

**MINUTES OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL  
COMMITTEE, ORISSA HELD ON 17<sup>th</sup> JUNE 2010**

The meeting of State Level Expert Appraisal Committee, Orissa was held on 17<sup>th</sup> June 2010 in the meeting hall of Orissa State Pollution Control Board, Bhubaneswar at 11.00 AM. Dr. Gagan Bihari Nityananda Chainy, Chairman, SEAC Orissa chaired the meeting. The following members were present in the meeting.

- |    |                                      |   |          |
|----|--------------------------------------|---|----------|
| 1. | Prof. Gagan Bihari Nityananda Chainy | - | Chairman |
| 2. | Prof. Swoyam Prakash Rout            | - | Member   |
| 3. | Dr. Moheshwar Patra                  | - | Member   |
| 4. | Prof. R. C. Mohanty                  | - | Member   |
| 5. | Prof. Kumar Das,                     | - | Member   |
| 6. | Dr. Surendra Nath Das                | - | Member   |

A total of 5 project proponents were invited for appraisal followed by discussion. The agenda-wise proceedings and deliberations of the meeting of the committee are detailed below :

**ITEM NO .1**

**PROPOSAL OF KATASAH I & KOLHARUDUKELA MANGANESE ORE MINE OF SRI S.N PAUL FOR ENHANCEMENT OF PRODUCTION CAPACITY OF MANGANESE ORE FROM 3000 TPA TO 18,000 TPA OVER AN AREA OF 9.7004 HA. AT- KATASAH I AND KOLHARUDUKELA , DIST: KEONJHAR**

The proposal was considered by the SEAC to determine the Terms of Reference (TOR) for taking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA notification, 2006. The project proponent had submitted information in the prescribed format (Form-I) along with pre-feasibility report. According to the Form-I and presentations made by the proponent, the proposal is for enhancement of production capacity of Manganese ore from 3000 TPA to 18,000 TPA. The mining lease area is 9.7004 ha. Out of total mine lease area, 4.24 ha is forest land. The first mining lease was granted in favor of Sri. S.N. Paul for a period of 20 years from 09.10.1985 over an area of 9.7004 ha. Renewal application was filed on 29.06.2004. The mining operation commenced from 1.1.1988 by the lease hold. The mining plan was approved by IBM for 2005 – 06 to 2009 -10 vide letter no. MP/OTF.MECH/43-ORI/BHU/2009-10 dtd. 15.10.2009.

The mine working will be Opencast semi-mechanized mining. The present application is for enhancement of production of Manganese ore from 3000 MTA to 18,000 MTA. 73438m<sup>3</sup> solid waste is likely to be generated and the mine has earmarked 70992m<sup>2</sup> for solid waste dump site. Considering the information furnished and presentation made by the consultant Mr. Debasis Biswal, **KALYANI LABORATORIES PVT.LTD** environmental consultant of the project proponent, the SEAC prescribed the following TORs for undertaking detailed EIA study:

1. Profile of the project proponent and his background to establish the financial and entrepreneurial competency to undertake the project may be included.
2. Duly attested & certified Mining Plan approved by concerned authority may be submitted along with the copy of the current lease deed in the name of the proponent. Present status of mining lease may be given.
3. Copy of Forest Clearance from concerned authority.
4. The EIA study area shall encompass 10 km radius from the mine lease boundary as buffer zone.
5. **The proponent has to furnish information on nature of the OB , its leachability with water along with analysis report of the leachate .**
6. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna and site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
7. Air quality modeling should be carried out for prediction of impact of the project and the existing mines in the vicinity on the air quality of the area focusing more in the villages within 3 kms from the mine. It should also take into account the impact of movement of vehicles for transportation and handling of minerals, OB including mining activity through volume source modeling. The details of the model used and input parameters used for modeling 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 and speed may also be indicated on the map. The modeling should take into consideration the existing mines in the study area as regards their polluting potential rather than the existing level..
8. Availability of requisite quantity of surface, sub-surface and ground water and their source to be furnished along with water balance. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
9. Details of water bodies and drainage pattern of the ML area may be specified.
10. Progressive reclamation plan, post-mining land use, progressive mine closure and greenbelt development plan should be prepared in tabular form and be submitted. Milestones for the above activities may be specified in the table.
11. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife corridors, Tiger/Elephant reserves (existing as well as proposed), and existence of rare and endangered flora and fauna if any, within 10 km of the mine lease should be

