of Odisha. The NOC from CMC will be submitted in due course of time. |
| (ii) | Detailed calculation for solar energy consumption | This amount of solar power will be generated by photovoltaic cell that will be installed on terrace of various building of the project. The power generated from solar cell will be utilized in common area lighting. An undertaking for the same is attached as Annexure-I. Details of Solar energy saving are attached as Annexure- I . |
| (iii) | Detailed calculation of ECS (Residential+ Commercial+ Visitors) in Tabulated form along with layout plan for parking area | Layout with visitor parking is attached as Annexure-II |
| (iv) | Revised application for 81 KLD from CGWA and WR Deptt, Govt. of Odisha respectively for drawl of ground water | As fresh water requirement for the project is 54 KLD in the form of make-up water from ground water source. Due to typographical error, we have applied and obtained NOC for 42.21 KLD vide letter no. CGWA/NOC/INF/ORIG/2021/12106 dated 21.06.2021 valid up to 20.06.2021. This is sufficient to meet 80% fresh water demand of the project. To cover-up the balance 12 KLD, we will subsequently revise the NOC from CGWA. As there is COVID-19 Pandemic, the process is getting delayed. We will get the NOC before commencement of the project & prior to submission of application to Water Resource Department, Govt. of Odisha for allocation of 54 KLD water. |
| (v) | Explore the possibility of taking water from Taladanda canal instead of ground water | As per standing practice in Cuttack town, the irrigation water of Taladanda canal is not being utilized for drinking purpose. However, we will again explore possibility of getting the permission from appropriate authority to source this surface water for our project. Till then we will depend on ground |

| Sl. No. | Information Sought by SEAC | Compliance furnished by the proponent |
|---------|--|--|
| | | water, for which we have already obtained NOC from CGWA |
| (vi) | Microbial estimation of treated and fresh water | Microbial load in parameters of non- treated & treated water is attached as Annexure-III. |
| (vii) | Increase no. of tress plantation in green belt area and tress uprooted in project site should be transplanted with green belt | To create a dense green belt around the project boundary. We will follow the close spacing of 2mX2m whereas possible. The 3-tier hierarchical plantation methodology will be adopted in staggered manner. This method may accommodate upto 200 trees in the land provided for green belt |
| (viii) | The project proponent has stated that the "Kisam" of the land is being changed from "Patita" to "Gharabari". Therefore, an undertaking in form a legal / notarised Affidavit is to be submitted for conversion of the land from appropriate revenue authority to "Gharabari" before starting the construction of the project | Almost 99% of land has been converted to Gharabari. Only small patch of the land is in process of conversion to Gharabari after depositing the requisite fee on receipt of ROR with Gharabari. The same shall be submitted to SEAC/SEIAA within due course of time |
| (ix) | As committed by the proponent during the presentation, 05 nos of trees, instead of cutting, shall be de-rooted and re-rooted / transplanted to alongside the boundary green development area | As suggested by SEAC committee we will try hard to retain the trees at the site premises. But, as per site layout if there will be any tree cutting required, a requisite permission for the same will be obtained from Divisional Forest Office, Odisha. |
| (x) | The PP should submit the details to reduce the treated water discharge by utilizing in car washing & increased number of trees. | To reduce discharge of treated water to open drain we will rather use more water for increased number of trees proposed to be planted in the green belt area & will also utilize this treated water for car wash, floor wash to minimize the surplus discharge to drain. We propose to reuse the STP treated water for following additional purpose as per the advice of SEAC. |

Considering the information furnished and the presentation made by the consultant, **M/s Grass Roots Research & Creation India (P) Ltd. Noida (UP)** along with the project proponent, the SEAC recommended for grant of Environmental Clearance valid for 7 years with stipulated conditions as per **Annexure – B** in addition to the following specific conditions.

- i) The Sub-Committee of SEAC will visit the site within 6 months from the date of issue of Environmental Clearance to verify the progress of the project as well as conditions

stipulated in Environmental Clearance. However, either during the visit of the SEAC Sub-committee and/or at any time, if it is noticed that stipulated conditions on which Environmental Clearance is granted is not in place or found otherwise, steps will be taken for revocation of EC.

- ii) The proponent shall obtain permission from Cuttack Municipal Corporation (CMC) for discharge of treated waste water to the CMC drain passing by the rear side of the project.
- iii) The proponent shall obtain permission from CGWA and WR Deptt, Govt. of Odisha respectively for drawl of ground water.
- iv) The proponent shall use solar energy of 5% as proposed.
- v) The proponent shall explore the possibility of taking water from Taladanda canal instead of ground water.
- vi) Trees located within the project area shall be de-rooted and re-rooted / transplanted to alongside the boundary green development area instead of cutting. If there will be any tree cutting required, requisite permission for the same shall be obtained from the Forest Department.
- i) To reduce discharge of treated water to open drain, the proponent shall use more water for increased number of trees proposed to be planted in the green belt area & shall also utilize this treated water for car washing, floor washing to minimize the surplus discharge to drain.

ITEM NO. 03

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR EXTENSION OF ENVIRONMENTAL CLEARANCE FOR HATIBEDA STONE QUARRY – I OVER AN AREA OF 3.16 ACRES OR 1.278 HA. ATA VILLAGE HATIBEDA, TAHASIL – PAPADHANDI, IN THE DISTRICT OF NABARANGPUR OF SRI DIBAKAR BISOYI (01.04.2020 TO 26.05.2017) - EXTENSION of EC.

The project proponent didn't attend the meeting. The Committee decided to defer the proposal to next meeting.

ITEM NO. 04

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR CONSTRUCTION OF PROPOSED INCOME TAX RESIDENTIAL HOUSING COMPLEX OF INCOME TAX AUTHORITY LOCATED AT GADAKANA, BHUBANESWAR, DIST-KHURDA WITH TOTAL BUIT UP AREA- 20548 SQ.MT OF SR. SAROJ KUMAR MOHAPATRA – EC

1. The proposal is for Environmental Clearance for construction of proposed Income Tax Residential Housing complex of Income Tax Authority located at Gadakana, Bhubaneswar, Dist-Khurda with total buit up area- 20548 sq.mt of Sr. Saroj Kumar Mohapatra.
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 Income Tax department is proposing to construct housing complex for staff Quarters and other amenities for employees at Gadakana, Bhubaneswar over an area of 5.0 acres

(20234.28 Sq.M) on Plot No. 29 (PT), 33 (PT) and 4600 (PT). Total built up area of the Project is 20548 Sq mts. As per the observation of SEAC, the land kisam shall be converted from Patita to Gharabari through The Tahasildar, Bhubaneswar

4. The project site falls under Toposheet no. 73H/15 and geographical co-ordinates of the project site is: Latitude -20°19'52.27 to 20°19'56.65 and longitude 85°49'50.19 E to 85°49'49.99 E. The present access to the Site is from the Southern Side of the land through a land proposed for Bus Stand by GAD department – Government of Odisha. Further there will be a 40'0" wide Road on the Northern Side connecting the main road in front of Kelu Charan Park to the proposed 100'0" road on the Northern Side boundary of the Plot. Nearest Highway - NH-5 is 1.93 km from project site. Nearest Railway Station – New Bhubaneswar Railway Station which is 3.9 km towards from the project. Nearest Airport - Biju Patnaik International Airport at 17.2 km from project site. The Environmental sensitive areas from project site are - Nearest archaeological site is Khandagiri Caves – 8.9kms, Nearest rivers are Mahanadi-15.5km & Kuakhai – 18.5km, Nandankanan zoo – 7.3km, Chandaka Elephant sanctuary – 9.5km, Chudanggarh Reserve Forest – 8.31km.
5. The site is coming under development plan of Bhubaneswar Development Authority. The project comprises of the following: 82nos of type-III, 22 nos of type-IV, 5 nos of type-V, & 6 nos of type -VI flats with community center & children park.
6. The Building Details Of The Project:

| Sl. No. | Description | Coverage area |
|---------|---|------------------|
| 1 | Total Plot Area | 20234.28 Sq. Mts |
| 2 | Total Built up area | 20548 Sq. Mts |
| 3 | No. Of residential Blocks | 4nos |
| 4 | Total area of Residential Buildings with community hall | 20547.75sq.mts |
| 5 | Community Hall (Ground Plus first, second & third floor) | 1826.64sqm |
| 6 | Mandatory Green Cover | 4024.53sqm |
| 7 | Parking | 10992.3sqm |
| 8 | FAR | 1.06 |
| 9 | Total number of units | 82nos |
| 10 | Maximum height of building | 30m |

