

**MINUTES OF 1<sup>ST</sup> MEETING OF STATE LEVEL EXPERT APPRAISAL  
COMMITTEE, ORISSA HELD ON 13<sup>TH</sup> AND 14<sup>TH</sup> MAY, 2009**

The 1<sup>st</sup> meeting of State Level Expert Appraisal Committee, Orissa was held on 13-14 May, 2009 in the Conference Hall of Orissa State Pollution Control Board, Bhubaneswar at 11.00 AM. Dr. Gagan Bihari Nityanandan Chainy, Chairman, SEAC Orissa chaired the SEAC meeting . The following members were present in the meeting..

1.	Dr. Gagan Bihari Nityananda Chainy	-	Chairman
2.	Professor (Dr.) Swoyam Prakash Rout	-	Member
3.	Dr. Harekrishna Nayak,	-	Member
4.	Dr. Moheshwar Patra,	-	Member
5.	Sri Sasanka Sekhar Pattnaik,	-	Member
6.	Dr. Surendra Nath Das,	-	Member
7.	Dr. R.C.Mohanty,	-	Member
8.	Sri S Das,	-	Secretary

The Secretary, SEAC welcomed the members and explained the provision of EIA notification, 2006 in brief. The Chairman, SEAC also welcomed all the members of the committee and thereafter proposals as per agenda items were taken up for deliberations.

Total 18 project proponents were invited for TOR and EC deliberations. Out of these 17 proposals were presented before the committee and proponent of one mining proposal intimated that although their total mining lease area is of 9.324 ha., which should be treated as category 'B' project and appraised upon at SEAC, but the interstate boundary of Jharkhand is at a distance of 8.5 km from mining lease area for which their project is treated as category 'A' as per EIA notification, 2006. They have appraised the proposal before EAC at MoEF, Govt. of India, New Delhi. MoEF, Govt. of India has already issued TOR for EIA study.

Proceedings and recommendations of the committee are detailed below agendawise.

**ITEM NO- 1**

**BHUTUDA MANGANESE MINE OF M/S. AXL EXPLORATION (P) LTD., AT - BHUTUDA ,  
DIST - SUNDARGARH.**

The mining projects of <50 ha or > 5 ha of mining lease area are listed at S.N. 1(a) of the schedule under 'B' Category of EIA Notification, 2006 and are to be appraised by SEAC.

***CHAIRMAN, SEAC***

***SECRETARY, SEAC***

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed project for **Manganese Mine over an area of 40.469 ha for production of manganese ore of 1,00,000 TPA at Bhutuda in the district of Sundergarh. Total lease area is forest land** . Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the proposal as category 'B' and recommended the inclusion of following TORS in the preparation of EIA/EMP.

1. Duly attested & certified Mining Plan approved by IBM has to be submitted along with the copy of current lease deed
2. The study area shall encompass 10 km radius from the mine lease boundary.
3. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna. Site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
4. Air quality modelling 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 of mineral, handling of minerals & OB including mining activity through volume source modeling. 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. The modelling should take into consideration the existing mines in the study area.
5. Availability of requisite quantity of water and its source to be furnished along with water balance.
6. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
7. Details of water bodies and drainage of ML area may be specified
8. The progressive reclamation plan, post mine land use and progressive greenbelt development plan shall be prepared in tabular form and submitted. Milestones for the above activity may be specified.
9. 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 may be furnished.
10. Occupational health impact and remedial measures thereof of the project may be studied.
11. 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..

12. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified. 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.
13. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health checkups, 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 funds for 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.
14. Public hearing points likely to be raised and commitment of the project proponent on the same may be included.
15. Plantation in at least 33% of the total area and its maintenance upto five years and regular follow up maintenance thereof has to be ensured; accordingly plan has to be submitted with EIA. [Plantation Scheme]. Total area for which afforestation has been proposed – plan stating how much plantation shall be taken up annually has to be submitted. Plantation of local species may be encouraged.
16. Management of OB solid waste generated during mining has to be addressed through incorporation of a concrete plan for the same.
17. Leachate study of the OB and Ore has to be conducted and addressed.
18. Water-shed management plan, depth of ground-water table and its recharging, run off management, rain water harvesting and treatment system for pumped out quarry water to be submitted.
19. Details of noise pollution control measures to be specified
20. Coloured maps depicting land use of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.
21. 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 revenue department. This will be used as baseline information to compare the impact of mining in the area in future.
22. Details of air pollution control measures to be specified.
23. Details of safety measures to be adopted during blasting are to be specified
24. Details of accessibility and nearby habitation may be specified.
25. Mining activity shall be restricted to 21 ha. of land out of the mining lease area of 40.46 ha. since all the area happen to be forest land.