- clearly indicated. Necessary clearance, if any, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above under the Wildlife (Protection) Act, 1972 and copy thereof, may be furnished.
12. A detailed biological study of the core zone and buffer zone (10 km radius of the mining lease area) should be carried out. Details of flora and fauna duly authenticated separately for core and buffer zones should be furnished based on field survey indicating the schedule of the fauna present. In case of any schedule-I fauna found in the study area, necessary plan for their conservation should be prepared in consultation with the State Forest & Wildlife Department and details may be furnished. Necessary cost details for executing the conservation measures should be furnished and incorporated as part of the project cost.
  13. Occupational health impact and remedial measures thereof for the project may be studied.
  14. Baseline data for health status survey for all the employees including labourers and the residents of the nearby villages within 5 km distance may be carried out. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health check up, first-aid, shelter for rest and meals, drinking water etc. are to be taken up at the project cost. Nearby mine owners may form a society and a common fund for the welfare of mineworkers may be created. Besides various Govt. schemes and other sources may be explored. This aspect has to be covered in the EMP.
  15. Socio-economic impact due to project activity may be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified and as far as possible, quantitative dimension to be given. Study should include Corporate Social Responsibility (CSR) and it should be carried out as the entry point activity as trust building measures.
  16. Points raised/likely to be raised during public hearing and commitment of the project proponent on the same may be included.
  17. The depth of the ground water table in the area vis-a-vis minable depth of the bodies may be clarified with either primary or authentic secondary data in the EIA report. Rainwater harvesting and treatment system for pumped out quarry water if any may be submitted.
  18. Management of OB dumps and other solid wastes generated during mining may be addressed through incorporation of a concrete plan for the same. Proper care should be taken for treating the effluents along with rainwater harvesting and wash offs from OB dumps to adequately recharge the ground water resources.
  19. Colored maps depicting land use/change of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.

20. Satellite imagery of the location of mine should be submitted with demarcation of other proposed/in-operation mines in nearby area. Location is also to be shown in Tehsil map procured from the Revenue Department. This should be used as baseline information to compare the impact of mining in the area in future.
21. Risk assessment and disaster management plan should be given.
22. EMP taking into account the pre- and post-project environment impacts may be included.
23. Any litigation/ court case pending against the proposal should also be included.
24. The EIA report should includes the specified methodology to be adopted for collection and analysis of 12 air quality parameters as per the Central Pollution Control Board Notification No. B-29016/20/90/PCI-L dated 18th November 2009 published in the Gazette of India Part III-Section 4 No 217 Extraordinary. The analytical methods to be followed is specified in the above notification is to be maintain the New National Ambient Air Quality Standards
25. **This Terms of References (TORs) is valid for a period of two years from the date of issue of TORs for submission of the EIA/EMP report after public consultation.(This is in conformity with the MoEF, Govt. of India office memorandum No. J-11013/41/2006-IAI(I) dt. 22.3.10.**

## **ITEM NO .2**

**PROPOSAL OF KUNDRUPANI IRON & MANGANESE ORE MINE OF M/S. R.B DAS FOR ENHANCEMENT PRODUCTION OF IRON ORE FROM 3600 TPA TO 48024 TPA, MANGANESE ORE PRODUCTION OF 1600 TPA & 25 TPH IRON ORE CRUSHER OVER AN AREA OF 10.255 HA. AT VILLAGE- KUNDRUPANI, DIST: KEONJHAR**

The proposal was considered by the SEAC to determine the Terms of Reference (TOR) for taking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA notification, 2006. The project proponent had submitted information in the prescribed format (Form-I) along with pre-feasibility report. According to the Form-I and presentations made by the proponent, the proposal is for enhancement of production OF iron ore from 3600 TPA to 48024 TPA, production of Manganese ore 1600 TPA & 25 TPH iron ore crusher . The mining lease area is 10.255 ha. Out of total mine lease area, 4.249 ha is forest land. The renewal application for the ML area of 10.256 ha has been filed on 6.4.04 for further 20 years which is under process. Mining Plan for enhancement of production for a period 2009-010 to 2013-14 has

already been approved by IBM on 18.2.10. The mine working will be Opencast semi-mechanized-cum-manual mining. The present application is for enhancement of production iron ore from 3600 TPA to 48024 TPA, Manganese ore 1600 TPA & 25 TPH iron ore crusher. 296,661 m<sup>3</sup> solid waste is likely to be generated and the mine has earmarked 1.679 ha for solid waste dump site. The water requirement is 5 KLD and source of water is ground water and river Suna. Considering the information furnished and presentation made by the consultant Mr. Gangadhar Sahoo, M/S S.S. Environics (India) Pvt Ltd. environmental consultant of the project proponent, the SEAC prescribed the following TORs for undertaking detailed EIA study:

1. Profile of the project proponent and his background to establish the financial and entrepreneurial competency to undertake the project may be included.
2. Duly attested & certified Mining Plan approved by concerned authority may be submitted along with the copy of the current lease deed in the name of the proponent. Present status of mining lease may be given.
3. Copy of forest Clearance from concerned authority.
4. The EIA study area shall encompass 10 km radius from the mine lease boundary as buffer zone.
5. **The proponent has to furnish information on nature of the OB , its leachability with water along with analysis report of the leachate .**
6. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna and site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
7. Air quality modeling should be carried out for prediction of impact of the project and the existing mines in the vicinity on the air quality of the area focusing more in the villages within 3 kms from the mine. It should also take into account the impact of movement of vehicles for transportation and handling of minerals, OB including mining activity through volume source modeling. The details of the model used and input parameters used for modeling 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 and speed may also be indicated on the map. The modeling should take into consideration the existing mines in the study area as regards their polluting potential rather the existing level.

8. Availability of requisite quantity of surface, sub-surface and ground water and their source to be furnished along with water balance. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
9. Details of water bodies and drainage pattern of the ML area may be specified.
10. Progressive reclamation plan, post-mining land use, progressive mine closure and greenbelt development plan should be prepared in tabular form and be submitted. Milestones for the above activities may be specified in the table.
11. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife corridors, Tiger/Elephant reserves (existing as well as proposed), and existence of rare and endangered flora and fauna if any, within 10 km of the mine lease should be clearly indicated. Necessary clearance, if any, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above under the Wildlife (Protection) Act, 1972 and copy thereof, may be furnished.
12. A detailed biological study of the core zone and buffer zone (10 km radius of the mining lease area) should be carried out. Details of flora and fauna duly authenticated separately for core and buffer zones should be furnished based on field survey indicating the schedule of the fauna present. In case of any schedule-I fauna found in the study area, necessary plan for their conservation should be prepared in consultation with the State Forest & Wildlife Department and details may be furnished. Necessary cost details for executing the conservation measures should be furnished and incorporated as part of the project cost.
13. Occupational health impact and remedial measures thereof for the project may be studied.
14. Baseline data for health status survey for all the employees including labourers and the residents of the nearby villages within 5 km distance may be carried out. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health check up, first-aid, shelter for rest and meals, drinking water etc. are to be taken up at the project cost. Nearby mine owners may form a society and a common fund for the welfare of mineworkers may be created. Besides various Govt. schemes and other sources may be explored. This aspect has to be covered in the EMP.
15. Socio-economic impact due to project activity may be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified and as far as possible, quantitative dimension to be given. Study should include Corporate Social Responsibility (CSR) and it should be carried out as the entry point activity as trust building measures.

16. Points raised/likely to be raised during public hearing and commitment of the project proponent on the same may be included.
17. The depth of the ground water table in the area vis-a-vis minable depth of the bodies may be clarified with either primary or authentic secondary data in the EIA report. Rainwater harvesting and treatment system for pumped out quarry water if any may be submitted.
18. Management of OB dumps and other solid wastes generated during mining may be addressed through incorporation of a concrete plan for the same. Proper care should be taken for treating the effluents along with rainwater harvesting and wash offs from OB dumps to adequately recharge the ground water resources.
19. Colored maps depicting land use/change of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.
20. Satellite imagery of the location of mine should be submitted with demarcation of other proposed/in-operation mines in nearby area. Location is also to be shown in Tehsil map procured from the Revenue Department. This should be used as baseline information to compare the impact of mining in the area in future.
21. Risk assessment and disaster management plan should be given.
22. EMP taking into account the pre- and post-project environment impacts may be included.
23. Any litigation/ court case pending against the proposal should also be included.
24. The EIA report should includes the specified methodology to be adopted for collection and analysis of 12 air quality parameters as per the Central Pollution Control Board Notification No. B-29016/20/90/PCI-L dated 18th November 2009 published in the Gazette of India Part III-Section 4 No 217 Extraordinary. The analytical methods to be followed is specified in the above notification is to be maintain the New National Ambient Air Quality Standards
25. **This Terms of References (TORs) is valid for a period of two years from the date of issue of TORs for submission of the EIA/EMP report after public consultation.(This is in conformity with the MoEF, Govt. of India office memorandum No. J-11013/41/2006-IAII(I) dt. 22.3.10.**