7. **Water requirement:** Total water requirement for the project will be 95 KLD. Out of the total water requirement 38KLD will be flushing water which is the recycled water and 57 KLD will be domestic water requirement which will be sourced from PHED supply, Bhubaneswar.
8. **Waste water details:** There is the proposal for installation of 100 KLD STP and 100 KLD GWTP for treatment of waste water of the housing complex. There will be proposal for dual plumbing system and treated waste water will be utilized for flushing, gardening and washing purpose. As an interim arrangement, we will be providing a safety tank and soak pit of adequate capacity for storage of 7 KLD of surplus treated STP water. The safety tank will be evacuated intermittently by tankers for disposal in BMC sewerage line elsewhere. This arrangement will continue till the JAICA project of laying sewerage line and common STP project is made operational in that area.
9. **Power requirement:** Electricity requirement for the apartment will be 1.2 MW/hr which will be supplied from the central Electricity Utility, Bhubaneswar, Odisha. Power Backup:

The 4 no. of DG sets will be changed to 2 no. of higher capacity and installed at the suitable places after due consideration of pre-dominant wind direction to avoid air pollution from entering the dwelling house of the colony. Appropriate venting mechanism upto the roof top of the tallest building shall be installed for dispersion of vent gases without affecting the dwelling house. The 5% of installed electrical power will be sourced from solar power in our colony. All the terrace of the building will be utilized for fixing the photo voltaic cell frames for production of power and used in the common area of the township.

10. **Rain Water Harvesting:** Rain Water will be harvested and recharge through 53 cu.m recharge pits from the plot area.
11. **Parking Requirement:** Total parking area required 10885.33 Sq.mt. for (Type-III&IV blocks) basement floor parking area is 4037.04 Sq.mts and for (Type V&VI blocks) basement floor parking area is 1729.04Sq mts. Visitors parking area 707.06sq mts. The total parking area will be provided 4519.16sq.mt.
12. **Firefighting Installations:** Firefighting system will be installed as per recommendation of the Firefighting Officer, Odisha and as per the guideline of NBC (part-4). In view of the recommendation of Fire Safety Wing of Home Department, Government of Odisha; the road around the towers shall be widened from 6m. to 7.5 m. for easy movement of fire brigade vehicles in the emergency situation.
13. **Green Belt Development:** Out of the total area, green belt will be developed over an area of 4024.53 sq.m (20% of the plot area) and 990 trees will be planted.
14. **Solid Waste Management:** Total amount of solid waste generated of the project will be 250 kg/day which will be disposed through BMC. Inorganic waste per day is 100kgs, Organic waste per day is 150kgs. As per advice of SEAC, we are committed to provide compost pits at suitable locations in addition to the installation of organic waste converter equipments within the colony.
15. The total population of project after proposed will be 625 persons.
16. The estimated project cost is ` 91.53 Crores
17. The project proponent along with the consultant **M/s Kalyani Laboratories Pvt. Ltd., Bhubaneswar** made a detailed presentation on the proposal.

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

- i) The "Kisam" of the land is "Patita" and hence, needs to be converted to "Gharabari" before starting the construction of the project. An undertaking to this effect shall be submitted.
- ii) Parking in terms of ECS (both 2 wheelers & 4 wheelers) for occupants, floating population & visitors with locations needs to be submitted in tabular form.
- iii) Treated waste water is stated to be discharged to existing sewer drain located at 200 mtrs distance. Since, the existing sewer line is not yet operational, a contingency plan for discharge of treated waste water need to be submitted. Or else, the housing

project shall not be made operational till such time, the sewer line is made operational.

- iv) Fire clearance from the appropriate authority need to be obtained and submitted.
- v) Plan for solar power with exact calculations to be submitted.
- vi) 04 nos. of DG sets shall be changed to 02 no. of higher capacity and installed at the suitable places after due consideration of pre-dominant wind direction to avoid air pollution from entering the dwelling house of the colony. An undertaking to this effect along with DG set location w.r.t wind direction, stack height with layout / installation drawing of the stack / exhaust pipe be submitted.
- vii) Entry & exit gates with pedestrian pathways be shown with dimensions.
- viii) Measures to be taken to control noise and dust pollution.
- ix) An undertaking that construction activity for the project has not been started.

ITEM NO. 05

PROPOSAL FOR ENVIRONMENTAL CLEARANCE FOR ADAGHAT IRON ORE MINES FOR ENHANCEMENT IN PRODUCTION OF IRON ORE FROM 0.3 MTPA TO 0.7 MTPA ROM WITH TOTAL EXCAVATION OF 1.024 MTPA (ROM OF 0.7 MTPA +0.324 MTPA WASTE) AND SETTING UP TWO MOBILE CRUSHING UNITS OF 150 TPH CAPACITY EACH & TWO MOBILE SCREENING UNITS OF 250 TPH CAPACITY EACH, OVER AN AREA OF 15.074 HA. LOCATED IN VILLAGE-ADAGHAT, TAHASIL-KOIDA, SUB-DIVISION-BONAI, DISTRICT-SUNDARGARH OF ODISHA OF M/S. NATIONAL ENTERPRISES – 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. National Enterprises for Adaghat Iron Ore Mines for enhancement in production of iron ore from 0.3 MTPA to 0.7 MTPA ROM with total excavation of 1.024 MTPA (ROM of 0.7 MTPA +0.324 MTPA waste) and setting up two mobile crushing units of 150 TPH capacity each & two mobile screening units of 250 TPH capacity each, over an area of 15.074 ha. located in village-Adaghat, Tahasil-Koida, Sub-division-Bonai, District-Sundargarh of Odisha of M/s. National Enterprises.
3. 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.
4. This proposal is enhanced in production capacity from 0.3 MTPA to 0.7 MTPA (ROM) along with crushing & screening plant.
5. M/s National Enterprises, Barbil had applied to Govt. of Odisha on 24.2.1997 for grant of a mining lease over 15.074 ha. in Adaghat village of Sundargarh dist. for mining of Iron ore. The Steel & Mines Dept. of the State Govt. had issued terms and conditions for acceptance by the applicant regarding grant of the mining lease vide letter no. 12730/SM, dt 20.10.2000 with a condition to obtain Forest Clearance from MoEF under FC Act, 1980 for a period of 20 years. The lease deed was executed on 11.01.2017.
6. Modified mining plan alongwith Progressive Mines Closure Plan has been approved by Regional Controller of Mines, Indian Bureau of Mines vide letter no- MPM/OTF-

MECH/14-ORI/BHU/2010-11 dated 27-09-2010. Later the Review of Mining Plan along with Progressive Mine Closure Plan has been approved for the period 2021-22 to 2025-26 by the same authority vide letter no- RMP/A/22-ORI/BHU/2020-21, dated 09-11-2020.

7. The area is featured in Toposheet No 73G/5 bounded by $21^{\circ} 55' 25.22002''$ N to $21^{\circ} 55' 43.04502''$ N and longitude $85^{\circ} 19' 07.43920''$ E to $85^{\circ} 19' 48.30132''$ E. Plot No. 225(P), 226(P), 227(P), 228(P), 341(P) Khata No. 39. Nearest town is at Koira, 7.5 km where all facilities like medical, postal, education etc are available. Nearest Railway station is Barbil, 40kms away and Roxy railway siding is at a distance of 38 km. Nearest airport is Bhubaneswar, 195km. This Kundra / Suna Nadi, a tributary of Baitarani River, controls the drainage system of the area and flows due north in the region and then east to meet the Bay of Bengal. Nearest habitation is 3km from project site. Interstate boundary between Odisha and Jharkhand lies at distance of 12km in North-West direction from the proposed project site. There is no human settlement within the applied lease area.
8. The entire lease area is in DLC Forest Land. Stage – II forest clearance for the forest land involved in the lease area has been obtained vide letter no. 5-ORC256/2015-BHU, dated 05.08.2019 from the Eastern Regional Office, Bhubaneswar of the MoEF & CC. 13.674 ha. of non-forest govt. land has been identified in village Paramdihi (Khata No. 32, Plot No. 503, 504, 505 & 487) of Koira Tehsil (Banki Forest Range of Rourkela Forest Division) in lieu of forest land involved in the ML area for compensatory afforestation.
9. Adaghat Iron Ore Mines has Environmental Clearance from SEIAA, Odisha vide letter no. 7695/SEIAA, dated 24.12.2019 for production of 3,00,300 (0.3 million) TPA of iron ore. Consent to Operate has been issued by SPCB, Odisha for the same quantity vide letter no. 5314/IND-I-CON-6689, dated 27.03.2021, which is valid upto 31.03.2022. Due to presence of Indian Elephant & Sloth Bear (Schedule- I species), Site Specific Wildlife Conservation Plan with a budgetary provision of Rs 290.40 lakhs has been approved by the PCCF (Wildlife) vide Memo no. 4763/1WL(C)SSP-348/2012, dt 12th May, 2014.
10. The mining lease area is mainly dominated by hill & a part of NW-SE trending hill. The highest altitude is 635mRL and lowest elevation is 560mRL. No seasonal or perennial nala in the ML area. Surface runoff water flows along the natural slopes into Suna Nadi/Kundra nala in eastern side of the lease area
11. The mining lease area is located in tropical region where climate is characterized by very hot summers and cool winters. Temperature: 50C to 430C and Annual Rainfall (Average): 1535.5mm
12. Geological reserve of 4.188 million tons and Mineable reserves of 3.949 million tons have been assessed for the iron ore in the lease area. Based on the exploration input it is planned to produce ROM of 7,00,005 (0.7 million) tons iron ore per annum from the lease area along with two mobile crushing units of 150 TPH capacity each & two mobile screening units of 250 TPH capacity each within the mines. The only existing quarry will expand in all direction as well as depth wise to produce iron ore.
13. Open cast mechanized method of mining on single shift basis with drilling & blasting is proposed to excavate the iron ore to gradually achieve the production target. Drilling and blasting will be adopted for loosening of hard rock mass both by Core drilling