**ITEM NO 2 :**

**TALABASTA FIRE CLAY MINE OF JK & KP, JHUNJHUNWALA AT - TALABASTA AND DULANPUR UNDER TEHSIL BANKI OF DISTRICT CUTTACK**

The mining projects of <50 ha or > 5 ha of mining lease area are listed at S.N. 1(a) of the schedule under 'B' Category of EIA Notification, 2006 and are to be appraised by SEAC.

***CHAIRMAN, SEAC***

***SECRETARY, SEAC***

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed project for **Fire Clay Mine over 21.744 ha. to produce fire clay of 7000 Ton/Annum at Talabasta and Dulanpur under Tehsil Banki of Cuttack district.** Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. The SEAC observed that the location of the mine **is adjacent to the boundary (within 10 km.) of Chandaka – Dampara Elephant Sanctuary** which has been notified as protected areas under the WILD LIFE (PROTECTION) ACT, 1972. The EIA notification, 2006 stipulates that any project or activity specified in category 'B' will be treated as category 'A' if located in whole or in part within 10 km from the boundary of protected areas notified under the Wild Life (protection) Act, 1972. After detailed deliberation the SEAC recommended to treat the proposal as category 'A' for above reasons and to ask the proponent to appraise the proposal before EAC of MoEF, Govt. of India.

### **ITEM NO .3**

#### **M/S. KIRIKITA GRAPHITE MINES AT – KIRIKITA, PO – GANDHABAHALI, DIST – NUAPADA.**

The mining projects of <50 ha or > 5 ha of mining lease area are listed at S.N. 1(a) of the schedule under 'B' Category of EIA Notification, 2006 and are to be appraised by SEAC.

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed graphite mining project **over mining lease area 31.808 ha to produce graphite ore of 1198 Ton/Annum, at – Kirikita at – Gandhabahali, Khariar, in district of Nuapara.** Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the proposal as category 'B' and recommended the inclusion of following TORS in the preparation of EIA/EMP.

1. Duly attested & certified Mining Plan approved by IBM has to be submitted along with the copy of current lease deed
2. The study area shall encompass 10 km radius from the mine lease boundary.
3. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna. Site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
4. Air quality modelling 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 of mineral, handling of minerals & OB including mining activity

***CHAIRMAN, SEAC***

***SECRETARY, SEAC***

through volume source modeling. 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. The modelling should take into consideration the existing mines in the study area.

5. Availability of requisite quantity of water and its source to be furnished along with water balance.
6. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
7. Details of water bodies and drainage of ML area may be specified
8. The progressive reclamation plan, post mine land use and progressive greenbelt development plan shall be prepared in tabular form and submitted. Milestones for the above activity may be specified.
9. 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 may be furnished.
10. Occupational health impact and remedial measures thereof of the project may be studied.
11. 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..
12. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified. 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.
13. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health checkups, 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 funds for 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.
14. Public hearing points likely to be raised and commitment of the project proponent on the same may be included.
15. Plantation in at least 33% of the total area and its maintenance upto five years and regular follow up maintenance thereof has to be ensured; accordingly plan has to be submitted with EIA. [Plantation Scheme]. Total area for which afforestation has been proposed – plan stating how much plantation shall be taken up annually has to be submitted. Plantation of local species may be encouraged.
16. Management of OB solid waste generated during mining has to be addressed through incorporation of a concrete plan for the same.
17. Leachate study of the OB and Ore has to be conducted and addressed.