### **ITEM NO .3**

#### **PROPOSAL OF RAIKELA IRON ORE MINE OF M/S NATIONAL ENTERPRISES FOR PRODUCTION OF IRON ORE 5, 02, 200 TPA OVER LEASE AREA OF 45.932 HA. AT -VILLAGE: RAIKELA, DISTRICT: SUNDARGARH**

The proposal was considered by the SEAC to determine the Terms of Reference (TOR) for taking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA notification, 2006. The project proponent had submitted information in the prescribed format (Form-I) along with pre-feasibility report. According to the Form-I and presentations made by the proponent, the proposal is for production iron ore **5, 02, 200 TPA** . The mining lease area is **45.932** ha. Out of total mine lease area, **43.876** ha is forest land. The Mine is in Operation since 1983 by Sri U. C. Mishra and later the lease was transferred to M/s Nation Enterprises on 18th July 1985. The Mine obtained Environmental Clearance from MoEF on 18th February, 2009 for Production of Iron Ore upto 42000 TPA. The mine working will Opencast and mechanized mining. **During Plan Period 8, 62, 714 m3 of waste will be generated and will be dumped in the existing external dump covering an area of 4.16 ha.** The water requirement is **40.0 KLD** and source of water is ground water and river Karo. Considering the information furnished and presentation made by the consultant Mr. SUBHANGA PRAHARAJ , M/s **CLEENVIRON PRIVATE LIMITED C/50, KOELNAGAR, ROURKELA** environmental consultant of the project proponent, the SEAC prescribed the following TORs for undertaking detailed EIA study:

1. Profile of the project proponent and his background to establish the financial and entrepreneurial competency to undertake the project may be included.
2. Duly attested & certified Mining Plan approved by concerned authority may be submitted along with the copy of the current lease deed in the name of the proponent. Present status of mining lease may be given.
3. Copy of Forest Clearance from concerned authority.
4. **Height of solid waste dump is mentioned as 45m with 4 terraces; each section measuring >11m vertical height. With an acceptable inclination angle (~30°), the slope height will be much more. Therefore the proponent has to submit supportive documents regarding slope stability of the waste dump.**
5. **The proponent has to furnish information on nature of the OB , its leachability with water along with analysis report of the leachate .**
6. **The dump management plan presented shows gradual increase in the base area (total area demarcated is 4.16ha) along with height. If the only OB dump continues to be active through out the period (07 years), it will be still more unstable and there won't be any scope to vegetate. The proponent shall clarify the same.**



7. **The proponent has intimated that the back filling of abandoned mine(s) starts in 2013 (i.e., at the end of conceptual period),The proponent shall clarify if all the mineable reserve will be exhausted within such a short period.**
8. **All air quality monitoring stations are taken in villages/town though sprawling forests exist in the area. Thus the influence of air pollution on the plants/foilage could not be brought out. At least two stations should be located in the forest area and run for a few weeks so as to assess the influence of dusts on the forest canopy, especially during the dry period.**
9. **A water flow meter should be used to estimate the stream flow in Karo river from which water is proposed to be drawn. Water at a rate of 38KLD from the river seems to be impracticable since it is not a perennial river. Copy of the permission from competent authorities may be furnished to draw surface as well as underground water.**
10. **Planktonic study in the surface water body proposed to be carried out for EIA appraisal is superfluous. In stead, they should concentrate on the standard water quality parameters as specified in the Water Act .**
11. The EIA study area shall encompass 10 km radius from the mine lease boundary as buffer zone.
12. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna and site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
13. Air quality modeling should be carried out for prediction of impact of the project and the existing mines in the vicinity on the air quality of the area focusing more in the villages within 3 kms from the mine. It should also take into account the impact of movement of vehicles for transportation and handling of minerals, OB including mining activity through volume source modeling. The details of the model used and input parameters used for modeling 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 and speed may also be indicated on the map. The modeling should take into consideration the existing mines in the study area as regards their polluting potential rather the existing level..
14. Availability of requisite quantity of surface, sub-surface and ground water and their source to be furnished along with water balance. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
15. Details of water bodies and drainage pattern of the ML area may be specified.
16. Progressive reclamation plan, post-mining land use, progressive mine closure and greenbelt development plan should be prepared in tabular form and be submitted. Milestones for the above activities may be specified in the table.
17. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife corridors, Tiger/Elephant reserves (existing as well as proposed), and existence of rare and endangered flora and fauna if any, within 10 km of the mine lease should be clearly indicated. Necessary clearance, if any, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above under the Wildlife (Protection) Act, 1972 and copy thereof, may be furnished.