machine along with compress drill. Height and width of the benches will be maintained at 6m & 8m respectively; overall quarry slope angle will be maintained at 37.50 with horizontal. Life of the mine is 8 years whereas ore to waste ratio was 1:1.5 (both in m³).

14. No top soil will be generated in the mining process as the top surface is lateritic. During the sixth year of mining i.e. 2025-26, backfilling will start from the southern part of the quarry. Total 21,46,320 cum waste will be generated during life of the mines; out of which 5,26,480 cum will be generated during 5 years of review of plan period and remaining 16,19,840 cum will be produced in last 3 years. Conceptually, 50% of the waste material will be used in backfilling of mined out area and balance to be used in road maintenance.
15. Conceptually, the quarry will spread over 11.424 ha., upto a maximum depth of 72m (555m RL). Area under excavation, OB dump, Mineral storage area, etc. (a total of 13.074 ha.) will be fully rehabilitated by plantation.
16. The mine will provide employment to 59 persons daily.
17. **Water Requirement** - 30 m³/day water will require which will source from Suna Nadi with due permission. The ground water of the area varies between 545mRL to at 550 mRL below the general surface level. The depth of such water tables are assumed in comparison with the nearest dug wells in the inhibited area. Expected depth of mine working by the end of the life of the mines is up to 555mRL from surface level. Thus ground water table is not going to be intersected.
18. The area does not have any monuments of historical or archaeological importance, pilgrimage, any place of tourist interest, national park, bird or wild life sanctuary.
19. The project cost is estimated to be ` 9 crores and there is a budgetary provision of ` 100 lakhs as capital cost towards environmental protection measures. ` 20 lakhs will be spent under CER for various socio-economic activities, whereas ` 10 lakhs will be spent annually towards regular maintenance & recurring activities.
20. The Environment Consultant **M/s Centre for Envotech & Management Consultancy Pvt. Ltd., Bhubaneswar** along with the proponent made a detailed presentation on the proposal before the Committee.

Considering the information / documents furnished by the proponent and presentation made by the consultant **M/s Centre for Envotech & Management Consultancy Pvt. Ltd., Bhubaneswar**, the SEAC prescribed the following specific ToRs in addition to standard ToRs as per **Annexure – C** for conducting detailed EIA study.

- i) EC conditions wise detailed compliance duly certified by MoEF&CC, Govt. of India, Regional office, Bhubaneswar be given in EIA/EMP.
- ii) The following information to be submitted.
 - a) Compliance of mining plan, including waste and OB dump management, mine closure plan etc.
 - b) Compliance to Common cause judgment
 - c) Status of R&R
 - d) Compliance of plantation
 - e) Compliance of public hearing issues

- f) Status of complaints/ court cases/legal action
 - g) Compliance of specific conditions of earlier EC
 - h) Any other relevant environmental issue / parameter.
- iii) The following studies be undertaken by domain experts, viz:
- a) Blast vibration study
 - b) Socio economic study of the neighbouring habitation
 - c) Biodiversity study with audit mechanism.
- iv) The Project Proponent shall undertake the peripheral plantation and closed areas as well as gap plantation within 6 months with the seedling of 4-6 ft height having atleast 90% survival rate. An undertaking for the same also needs to be submitted by Project Proponent.
- v) Cost of the CER calculated shall be utilized for the concerns of the people in terms of health, education, and infrastructure and environment protection. Project Proponent also shall include the budget for the betterment of schools nearby and to facilitate the online education system by providing Wi-Fi connectivity and desktops/tablets.
- vi) The 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.
- vii) The project proponent should submit the revenue plan for mining lease, revenue plan should be imposed on the satellite imaginary clearly demarcate the Govt. land, private land, agricultural land etc.
- viii) The project proponent should submit the real-time aerial footage & video of the mining lease area and of the transportation route. The project proponent should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt 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 the 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.
- ix) The project proponent should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle needs to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. PP 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.

- x) The 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 the 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.
- xi) The 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.
- xii) The project proponent should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral. The 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.
- xiii) The 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 center 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.
- xiv) The 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.
- xv) The 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.
- xvi) The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC conditions. After perusal of Standard EC conditions if agreed the 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/SEIAA, Odisha.
- xvii) The project proponent should ensure that only NABET accredited consultant shall be engaged for the preparation of EIA/EMP Reports. The 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 SEIAA, Odisha are factually correct and the project proponent and consultant are fully accountable for the same.
- xviii) 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 the project proponent should submit the original test reports and certificates of the labs which will analyze the samples.

- xix) The percentage of iron in the final waste generated and not used as iron ore or its upgradation.
- xx) Compliance to NEERI recommendations.
- xxi) Slope study for both mines and OB /wastes through domain expert to be undertaken and blasting study as well.
- xxii) Traffic density study, both inside the mines and at haulage road intersecting points of haulage road with public road be undertaken by domain expert.
- xxiii) "Zero discharge" management & "Zero Dust Re-suppression" management with SOP be submitted.
- xxiv) Internal roads, drain management with network of the drain, retaining walls and settling tanks with ETPs be submitted.
- xxv) Details of air quality monitoring stations of the area and additional stations at entry and exit of mines and haulage roads, habitation to be considered.
- xxvi) Construction and perennial maintenance of haulage road with details of plantation and the species thereof to be submitted.
- xxvii) Parking plaza layout with maximum no. of vehicles and types of vehicles that can be parked with basic amenities and facilities.
- xxviii) Forest Clearance details with copy of all Forest Clearance.
- xxix) Status of complaints/ court cases/legal action regarding to lease along with a detailed write up indicating case no., purpose of the case etc.
- xxx) Copy of lease document.
- xxxi) Details of waste management i.e. composition and nature of waste generated, tabulated form showing year wise waste generation, usage and storage.
- xxxii) Details of silt, waste and water Management should include the design of drainage structures.
- xxxiii) Since, the perennial nala is passing nearby, detailed measures to be taken to protect the nala due to mining activity for non-contamination of ground water due to mining.
- xxxiv) Comparative statement for increase in pollution load for existing production Vrs. proposed production (taking all parameters like water consumption, waste water generation, air pollutants, OB management, greenbelt, haulage roads, settling ponds, ETP etc.).
- xxxv) Slope study report.
- xxxvi) Project Proponent shall consider developing a good nursery in nearby village for production of saplings of 4-6feet height for planting in safety zone, sides of external haulage roads and distribution among villagers for planting in their private land/ community land. The nursery may be developed by company on their own or in collaboration with forest department. A detailed proposal to this effect shall be

submitted.

- xxxvii) Saplings/ trees existing in mining area shall be uprooted and transplanted with ball of earth in safety zone or non-mineral zone. A detailed proposal to this effect shall be submitted.
- xxxviii) Comprehensive water management, water balance with water harvesting and its reuse both monsoon and non-monsoon period.
- xxxix) STP- plan with design since the no. of employee is 133 plus the housing population with location in the layout map.
- xl) Provision of solar power (percentage wise) with detail plan.
- xli) To submit the network with dimension of concrete cement roads inside the mining lease area and haulage road.
- xlii) To submit parking plaza at entry and exit of the mines with basic amenities.
- xliii) Plan and SoP to be submitted for water sprinkling inside the mines and outside in haulage road including regular vacuum cleaning and Zero Dust Resuspension system to completely mitigate and arrest fugitive dust emission.
- xliv) Comparative matrix previous and proposed production w.r.t overburden, green belt, water balance, haulage roads, settling ponds, ETP.


SECRETARY, SEAC


CHAIRMAN, SEAC

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR M/S D.N HOMES PVT LTD. FOR CONSTRUCTION OF RESIDENTIAL COLONY PROJECT OVER TOTAL BUILT UP AREA 1,60,069.25 M² & PLOT AREA 23,216.62 M² (5.736 Acres.) AT - SUNDARPUR, TAHASIL – BHUBANESWAR, DISTRICT – KHORDHA OF SRI RATNAMALA SWAIN (DIRECTOR) – EC.

PART A - SPECIFIC CONDITIONS:

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

TOPOGRAPHY AND NATURAL DRAINAGE

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

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

9. As proposed, fresh water requirement from ground water shall not exceed 347 m³ per day.
10. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring

that there is no impact on other users.

11. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.
12. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
13. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.
14. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
15. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
16. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits of adequate nos. shall be provided.
17. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
18. The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.

SOLID WASTE MANAGEMENT

19. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
20. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
21. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. Adequate area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
22. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
23. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste

generated from project shall be obtained.

SEWAGE TREATMENT PLANT

24. Sewage shall be treated in STP of capacity 560 KLD. The treated effluent from STP shall be reused for flushing, horticulture & Filter backwash.
25. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.
26. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
27. Separate large recharge pits shall be constructed inside the project area to accommodate the rainwater in case the housing project period and the CDP of the Govt. does not synchronize with reference to construction of road and drain.
28. No sewage or untreated effluent water would be discharged through storm water drains.
29. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
30. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
31. The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and "Nala" before commencement of any activity at the project site.

ENERGY

32. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
33. Energy conservation measures like installation of CFLs / LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.

34. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 5% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Follow super ECBC requirement of ECBC 2017 and provide compliance report.
35. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.
36. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.
37. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.

AIR QUALITY AND NOISE

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39. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.
40. **Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.**
41. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

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

GREEN COVER

44. No tree cutting/transplantation of existing trees has been proposed in the instant project. A minimum of 1 tree for every 80 m² of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping. As proposed approx. 33.98 % of plot area shall be provided for green area development.

TOP SOIL PRESERVATION AND REUSE

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

TRANSPORT

46. A comprehensive mobility plan, as per Ministry of Urban Development best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
 - Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
 - Traffic calming measures
 - Proper design of entry and exit points.
 - Parking norms as per local regulation
47. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project.
48. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
49. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.
50. A dedicated entry/exit and parking shall be provided for commercial activities.

51. Barricades shall be provided around project boundary.
52. Speed of the vehicles shall be restricted upto 15 kmph by erecting speed bumps at regular intervals at project site and proper signage shall be provided for guided vehicular movement and speed restrictions.
53. Parking shall be prohibited on the access road to the proposed project site.
54. Footpath shall be seamless with sufficient width.
55. No vehicles shall be allowed to stop and stand in front of the gate on main access.
56. A buffer of minimum 10 m shall be maintained between the entry/exit gate and the road to avoid traffic congestion.
57. The Traffic Management Plan prepared by the proponent shall be duly validated and certified by the State Concerned Competent Authority and shall have also their consent before implementation.

ENVIRONMENT MANAGEMENT PLAN

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

OTHERS

59. Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
60. A First Aid Room shall be provided in the project both during construction and operations of the project.
61. The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
62. As per the MoEF&CC, Govt. of India Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, the project proponent is required to prepare and implement Corporate Environment Responsibility (CER) Plan. As per para 6(II) of the said O.M. appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, avenue plantation, plantation in community areas etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance

report, and to the District Collector. It should be posted on the website of the project proponent.

PART B – GENERAL CONDITIONS

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

11. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
12. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC, Govt. of India by E-mail.

CONDITIONS TO BE STIPULATED IN ENVIRONMENTAL CLEARANCE FOR RESIDENTIAL PROJECT OVER AN AREA 1.06 ACRES LOCATED AT MOUZA BIDYADHARPUR IN THE DISTRICT OF CUTTACK, ODISHA BY M/S. JMG LIFESTYLE PVT. LTD. WITH TOTAL BUILT-UP AREA IS 21663.8 SQ.MT OF SRI SANDEEP AGARWAL - EC.

PART A - SPECIFIC CONDITIONS:

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

TOPOGRAPHY AND NATURAL DRAINAGE

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

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

9. As proposed, fresh water requirement from ground water shall not exceed 81 m³ per day.
10. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring

that there is no impact on other users.

11. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC and SEIAA, Odisha along with six monthly Monitoring reports.
12. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc. and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
13. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc.) for water conservation shall be incorporated in the building plan.
14. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
15. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
16. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits of adequate nos. shall be provided.
17. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
18. The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.

SOLID WASTE MANAGEMENT

19. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
20. Disposal of muck during construction phase shall not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
21. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. Adequate area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
22. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
23. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste

generated from project shall be obtained.

SEWAGE TREATMENT PLANT

24. Sewage shall be treated in STP of capacity 85 KLD. The treated effluent from STP shall be reused for flushing, horticulture & Filter backwash.
25. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.
26. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
27. Separate large recharge pits shall be constructed inside the project area to accommodate the rainwater in case the housing project period and the CDP of the Govt. does not synchronize with reference to construction of road and drain.
28. No sewage or untreated effluent water would be discharged through storm water drains.
29. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the SEIAA, Odisha before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
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3. Officials from the Regional Office of MoEF&CC, Bhubaneswar who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection.
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5. The SEIAA, Odisha reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
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11. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, Govt. of India, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
12. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC, Govt. of India by E-mail.

TERMS OF REFERENCE (ToR) FOR CONDUCTING ENVIRONMENT IMPACT ASSESSMENT STUDY AND INFORMATION TO BE INCLUDED IN EIA/EMP REPORT FOR ADAGHAT IRON ORE MINES FOR ENHANCEMENT IN PRODUCTION OF IRON ORE FROM 0.3 MTPA TO 0.7 MTPA ROM WITH TOTAL EXCAVATION OF 1.024 MTPA (ROM OF 0.7 MTPA +0.324 MTPA WASTE) AND SETTING UP TWO MOBILE CRUSHING UNITS OF 150 TPH CAPACITY EACH & TWO MOBILE SCREENING UNITS OF 250 TPH CAPACITY EACH, OVER AN AREA OF 15.074 HA. LOCATED IN VILLAGE-ADAGHAT, TAHASIL-KOIDA, SUB-DIVISION-BONAI, DISTRICT-SUNDARGARH OF ODISHA OF M/S. NATIONAL ENTERPRISES- TOR

A. STANDARD TOR FOR MINING PROJECT

1. The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors..
2. Department of Mining & Geology, State Government shall ensure that mining operation shall not commence till the entire compensation levied, 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 the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.
3. 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.
4. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
5. 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.
6. All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/toposheet, 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).
7. 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.
8. 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.
9. 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.

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.
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 failing 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. 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.

26. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
27. 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,
28. 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.
29. 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.
30. Details of any stream, seasonal or otherwise, passing through the tease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be.
31. 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.
32. 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.
33. 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.
34. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
35. 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.
36. 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.

37. 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.
38. 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.
39. 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.
40. 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.
41. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
42. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
43. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
44. 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.
45. The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per MoEF&CC, Govt. of India O.M No 22-65/2017-IA. II (M) dated 01.05.2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report.
46. The Action Plan on the compliance of the recommendations of the CAG as per MoEF&CC, Govt. of India Circular No. J-11013/71/2016-IA.I (M), dated 25,10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.
47. Compliance of the MoEF&CC, Govt. of India Office Memorandum No. F: 3-50/2017-IA.III (Pt.), dated 30.05.2018 on the judgement of Hon'ble Supreme Court, dated the 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India needs to be submitted and included in the EIA/EMP Report.

B. Specific TOR: Recommendation of CSIR-NEERI Report on "Carrying Capacity Study for Environmentally Sustainable Iron and Manganese Ore Mining Activity in Keonjhar, Sundargarh and Mayurbhanj districts of Odisha State"

1. Department of Steel & Mines, Govt, of Odisha should prepare 5 years regional plan for annual iron ore requirement from the state, which in turn shall be met from different mines/zones (e.g. Joda, Koira.) in the state. Accordingly, sustainable annual production (SAP) for each zone/mine may be followed adopting necessary environmental protection measures.
2. The expansion or opening of new manganese ore mines may be considered only when the actual production of about 80% is achieved. Further, the mines that have not produced Mn

ore for last two years and have no commitment in the current year as well: EC capacity in such cases may be reviewed. The Department of Steel & Mines, Govt, of Odisha shall submit the Annual Report on this issue to the MoEF&CC for further necessary action.