18. A detailed biological study of the core zone and buffer zone (10 km radius of the mining lease area) should be carried out. Details of flora and fauna duly authenticated separately for core and buffer zones should be furnished based on field survey indicating the schedule of the fauna present. In case of any schedule-I fauna found in the study area, necessary plan for their conservation should be prepared in consultation with the State Forest & Wildlife Department and details may be furnished. Necessary cost details for executing the conservation measures should be furnished and incorporated as part of the project cost.
19. Occupational health impact and remedial measures thereof for the project may be studied.
20. Baseline data for health status survey for all the employees including labourers and the residents of the nearby villages within 5 km distance may be carried out. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health check up, first-aid, shelter for rest and meals, drinking water etc. are to be taken up at the project cost. Nearby mine owners may form a society and a common fund for the welfare of mineworkers may be created. Besides various Govt. schemes and other sources may be explored. This aspect has to be covered in the EMP.
21. Socio-economic impact due to project activity may be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified and as far as possible, quantitative dimension to be given. Study should include Corporate Social Responsibility (CSR) and it should be carried out as the entry point activity as trust building measures.
22. Points raised/likely to be raised during public hearing and commitment of the project proponent on the same may be included.
23. The depth of the ground water table in the area vis-a-vis minable depth of the bodies may be clarified with either primary or authentic secondary data in the EIA report. Rainwater harvesting and treatment system for pumped out quarry water if any may be submitted.
24. Management of OB dumps and other solid wastes generated during mining may be addressed through incorporation of a concrete plan for the same. Proper care should be taken for treating the effluents along with rainwater harvesting and wash offs from OB dumps to adequately recharge the ground water resources.
25. Colored maps depicting land use/change of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.
26. Satellite imagery of the location of mine should be submitted with demarcation of other proposed/in-operation mines in nearby area. Location is also to be shown in Tehsil map procured from the Revenue Department. This should be used as baseline information to compare the impact of mining in the area in future.
27. Risk assessment and disaster management plan should be given.
28. EMP taking into account the pre- and post-project environment impacts may be included.
29. Any litigation/ court case pending against the proposal should also be included.

30. The EIA report should include the specified methodology to be adopted for collection and analysis of 12 air quality parameters as per the Central Pollution Control Board Notification No. B-29016/20/90/PCI-L dated 18th November 2009 published in the Gazette of India Part III-Section 4 No 217 Extraordinary. The analytical methods to be followed is specified in the above notification is to be maintain the New National Ambient Air Quality Standards
31. **This Terms of References (TORs) is valid for a period of two years from the date of issue of TORs for submission of the EIA/EMP report after public consultation.(This is in conformity with the MoEF, Govt. of India office memorandum No. J-11013/41/2006-IAII(I) dt. 22.3.10).**

**ITEM NO 4:**

**PROPOSAL OF SIDHAMATH IRON & MANGANESE MINES OF M/S. DHARAMCHAND JAIN FOR PRODUCTION OF 1.5 MTPA IRON ORE OVER ML AREA OF 29.421 HA. OF AT - SIDHAMATH RESERVE FOREST NEAR VILLAGE TANTO, DIST : KEONJHAR**

The proposal is for production of Iron ore upto 1.5 MTPA . . The TOR for this project was prescribed on 11.09.2009 by the State Level Expert Appraisal Committee , Govt. of Orissa. The mine lease area is 29.421 ha. The lease area extent over 29.421 Ha. exist within sidhamath Reserve Forest. The applicant granted ML over 637 Ac in Sidhamath R.F. of Keonjhar for Iron ore & Mn mine, by mining Dept. .Govt of Orissa vide Proceeding No.6175 dt.5.6.84 . Subsequently the lease area was revised to 28.485 ha vide dept of Steel and Mines Memo No.5546, dt.18.5.94 and subsequently the area recomputed to 29.421 ha vide letter No.10988, dt.23.8.84. Water requirement is 150 KLD and source of water is ground water. The public hearing was conducted on 23.3.2010. No National Park/Sanctuary is located within 10 km of the mine lease area. Mine working will be opencast and semi-mechanized involving drilling and blasting. The mine working will not intersect groundwater table. Waste generation will be 392863 CuM during plan period. The mine has earmarked 18400 Sq.M as OB dump area. The mine has proposed garland drain, check dams and retaining wall to prevent wash out of loose material from dump area.