3. Analysis of baseline environmental quality data for the year 2014 and 2016 indicates that existing mining activities appear to have little / no potential impact on environmental quality, except on air environment, which was mainly due to re-suspension of road dust. Therefore, all the working mines can continue to operate with strict compliance to monitoring of environmental quality parameters as per EC and CTE/CTO conditions of the respective mine, and implementation of suggested measures for control of road dust and air pollution. Odisha State Pollution Control Board has to ensure the compliance of CTE/CTO. Regional office of the MoEF&CC, Bhubaneswar shall monitor the compliance of the EC conditions. Regional office of the Indian Bureau of Mines (IBM) shall monitor the compliance of mining plan and progressive mine closure plan. Any violation by mine lease holder may invite actions per the provisions of applicable acts.
4. Considering the existing environmental quality, EC capacity, production rate, iron ore resources availability and transport infrastructure availability, the share of Joda and Koira sector works out to be 70% and 30% respectively for the existing scenario for the year 2015-16. However, for additional EC capacity, it can be 50:50 subject to commensurate infrastructure improvement (viz. SOTM, pollution free road transport, enhancement of rail network etc.) in the respective regions.
5. Continuous monitoring of different environmental quality parameters as per EC and CTE/CTO conditions with respect to air, noise, water (surface and ground water) and soil quality in each region shall be done. The environmental quality parameters should not indicate any adverse impact on the environment. Monitoring within the mines should be done by individual mine lease holders, whereas outside the mine lease area, monitoring should be done by the Govt, of Odisha through various concerned departments/ authorized agencies. Various monitoring/ studies should be conducted through national reputed institutes, NABET/ MoEF&CC accredited laboratories/organizations. The reports submitted by individual mine lease holders and study reports prepared by other concerned departments/agency for each of the regions should be evaluated and examined by SPCB/ MoEF&CC.
6. Construction of cement concrete road from mine entrance and exit to the main road with proper drainage system and green belt development along the roads and also construction of road minimum 300 m inside the mine should be done. This should be done within one year for existing mines and new mine should have since beginning. The concerned departments should extend full support; wherever the land does not belong to the respective mine lease holders. The Department of Steel & Mines, Govt, of Odisha should ensure the compliance and should not issue the Mining Permits, if mine lease holder has not constructed proper cement concrete road as suggested above.
7. In view of high dust pollution and noise generation due to road transport, it is proposed to regulate/guide the movement of iron and manganese ore material based on the EC capacity of the mines. Accordingly, ore transport mode has been suggested, as given below in Table.

Table : EC Capacity based Suggested Ore Transport Mode (SQTM)

| Code | EC | Suggested Ore Transport Mode |
|--------|------------------------|--|
| SOTM 1 | > 5 MTPA | 100% by private railway siding or conveyor belt up to public railway siding or pipeline for captive mines and 70% for non-captive mines |
| SOTM 2 | Between 3 and <5 MTPA | Minimum 70% by public railway siding, through conveyor belt and maximum 30% by road - direct to destination or other public railway siding or above option |
| SOTM 3 | Between 1 and < 3 MTPA | Minimum 70% by public railway siding and maximum 30% by road - direct to destination or by other public railway siding or above options |
| SOTM 4 | <1 MTPA | 100 % by 10/17 Ton Trucks or above options |

It is mentioned by State Govt, of Odisha that currently about 45% of the iron ore is despatched using rail network and progressively it will be increased to about 60% by rail/slurry over a period of 5 years, taking into account time required to set up more railway sidings.

In view of present ore transport practices and practical limitations, all the existing mines should ensure adoption of SOTM within next 5 years. New mines or mines seeking expansion should incorporate provision of SOTM in the beginning itself, and should have system in place within next 5 years. However, the State Govt, of Odisha shall ensure dust free roads in mining areas wherever the road transportation of mineral is involved. The road shoulders shall be paved with fence besides compliance with IRC guidelines. All the roads should have proper drainage system and apart from paving of entire carriage width the remaining right of way should have native plantation (dust capturing species). Further, regular maintenance should also be ensured by the Govt. of Odisha.

Transportation of iron & manganese ore through river (jetty) to nearest Sea port (Sea cargo option) may be explored or connecting Sea ports with Railway network from the mines to be improved further so that burden on existing road and rail network and also pollution thereof can be minimized.

Progress on development of dust free roads, implementation of SOTM, increased use of existing rail network, development of additional railway network/conveyor belt/ pipelines etc. shall be submitted periodically to MoEF&CC and SEIAA, Odisha. Responsibility: Department of Steel & Mines, Govt. of Odisha; Time Period: 5 Years for developing railway/ conveyor belt facilities

8. Development of parking plazas for trucks with proper basic amenities/ facilities should be done inside mine. This should be done within one year for existing mines and new mines should have since beginning. Small capacity mines (in terms of lease area or production) not having enough space within the mine lease areas should develop parking plaza at a common place within the region with requisite facilities. Responsibility: Individual Mine Lease Holders; Time Period: 1 Year
9. Construction of NH 215 as minimum 4 lane road with proper drainage system and plantation and subsequent regular maintenance of the road as per IRC guidelines. Construction of other mineral carrying roads with proper width and drainage system along with road side plantation to be carried out. Responsibility: Department of Steel & Mines with PWD / NHAI Time Period: 2 Years.
10. Regular vacuum cleaning of all mineral carrying roads aiming at "Zero Dust Resuspension"

may be considered. Responsibility: PWD / NHAI/ Mine Lease Holders; Time Period: 3 months for existing roads.

11. Expansion of existing mines and new mines should be considered after conducting recent EIA Study (as per the provisions of EIA Notification 2006, as amended time to time) with proper justification on demand scenario for iron ore requirement and availability of pollution free transport network in the region. Responsibility: IBM, Department of Steel & Mines and MoEF&CC, New Delhi.
12. **Mine-wise Allocation of Annual Production:** In case the total requirement of iron ore exceeds the suggested limit for that year, permission for annual production by an individual mine may be decided depending on approved EC capacity (for total actual dispatch) and actual production rate of individual mine during last year or any other criteria set by the State Govt., i.e. Dept. of Steel & Mines. Department of Steel and Mines in consultation with Indian Bureau of Mines-RO should prepare in advance mine-wise annual production scenario as suggested in Table, so that demand for iron ore can be anticipated, and actual production/dispatch does not exceed the suggested annual production.

**Table: Allocation of Production to Different Mines for 5 Years
(as per approved Mining Plan)**

| Mine Lease | EC Capacity (MTPA) | Suggested Annual Production (MT) | | | | |
|---|--------------------|----------------------------------|------------|------------|------------|------------|
| | | 2016-17 | 2017- 18 | 2018-19 | 2019-20 | 2020-21 |
| | | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 |
| Mine 1 | X1 | | | | | |
| Mine 2 | X2 | | | | | |
| Mine 3 | X3 | | | | | |
| Mine n | Xn | | | | | |
| Total | 160 + | 105 | 129 | 153 | 177 | 201 |
| Next year allocation = Average of EC Capacity and Last year production | | | | | | |

13. Expansion of Existing Mines having Validity up to 2020: In view of implementation of MMDR Act 2015, wherein many non-captive mines are expected to be closed by March 2020, total iron ore production scenario has been. It is expected that the non-captive mines having validity till 2020 shall try to maximize their production (limited to EC capacity) in the remaining period. Further, depending upon availability of iron ore resources, these mines may also seek expansion of EC capacity. It may be noted here that total EC capacity of existing 25 working mines having validity upto 2020 is about 85 MTPA, whereas actual production from these mines has been only 44.677 MT (52.6%) during 2015-16 and 57.07 MT (67.1%) during 2016-17. Also, it is expected that these mines would not even be able to achieve ore production as per existing EC capacity till March 2020. Therefore, these existing mines should go for production to the fullest extent to meet the requisite demand from the State. However, where EC limit is exhausted, application for expansion may be considered. Further, the EC process (i.e. Grant of TOR, Baseline data collection, Mining plan/ scheme approval, Public hearing, preparation of EIA/EMP Report. Appraisal by the EAC and grant of EC) takes about one year time. Under such circumstances, it is suggested that further applications for grant of TOR or grant of EC for expansion of production capacity of the mine should be considered for those existing mines, which have exhausted their capacity subject to consideration of all

environmental aspects. Responsibility: Department of Steel & Mines and MoEF&CC, New Delhi.

14. **Sustained Iron Ore Production beyond 2020:** Considering the implementation of MMDR Act 2015, total production of iron ore in Odisha State is anticipated to be about 111 MT during 2016-17 (actual production was - 102.663 MT), 136 MT during 2017-18, 146 MT during 2018-19 and 146 MT during 2019-20. Then there will be substantial drop in total production (to the tune of 73 MT during 2020-21 onwards) due to closure of mines, which are valid up to 2020. Therefore, in order to maintain operation/sustained growth of downstream industries, iron ore mining in the region needs to be continued at a sustainable rate. The State Govt. through Department of Steel and Mines should initiate appropriate action to ensure continued availability of iron ore from the region, as per suggested sustainable annual production
15. **Reserves Estimation**-Mining Plan and Exploration; Appropriate actions (geo- technical investigation for qualitative and quantitative resource estimation & other preparations for auction of mines), may be initiated taken into account the existing working mines, and the mines which were operational at some point of time (but closed presently due to various reasons). The total iron ore reserves/ resources available within the total lease area of each mine should be estimated by State Govt./NMET/ GSI (or any other approved agency) with respect to: (i) Total lease area of mine (surface), (ii) Maximum depth to which resources could be available, (iii) Resources below the ground water table (if intersected), (iv) Reserves are to be estimated as per UNFC code with respect to quantity and quality (% Fe content), (v) Maximum mining rate and area for auction (after 2020) will be calculated based on total resources available and proposed life of mine leading to closure of mine in a stipulated time period. Responsibility: Department of Steel & Mines, IBM and GSI; Time frame: 1 year for the mines to be auctioned for next 2 years. The above mentioned organizations shall ensure the compliance with respect to timelines for implementations.
16. Depending upon availability of extractable iron ore resources within a mine, mining below the ground water table may be permitted after conducting necessary geological and hydro-geological study by GSI and requisite approval from the CGWB/CGWA (Central Ground Water Board/Authority). This can be explored at least in few mines on trial/pilot basis. Further, within a mine, it will be desirable to operate one pit at a time, and next pit should be opened after extracting maximum possible resources from the first pit, so that the exhausted pit can be used for back filling/ storing of low grade iron ore. However, depending upon the quantity and/or quality of iron/ manganese ore, other mine pits in the same mine lease may also be opened for sustainable scientific mining, as per approved mining plan/scheme of mining by IBM. The Department of Steel & Mines, Govt. of Odisha should initiate the pilot project so that minerals are fully utilized.
17. **Commercial Utilization of Low Grade Ore:** R&D studies towards utilization of low-grade iron ore should be conducted through research/academic institutes like IMMT, Bhubaneswar, NML, Jamshedpur, and concerned metallurgical departments in IITs, NITs etc., targeting full utilization of low-grade iron ore (Fe content upto 45% by 2020 and upto 40% by 2025). In fact, life cycle assessment of whole process including environmental considerations should be done for techno-economic and environmental viability. R&D studies on utilization of mine wastewater having high concentration of Fe content for different commercial applications in industries such as cosmetics, pharmaceutical, paint

industry should also be explored. Responsibility: IBM, Dept, of Steel & Mines, Individual Mine Lease Holders.

18. The mining activity in Joda-Koira sector is expected to continue for another 100 years, therefore, it will be desirable to develop proper rail network in the region. Rail transport shall not only be pollution free mode but also will be much economical option for iron ore transport. The rail network and/or conveyor belt system upto public railway siding needs to be created. The total length of the conveyor belt system/ rail network to be developed from mines to nearest railway sidings by 11 mines in Joda region is estimated to be about 64 km. Similarly, in Koira region, total length of rail network/ conveyor system for 8 mines (under SOTM 1 & 2) is estimated to be around 95 km. Further, it is suggested to develop a rail network connecting Banspani (Joda region) and Roxy railway sidings in Koira region. Responsibility: Dept, of Steel & Mines, Govt, of Odisha and Concerned Mines along with Indian Railways. Time Period: Maximum 7 years (by 2025). The Department of Steel & Mines, Govt, of Odisha should follow-up with the concerned Departments and railways so that proposed proper rail network is in place by 2025.
19. State Govt, of Odisha shall make all efforts to ensure exhausting all the iron & manganese ore resources in the existing working mines and from disturbed mining leases/zones in Joda and Koira region. The criteria suggested shall be applicable while suggesting appropriate lease area and sustainable mining rate. Responsibility: Dept, of Steel & Mines, Govt, of Odisha.
20. Large and medium mine leases contribute to better implementation of reclamation and rehabilitation plans to sustain the ecology for scientific and sustainable mining. The small leases do not possess scientific capability of environmentally sustainable mining. Therefore, new mine leases having more than 50 ha area should be encouraged, as far as possible. This will ensure inter-generational resource availability to some extent. Responsibility: Dept, of Steel & Mines, Govt, of Odisha.
21. **Mining Operations/Process Related:** (i) Appropriate mining process and machinery (viz. right capacity, fuel efficient) should be selected to carry out various mining operations that generate minimal dust/air pollution, noise, wastewater and solid waste, e.g. drills should either be operated with dust extractors or equipped with water injection system, (ii) After commencement of mining operation, a study should be conducted to assess and Quantify emission load generation (in terms of air pollution, noise, waste water and solid waste) from each of the mining activity (Including transportation) on annual basis. Efforts should be made to further eliminate/ minimize generation of air pollution/dust, noise, wastewater, solid waste generation in successive years through use of better technology. This shall be ensured by the respective mine lease holders, (iii) Various machineries/equipment selected (viz. dumpers, excavators, crushers, screen plants etc.) and transport means should have optimum fuel/power consumption, and their fuel/power consumption should be recorded on monthly basis. Further, inspection and maintenance of all the machineries/ equipment/ transport vehicles should be followed as per manufacturer's instructions/ recommended time schedule and record should be maintained by the respective mine lease holders, (iv) Digital processing of the entire lease area using remote sensing technique should be carried out regularly once in 3 years for monitoring land use pattern and mining activity taken place. Further, the extent of pit area excavated should also be demarcated based on remote sensing analysis.

This should be done by ORSAC (Odisha Space Applications Centre, Bhubaneswar) or an agency of national repute or if done by a private agency, the report shall be vetted/ authenticated by ORSAC, Bhubaneswar. Expenses towards the same shall be borne by the respective mine lease holders. Responsibility: Individual Mine Lease Holders.

22. **Air Environment Related:** (i) Fugitive dust emissions from all the sources should be controlled regularly on daily basis. Water spraying arrangement on haul roads, loading and unloading and at other transfer points should be provided and properly maintained. Further, it will be desirable to use water fogging system to minimize water consumption. It should be ensured that the ambient air quality parameters conform to the norms prescribed by the GPCB in this regard, (ii) The core zone of mining activity should be monitored on daily basis. Minimum four ambient air quality monitoring stations should be established in the core zone for SPM, PM10, PM2.5, SO₂, NO_x and CO monitoring. Location of air quality monitoring stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board (based on Emission Load Assessment Study). The number of monitoring locations may be more for larger capacity mines and working in larger area. Out of four stations, one should be online monitoring station in the mines having more than 3 MTPA EC Capacity, (iii) Monitoring in buffer zone should be carried out by SPCB or through NABET accredited agency. In addition, air quality parameters (SPM, PM₁₀, PM_{2.5}, SO₂, NO_x and CO) shall be regularly monitored at locations of nearest human habitation including schools and other public amenities located nearest to source of the dust generation as applicable. Further, 11 continuous air quality monitoring systems may be installed in Joida and Koira regions and one in Baripada/ Rairangpur region, (iv) Emissions from vehicles as well as heavy machinery should be kept under control and regularly monitored. Measures should be taken for regular maintenance of vehicles used in mining operations and in transportation of mineral, (v) The vehicles shall be covered with a tarpaulin and should not be overloaded. Further, possibility of using closed container trucks should be explored for direct to destination movement of iron ore. Air quality monitoring at one location should also be carried out along the transport route within the mine (periodically, near truck entry and exit gate). Responsibility: Individual Mine Lease Holders and SPCB.
23. **Noise and Vibration Related:** (i) Blasting operation should be carried out only during daytime. Controlled blasting such as Nonel, should be practiced. The mitigation measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented, (ii) Appropriate measures (detailed in Section 5.4) should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone. Further, date, time and distance of measurement should also be indicated with the noise levels in the report. The data should be used to map the noise generation from different activities and efforts should be made to maintain the noise levels with the acceptable limits of CPCB (CPCB, 2000) (iv) Similarly, vibration at various sensitive locations should be monitored at least once in month, and mapped for any significant changes due to successive mining operations. Responsibility: Individual Mine Lease

Holders.