Based on the information, documents and clarifications provided and presentation made by the consultant Ms Arundhati Tej, Environmental Research And Services (I) Pvt. Ltd. Plot No. B-22, Sector-B, Industrial Estate, Chandaka , the SEAC recommends for grant of environmental *clearance* in favour of the project for a period of five years subject to the following stipulated conditions::

1. The applicant (Project proponent) will take necessary measures for prevention, control and mitigation of Air Pollution, Water Pollution, Noise Pollution and Land Pollution including solid waste management as mentioned by him in Form-1, Final EIA reports and Environment Management Plan (EMP) in compliance with the prescribed statutory norms and standards.
2. The applicant will take necessary steps for socio-economic development of the people of the area on need based assessment for providing employment, education, health care, drinking water and sanitation, road and communication facilities etc.
3. The applicant will comply to the points, concerns and issues raised by the people during public hearing on **23.03.2010** in accordance with the commitments made by him thereon.
4. The applicant will take statutory clearance/approval/permissions from the concerned authorities in respect of his project as and when required.
5. For post environmental clearance monitoring, the applicant will submit half-yearly compliance report in respect of the stipulated terms and conditions of Environmental Clearance to the State Environmental Impact Assessment Authority (SEIAA), Orissa on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year.
6. The core zone should be monitored intensively with no. of stations as prescribed by CPCB, Delhi and unit of pollutant level should be expressed as NAAQ of CPCB, Delhi. The detail methodology adopted for analysis of samples shall be clearly indicated.
7. The proponent shall submit ground tooting baseline data on flora & fauna and CSR activities already carried out within three months to the SEIAA
8. Adequate buffer zone shall be maintained between two consecutive mineral bearing deposits.
9. The following shall be implemented viz. (a) dump run-off should be diverted into settling ponds (b) adequate rain water harvesting and ground water recharging facilities should be developed in the core zone; (c) attempt should be made to achieve zero water balance.
10. The applicant will take Forest Clearance from competent authority.
11. **Mining would start simultaneously in two quarries since nature of ore (occurrence) is different at these two places, which is supposed to be unique to the area. Therefore, complete physical and chemical analysis data of the ore bodies carried out by an authentic firm and duly approved by IBM may be produced before obtaining EC.**
12. **Leach ability studies carried out by a third party showed that acetic acid and sodium acetate buffer was used as one of the leachants while 1M MgCl<sub>2</sub> was the other leachant. They presented a paper which used such leachants for lake sediments. It needs to be evaluated whether such leaching solutions are capable of leaching trace metals under the existing environmental conditions, which is of utmost importance to the region. The proponent shall furnish supportive document regarding correctness of lechate analysis.**

13. They propose to sell an acceptable grade by blending. Thus both the quarries will be active throughout the lease period and possibly beyond depending on further exploration. This is environmentally harmful and may be avoided. The lateritic and in-situ/float zone ores can be mined separately and disposed off after due screening and crushing rather than blending.
14. The water requirement of 150KLD is proposed to be drawn from the borewells. The proponent shall furnish copy of the permission from CGWA to draw ground water .
15. The proponent has proposed two numbers of 500KW diesel generators for supplying power without assessing their impact on the air quality of the area. Model calculations should have taken this factor into account.
16. Safe storage and handling of the required fuel has also not been shown.
17. The air quality data in the buffer zone shows 15-20 µg/m<sup>3</sup> of NO<sub>x</sub> at most of the stations while at Stn.5 it is 30-60 µg/m<sup>3</sup>. The proponent shall inform the source of such high NO<sub>x</sub>.
18. Similarly, RSPM in the buffer zone is 30-40% of the SPM, which establishes that there is very high concentration of fine dusts compared to the total suspended particulate matter. This could be due to erroneous placement of HVS, possibly by the road sides. This might have deleterious effects on the breathing air quality of the region, which is already reeling under too many mining and transportation activities affecting the normal life of the area. So air quality data needs to be reevaluated after proper sampling over a few weeks period as suggested earlier.
19. The RH is shown to be 70 -77% in winter months (period of sample collection), which is quite unacceptable and erroneous considering the area. The RH on Feb. 7 and 8, 2009 is shown to be >90%; apparently when it rained. The proponent should obtain fresh authenticated data either from IMD or reevaluate their own AWS data and resubmit.
20. Although the Committee pointed out apparent misinterpretation of future dust propagation data during the TOR presentation, the consultant tried to explain the dust fall out to spread up to nearly 10km from the nuclear zone due to topography of the area (hill on the leeward side of the wind flow); it was not convincing. However, if such data is accepted, there will be much greater impact of SPM and RSPM on the nearby habitat (villages and forest canopy) therefore the proponent shall take adequate measure to mitigate the same.
21. Maximum rainfall in Sept-Oct is shown as 233mm with Wind speed only 3-4km/h. So meteorological data presented are quite erroneous and needs reevaluation.
22. Maintenance of roads through which transportation of ores are undertaken shall be carried out by the project proponent regularly at its own cost.
23. Fugitive dust generation shall be controlled. Fugitive dust emission shall be regularly monitored at locations of nearest human habitation (including schools and other public amenities located nearest to sources of dust generation as applicable) and records shall be submitted to the SEIAA, Orissa.
24. Transportation of ore shall be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore / dust takes place.
25. Rain water harvesting shall be undertaken to recharge the ground water source.