24. **Water/Wastewater Related** : (i) In general, the mining operations should be restricted to above ground water table and it should not intersect groundwater table. However, if enough resources are estimated below the ground water table, the same may be explored after conducting detailed geological studies by GSI and hydro- geological studies by CGWB or NIH or institute of national repute, and ensuring that no damage to the land stability/ water aquifer system shall happen. The details/ outcome of such study may be reflected/incorporated in the EIA/EMP report of the mine appropriately, (ii) Natural watercourse and/or water resources should not be obstructed due to any mining operations. Regular monitoring of the flow rate of the springs and perennial nallas should be carried out and records should be maintained. Further, regular monitoring of water quality of nallas and river passing thorough the mine lease area (upstream and downstream locations) should be carried out on monthly basis, (iii) Regular monitoring of ground water level and its quality should be carried out within the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out on monthly basis, (iv) In order to optimize water requirement, suitable conservation measures to augment ground water resources in the area should be undertaken in consultation with Central Ground Water Board (CGWB). (v) Suitable rainwater harvesting measures on long term basis should be planned and implemented in consultation with CGWB, to recharge the ground water source. Further, CGWB can prepare a comprehensive plan for the whole region, (vi) Appropriate mitigation measures (viz. ETP, STP, garland drains, retaining walls, collection of runoff etc.) should be taken to prevent pollution of nearby river/other water bodies. Water quality monitoring study should be conducted by State Pollution Control Board to ensure quality of surface and ground water sources on regular basis. The study can be conducted through NABL/ NABET approved water testing laboratory. However, the report should be vetted by SPCB. (vii) Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated in ETP so as to conform to the discharge standards applicable, (viii) Oil and grease trap should be installed before discharge of workshop effluents. Further, sewage treatment plant should be installed for the employees/colony, wherever applicable, (ix) Mine lease holder should ensure that no silt originating due to mining activity is transported in the surface water course or any other water body. Appropriate measures for prevention and control of soil erosion and management of silt should be undertaken. Quantity of silt/soil generated should be measured on regular basis for its better utilization, (x) Erosion from dumps site should be protected by providing geo-textile matting or other suitable material, and thick plantation of native trees and shrubs should be carried out at the dump slopes. Further, dumps should be protected by retaining walls.(xi) Trenches / garland drain should be constructed at the foot of dumps to arrest silt from being carried to water bodies. Adequate number of check dams should be constructed across seasonal/perennial nallas (if any) flowing through the mine lease areas and silt be arrested. De-silting at regular intervals should be carried out and quantity should be recorded for its better utilization, after proper soil quality analysis, (xii) The water so collected in the reservoir within the mine should be utilized for the sprinkling on hauls roads, green belt development etc. (xiii) There should be zero waste water discharge from the mine. Based on actual water withdrawal and consumption/ utilization in different activities, water balance diagram should be prepared on monthly basis, and efforts should be made to optimize consumption of water per ton of ore production in successive years.

Responsibility: Individual Mine Lease Holders, SPCB and CGWB.

25. **Land/ Soil/ Overburden Related** : (i) The top soil should temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long (not more than 3 years or as per provisions mentioned in the mine plan/ scheme). The topsoil should be used for land reclamation and plantation appropriately, (ii) Fodder plots should be developed in the non-mineralised area in lieu of use of grazing land, if any. (iii) Over burden/ low grade ore should be stacked at earmarked dump site(s) only and should not be kept active for long period. The dump height should be decided on case to case basis, depending on the size of mine and quantity of waste material generated. However, slope stability study should be conducted for larger heights, as per IBM approved mine plan and DGMS guidelines. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles should be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Proper records should be maintained regarding species, their growth, area coverage etc, (iv) Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine operation, soil, OB and mineral dumps. The water so collected can be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly de-silted, particularly after monsoon and should be maintained properly. Appropriate documents should be maintained. Garland drain of appropriate size, gradient and length should be constructed for mine pit, soil, OB and mineral dumps and sump capacity should be designed with appropriate safety margin based on long term rainfall data. Sump capacity should be provided for adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de-silted at regular intervals, (v) Backfilling should be done as per approved mining plan/scheme. There should be no OB dumps outside the mine lease area. The backfilled area should be afforested, aiming to restore the normal ground level. Monitoring and management of rehabilitated areas should continue till the vegetation is established and becomes self-generating, (vi) Hazardous waste such as, waste oil, lubricants, resin, and coal tar etc. should be disposed off as per provisions of Hazardous Waste Management Rules, 2016, as amended from time to time. Responsibility: Individual Mine Lease Holders.
26. **Ecology/Biodiversity (Flora-Fauna) Related:** (i) As per the Red List of IUCN (International Union for Conservation of Nature), six floral species and 21 faunal species have been reported to be under threatened, vulnerable & endangered category. Protection of these floral and faunal species should be taken by the State Forest & Wildlife Department on priority, particularly in the mining zones, if any, (ii) The mines falling within 5-10 km of the Karo- Karampada Elephant corridor buffer need to take precautionary measures during mining activities. The forest and existing elephant corridor routes are to be protected and conserved. Improvement of habitat by providing food, water and space for the elephants is required to be ensured to avoid Man- Elephant conflicts. Though as per the records of State Forest Department, movement of elephants in the Karo-Karampada elephant corridor within 10 km distance from the mines in Joda and Koira is not observed, the Forest Department shall further record and ensure that elephant's movement is not affected due to mining activities, (iii) All precautionary measures should be taken during mining operation for conservation and protection of endangered fauna namely elephant, sloth bear etc. spotted in the study area. Action plan for conservation of flora and fauna

should be prepared and implemented in consultation with the State Forest and Wildlife Department within the mine lease area, whereas outside the mine lease area, the same should be maintained by State Forest Department, (iv) Afforestation is to be done by using local and mixed species saplings within and outside the mining lease area. The reclamation and afforestation is to be done in such a manner like exploring the growth of fruit bearing trees which will attract the fauna and thus maintaining the biodiversity of the area. As afforestation done so far is very less, forest department needs to identify adequate land and do afforestation by involving local people in a time bound manner, (v) Green belt development carried out by mines should be monitored regularly in every season and parameters like area under vegetation/plantation, type of plantation, type of tree species /grass species/scrubs etc., distance between the plants and survival rate should be recorded, (vi) Green belt is an important sink of air pollutants including noise. Development of green cover in mining area will not only help reducing air and noise pollution but also will improve the ecological conditions and prevent soil erosion to a greater extent. Further, selection of tree species for green belt should constitute dust removal/dust capturing plants since plants can act as efficient biological filters removing significant amounts of particulate pollution. Thus, the identified native trees in the mine area may be encouraged for plantation. Tree species having small leaf area, dense hair on leaf surface (rough surface), deep channels on leaves should be included for plantation, (vii) Vetiver plantation on inactive dumps may be encouraged as the grass species has high strength of anchoring besides medicinal value, (viii) Details of compensatory afforestation done should be recorded and documented by respective forest divisions, and State Forest Department should present mine-wise annual status, along with expenditure details, (ix) Similarly, Wildlife Department is also required to record and document annual status of wildlife in the region and should identify the need for wildlife management on regional level, (x) Maintenance of the ecology of the region is prime responsibility of the State Forest and Wildlife Department. They need to periodically review the status and identify the need for further improvement in the region. The required expenditure may be met from the funds already collected in the form of compensatory afforestation and wildlife management. Further, additional fund, if required can be sought from DMF. Responsibility: Individual Mine Lease Holders and State Forest & Wildlife Department.