26. Monitoring of ground and surface water quality shall be regularly conducted and records should be maintained and data shall be submitted regularly to the SEIAA, Orissa.
27. The proponent shall ensure that no silt originating due to mining activity is transported in the surface water course. Measures for prevention and control of soil erosion and management of silt shall be undertaken. Protection of dumps against erosion shall be carried out with geo textile matting or other suitable material, and thick plantations of native trees and shrubs shall be carried out at the dump slopes. Dumps shall be protected by retaining walls.
28. Trenches / garland drains shall be constructed at foot of dumps to arrest silt from being carried to water bodies. Adequate number of Check Dams shall be constructed across seasonal/perennial nallahs (if any) flowing through the ML area and silts be arrested. De-silting at regular intervals shall be carried out.
29. Provision shall be made for the housing of the labourers within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
30. Occupational health and safety measures for the workers including identification of work related health hazards, training on malaria eradication, HIV, and health effects on exposure to mineral dust etc. shall be carried out. The Proponent shall engage a full time qualified doctor who is trained in occupational health. Periodic monitoring for exposure to respirable mineral dust on the workers shall be conducted and records maintained including health records of the workers. Awareness programme for workers on impact of mining on their health and precautionary measures like use of personal equipments etc. shall be carried out periodically. Review of impact of various health measures undertaken (at interval of five years or less) shall be conducted followed by follow up action wherever required. Occupational Health Centre shall be established near the mine site itself.
31. Shelter belt i.e Wind Break of 15 m width and consisting of at least 5 tiers around lease facing the human habitation, school / agricultural fields etc. (if any in the vicinity), in the safety zone/ back-filled & reclaimed areas, around voids & roads shall be raised. Green belt development and selection of plant species shall be as per CPCB guidelines. Density of the trees has to be around 2500 plants per hectare. Herbs and shrubs shall also form a part of afforestation programme besides tree plantation. Help & guidance of local DFO may be sought in the matter. Details of year wise afforestation programme including rehabilitation of mined out area shall be submitted to the SEIAA, Orissa within six months.
32. The mining operations shall be restricted to above ground water table and it should not intersect the groundwater table.
33. The top soil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long ( not more than 3 years). The topsoil shall be used for land reclamation and plantation.
34. The over burden (OB) generated during the mining operation shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time and its phase-wise stabilization shall be carried out. Proper terracing of OB dump shall be carried out so that the overall slope shall not exceed 28°

- Backfilling shall be done as per approved mining plan. Back-filling to start from 3<sup>rd</sup> year onwards of the mining operation & the entire quantity of waste generated shall be backfilled & liquidated within five years. There shall be no external overburden dumps after the 6<sup>th</sup> year of the mining operation. The backfilled area shall be afforested. Back-filling has to be done in a manner that it is restored to the normal ground level. Monitoring & management of rehabilitated areas should continue till the vegetation is established & becomes self-generating. Compliance status to be reported to the appropriate authorities.
35. The funds earmarked for the environment protection measures shall be judiciously utilized. Under no circumstances this funds shall be diverted for other purposes. Year-wise expenditure for this fund should be reported to the SEIAA, Orissa.
  36. The critical parameters such as SPM, RSPM, NOX in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The circular No. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry [www.envfor.nic.in](http://www.envfor.nic.in) shall also be referred in this regard for its compliance.
  37. A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the SEIAA 5 years in advance of final mine closure for approval.
  38. The above mentioned stipulated conditions shall be complied in time bound manner. Failure to comply with any of the conditions mentioned above may result in withdrawal of this environmental clearance and attract action under the provisions of Environment Protection (EP) Act, 1986.

**Environmental concern becomes all the more important since there are 41 mines in close proximity covering an area of 14,520 ha of land, out of which forest/ reserve forest land could be to a sizeable extent. Before granting EC to a fresh mine reserve forest should be properly evaluated.**

#### **ITEM NO - 5**

#### **PROPOSAL OF KESHARI ROLLING MILLS PRIVATE LIMITED FOR RE-ROLLING MILLS FOR PRODUCTION CAPACITY OF 72000 TPA AT – KALUNGA, DIST – SUNDARGARH**

The proposal is for installation of a rolling mill of capacity 72000 MT/Annum on Plot No. S3-122, Industrial Estate, Kalunga, Dist – Sundargarh. . The TOR for this project was issued on 29.09.2009. Revised ToR issued on 03.03.2010 by SEAC. The SEAC recommended to exempt public hearing **as per section 7(III) (b) of EIA notification, 2006** There are no sanctuaries, National parks, Tiger reserve or Biosphere reserve existing within 10 km radius.

Considering the information furnished and presentation made by the consultant Mr. Subhanga Praharaj , M/s Cleenviron Private Limited C/50, Koelnagar, Rourkela environmental consultant of the project proponent, the SEAC recommends for grant of environmental *clearance* in favour of the project for a period of five years subject to the following stipulated conditions :

1. The applicant (Project proponent) will take necessary measures for prevention, control and mitigation of Air Pollution, Water Pollution, Noise Pollution and Land Pollution including solid waste management as mentioned by him in Form-1, Final EIA reports and Environment Management Plan (EMP) in compliance with the prescribed statutory norms and standards.
2. The applicant will take necessary steps for socio-economic development of the people of the area on need based assessment for providing employment, education, health care, drinking water and sanitation, road and communication facilities etc.
3. The applicant will take statutory clearance/approval/permissions from the concerned authorities in respect of his project as and when required.
4. For post environmental clearance monitoring, the applicant will submit half-yearly compliance report in respect of the stipulated terms and conditions of Environmental Clearance to the State Environmental Impact Assessment Authority (SEIAA), Orissa on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year.
5. Coal gasification to replace/supplement fuel oil for reheating of ingots before **rolling is ruled out since technical details of the gasification unit are not included. Moreover, there can not be dual fuel source since each one would be associated with different kinds of environmental concerns. The industry do not have the required space within their area to locate the gasifying unit.**
6. **Even though the Company has proposed to use low sulfur fuel for the furnace, their SO<sub>x</sub> emission at the outlet is shown as 80 g/m<sup>3</sup>, which is much higher than expected. This might lead to a substantial increase in SO<sub>x</sub> level in the immediate vicinity affecting occupational health of the workers. Moreover, the present background level in the area is shown as <10 g/m<sup>3</sup> even though a number of sponge iron units are located in the Kalunga Industrial Estate itself. They should get a low sulfur emitting reheating furnace from a reputed firm**
7. **Similarly, space for safe storage of fuel oil and its subsequent hazards like fugitive emissions and fire fighting measures are to be ensured.**
8. **The 63 KVA diesel generator unit proposed does not have adequate fuel storage space with associated safety measures. The chimney height is also not specified.**
9. Gaseous emissions including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.



10. Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product. All the raw materials shall be transported in the closed containers only and shall not be overloaded. Vehicular emissions shall be regularly monitored.
11. Dust suppression and extraction system shall be provided to control dust emissions from all the vulnerable sources like raw material handling and storage areas. All the material transfer points, discharge points and raw material storage area shall be completely covered. Fugitive emissions shall be regularly monitored and records maintained.
12. The critical parameters such as SPM, RSPM, NOX in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The circular No. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry [www.envfor.nic.in](http://www.envfor.nic.in) shall also be referred in this regard for its compliance.
13. All the solid/hazardous waste i.e. oily waste shall be stored separately in designated place only and disposed off in environment friendly manner. .
14. The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary. Arrangements shall be made so that effluents and storm water do not get mixed.
15. A sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt/plantation.
16. Rainwater harvesting should be adopted. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished to the SEIAA, Orissa.
17. A green belt of adequate width and density preferably with local species along the periphery of the plant & alongside roads etc shall be raised so as to provide protection against particulates and noise.
18. First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
19. Provision shall be made for housing of construction labourers within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
20. A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.

21. Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to the appropriate authorities.
22. Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported.
23. The above mentioned stipulated conditions shall be complied in time bound manner. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment Protection (EP) Act, 1986

**(PROF. GAGAN BIHARI NITYANANDA CHAINY)  
CHAIRMAN, SEAC**

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