27. **Socio-Economic Related:** (i) Public interaction should be done on regular basis and social welfare activities should be done to meet the requirements of the local communities. Further, basic amenities and infrastructure facilities like education, medical, roads, safe drinking water, sanitation, employment, skill development, training institute etc. should be developed to alleviate the quality of life of the people of the region, (ii) Land outtees and land losers/affected people, if any, should be compensated and rehabilitated as per the national/state policy on Resettlement and Rehabilitation, (iii) The socioeconomic development in the region should be focused and aligned with the guidelines/initiatives of Govt, of India/ NITI Aayog / Hon'ble Prime Minister's Vision centring around prosperity, equality, justice, cleanliness, transparency, employment, respect to women, hope etc. This can be achieved by providing adequate and quality facilities for education, medical and developing skills in the people of the region. District administration in association with mine lease holders should plan for "*Samagra Vikas*" of these blocks well as other blocks of the district. While planning for different schemes in the region, the activities should be prioritized as per Pradhan Mantri Khanij Kshetra Kalyan Yojna (PMKKKY), notified by Ministry of Mines, Govt, of India, vide letter no. 16/7/2017-M.VI (Part), dated September 16,

2015. Responsibility: District Administration and Individual Mine Lease Holders.

28. **Road Transport Related:** (i) All the mine lease holders should follow the suggested ore transport mode (SOTM) based on its EC capacity within next 5 years, (ii) The mine lease holders should ensure construction of cement road of appropriate width from and to the entry and exit gate of the mine as suggested in Chapter 10. Further, maintenance of all the roads should be carried out as per the requirement to ensure dust free road transport, (iii) Transportation of ore should be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore/dust takes place. Further, air quality in terms of dust, PM₁₀ should be monitored near the roads towards entry & exit gate on regular basis, and be maintained within the acceptable limits. Responsibility: Individual Mine Lease Holders and Dept, of Steel & Mines.
29. **Occupational Health Related:** (i) 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 periodically, (ii) Occupational health surveillance program for all the employees/workers (including casual workers) should be undertaken periodically (on annual basis) to observe any changes due to exposure to dust, and corrective measures should be taken immediately, if needed, (iii) Occupational health and safety measures related awareness programs including identification of work related health hazard, training on malaria eradication, HIV and health effects on exposure to mineral dust etc., should be carried out for all the workers on regular basis. A full time qualified doctor should be engaged for the purpose. Periodic monitoring (on 6 monthly basis) for exposure to respirable mineral dust on the workers should be conducted, and record should be maintained including health record of all the workers. Review of impact of various health measures undertaken (at an interval of 3 years or less) should be conducted followed by follow-up of actions, wherever required. Occupational health centre should be established near mine site itself. Responsibility: Individual Mine Lease Holders and District Administration (District Medical Officer),
30. **Reporting of Environmental Sustainability Achievement:** All the mines should prepare annual environmental sustainability report (ESR), highlighting the efforts made towards environmental protection with respect to different environmental components vis-a-vis production performance of the mine on monthly basis. The data collected as per EC and CTE/CTO conditions should be utilized to prepare the annual sustainability report. The mines performing high with effective environmental safeguards may be suitably recognized/rewarded. "Star Rating Format" formulated by the Ministry of Mines along with environmental sustainability report may be used,
31. **Environmental Monitoring Requirements at Regional Level:** Apart from strict compliance and monitoring by individual mine lease holder, there is a need for simultaneous monitoring in each of the regions by competent expert agencies under the guidance/ supervision of concerned regulatory agency. Details of the studies required to be done on regular basis (continuously for 5 years) through responsible agency (organization of national/state repute) and time frame are suggested in Table.

Table: Suggested Environmental Monitoring Requirements and Action Plans at

| Sl. No. | Study component / Action Plan | Responsibility | Monitoring and Reporting Time Frame (Approx.) |
|---------|--|------------------------------------|---|
| 1. | Environmental Quality Monitoring with respect to Air, Water, Noise and Soil Quality in each region (Joda, Koira and Baripada/Rairangpur) as per specified frequency shall be done by a third party (preferably Govt.) and/or laboratory approved/ recognized by NABET/ CPCB/ SPCB/ MoEF&CC. All the water bodies (rivers, nalias, ponds etc.) shall be monitored. National/State level research/ academic institutes may be involved initially for couple of years to streamline the activity. The report shall be brought out annually by June each year. The study shall be conducted in consultation with MoEF&CC-RO. | SPCB | Continuous Annually |
| | Installation of online ambient air quality monitor for PM ₁₀ , PMP.S, SO _x and NO _x within the mine havina more than 3 MTPA EC Caoacitv | Respective Mine Lease Holders | Continuous Annually |
| | Installation of online ambient air quality monitor for PM ₁₀ , PM _{2.5} , SO _x and NO _x in the Joda and Koira Region (total 11 locations). | SPCB | Continuous Annually |
| 2. | Status of flora and fauna in each of the regions shall be assessed on annual basis. Changes, if any, taking place in the region shall be brought out clearly. The study shall be conducted in consultation with State Forest and Wildlife Department. | State Forest & Wildlife Dept. | Annually in mining zone and once in 3 years in the region |
| 3. | Socio-economic study incorporating developments taking place in each of the region, CSR initiatives made by the mining companies shall be conducted on annual basis. Further, micro level developmental needs shall be clearly brought out in the report for each region. The study shall be conducted in consultation with district administration. | Respective District Administration | Annually |

| Sl. No. | Study component / Action Plan | Responsibility | Monitoring and Reporting Time Frame (Approx.) |
|----------------|---|--|---|
| 4. | A detailed hydro-geological study in each of the regions shall be conducted in an integrated manner in consultation with Regional Director, Central Ground Water Board. Accordingly, all project proponents shall implement suitable conservation measures to augment ground water resources in the area. | SPCB | Once in 2 years |
| 5. | The State Govt. shall ensure construction and maintenance of dust free common roads/ appropriate rail network for transport of ore from mines to the consumer end. | Dept. of Steel & Mines | 12 months for road network and 5-7 years for rail network |
| 6. | Construction and maintenance of dust free roads from respective mine to the main road | Respective Mine Lease Holders | Continuous 6 months |
| 7. | Traffic/road inspection study addressing the condition of traffic/roads leading to different mines and connecting to different railway sidings shall be undertaken on annual basis. Further, detailed traffic study shall be undertaken on every 5 yearly basis to ensure adequacy of road/rail infrastructure in each of the regions. The study can be undertaken through national/ state level research/ academic institute (such as CSIR-CRRI, New Delhi). | Dept. of Steel & Mines | Continuous 6 months |
| 8. | Assessment of land use/ land cover changes in each of the regions, with particular focus on mining areas, afforestation activities, variation in flow path of various water bodies etc. using remote sensing data | ORSAC | Annually |
| 9. | R&D Studies for utilization of low-grade iron ore | Dept. of Steel & Mines through R&D / Academic Institutes | Upto 45% by 2020 and upto 40% by 2025 |

The data so generated for the region should be made available on the website of Department of Steel & Mines and also at MoEF&CC website, so that it can be effectively utilized by Individual Mine Lease Holders for preparing EIA/ EMP reports. This will meet the requirement for separate one season baseline environmental quality data collection by the

individual proponents, if the mine proposed is in the same study region. Further, MoEF&CC through EAC1 can also utilize the data base available in evaluating the proposals for expansion of existing mines or new mines while granting ToR or EC to the mine, taking a holistic view of the region. State Govt, of Odisha should bring out an integrated environmental sustainability report for each of the regions (mainly for Joda and Koia region) incorporating ESR of individual mines and data collected in the region through various agencies, once in 5 years, to plan level of scientific and sustainable mining for the next 5 years.

32. Institutional Mechanism for Implementation of Environmentally Sustainable Mining: The present study is not a one-time study, but a process to ensure environmentally sustainable mining activities in the region on long term basis. Looking into the large-scale mining activities and long term perspective for mining vis-a-vis environmentally sustainable mining and upliftment of people of the region, there is a need to create an agency, who will integrate all the aspects relating to sustainable mining in the region on long term basis. It could be a SPV of Govt, of Odisha or a cell within the overall control and supervision of Dept, of Steel & Mines, with members from

IBM, GSI, OSPCB, MoEF&CC-RO and other concerned Departments and Mine Owners (EZMA), District Administration. It is found that the strong database available for the region needs to be taken into account to map and establish environmental quality of the region on daily, monthly, seasonal and annual basis. Further, the efforts and initiatives of the mines towards environmental protection as well as upliftment of the people of the region are required to be integrated, and a systematic plan at the block/regional level needs to be framed for the overall benefit of the local society, region, district, state and the country as a whole. It will be desirable to have proper environmental quality data management and analysis by NEERI or any other agency for next 5 years (six monthly compliance reports followed by field verification) ensuring sustainable mining practices in the region leading to an overall development of the region. District Mineral Funds should be utilized appropriately for various developmental activities/needs of the region. Further, an environmental sustainability report incorporating environmental status of region coupled with social upliftment may be brought out by SPCB or any other authorized agency on annual basis. This report can be used for supporting the regional EIA study, and also need for environmental quality monitoring by individual mine seeking environmental clearance for new mine/ expansion of mine, including public hearing. Since, outcome of the above study reports shall be in the overall interest of all the stakeholders (including local population) of the region, further planning for the region shall warrant cooperation and assistance of all the stakeholders (mine operators, industries, transporters, State & Central Government Offices, MoEF&CC, CPCB, SPCB, Dept, of Steel & Mines, IBM, IMD, NGOs and local people) in sharing the relevant data/information/ reports/documents etc. to continuously improve upon the environmentally sustainable development plan for economic growth in mining sector as well as for improvement in quality of life of the people of the region.

- 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 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.