18. Water-shed management plan, depth of ground-water table and its recharging , run off management, rain water harvesting and treatment system for pumped out quarry water to be submitted.
19. Details of noise pollution control measures to be specified
20. Coloured maps depicting land use of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.
21. 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 revenue department. This will be used as baseline information to compare the impact of mining in the area in future.
22. Details of air pollution control measures to be specified.
23. Details of safety measures to be adopted during blasting are to be specified
24. Details of accessibility and nearby habitation may be specified.
25. A proposal for common waste water treatment plant for treatment of waste water of all the operating graphite mines of that locality to be incorporated.

#### **ITEM NO- 4**

#### **M/S. GANDHABAHALI GRAPHITE MINE OF SRI PROMOD KUMAR AGRAWAL AT – GANDHABAHALI, DIST – NUAPARA**

The mining projects of <50 ha or > 5 ha of mining lease area are listed at S.N. 1(a) of the schedule under 'B' Category of EIA Notification, 2006 and are to be appraised by SEAC.

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed graphite mining project **over lease area 20.234 ha for production of graphite ore of 4202 Ton/Annum, at – Gandhabahali ,Tehsil : Khariar, dist –Nuapara .** Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the proposal as category-B and recommended the inclusion of following TORS in the preparation of EIA/EMP:-

1. Duly attested & certified Mining Plan approved by IBM has to be submitted along with the copy of current lease deed
2. The study area shall encompass 10 km radius from the mine lease boundary.
3. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna. Site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
4. Air quality modelling 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 of mineral, handling of minerals & OB including mining activity through volume source modeling. 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. The modelling should take into consideration the existing mines in the study area.

5. Availability of requisite quantity of water and its source to be furnished along with water balance.
6. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
7. Details of water bodies and drainage of ML area may be specified
8. The progressive reclamation plan, post mine land use and progressive greenbelt development plan shall be prepared in tabular form and submitted. Milestones for the above activity may be specified.
9. 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 may be furnished.
10. Occupational health impact and remedial measures thereof of the project may be studied.
11. 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..
12. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified. 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.
13. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health checkups, 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 funds for 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.
14. Public hearing points likely to be raised and commitment of the project proponent on the same may be included.
15. Plantation in at least 33% of the total area and its maintenance upto five years and regular follow up maintenance thereof has to be ensured; accordingly plan has to be submitted with EIA. [Plantation Scheme]. Total area for which afforestation has been proposed – plan stating how much plantation shall be taken up annually has to be submitted. Plantation of local species may be encouraged.
16. Management of OB solid waste generated during mining has to be addressed through incorporation of a concrete plan for the same.
17. Leachate study of the OB and Ore has to be conducted and addressed.

18. Water-shed management plan, depth of ground-water table and its recharging , run off management, rain water harvesting and treatment system for pumped out quarry water to be submitted.
19. Details of noise pollution control measures to be specified
20. Coloured maps depicting land use of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.
21. 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 revenue department. This will be used as baseline information to compare the impact of mining in the area in future.
22. Details of air pollution control measures to be specified.
23. Details of safety measures to be adopted during blasting are to be specified
24. Details of accessibility and nearby habitation may be specified.
25. A proposal for common waste water treatment plant for treatment of waste water of all the operating graphite mines of that locality to be incorporated.

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

#### **M/S. KATASAH MANGANESE MINE OF FERRO ALLOYS CORPORATION LIMITED , KATASAH, KEONJHAR**

The mining projects of <50 ha or > 5 ha of mining lease area are listed at S.N. 1(a) of the schedule under 'B' Category of EIA Notification, 2006 and are to be appraised by SEAC. The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed mining project **over lease area of 13.674 ha. to produce manganese ore of 6000 TPA.** The mine has applied for environmental clearance for renewal of mining lease. Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the proposal as category 'B' and recommended the inclusion of following TORS in the preparation of EIA/EMP.

1. Duly attested & certified Mining Plan approved by IBM has to be submitted along with the copy of current lease deed
2. The study area shall encompass 10 km radius from the mine lease boundary.
3. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna. Site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
4. Air quality modelling 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 of mineral, handling of minerals & OB including mining activity



- through volume source modeling. 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. The modelling should take into consideration the existing mines in the study area.
5. Availability of requisite quantity of water and its source to be furnished along with water balance.
  6. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
  7. Details of water bodies and drainage of ML area may be specified
  8. The progressive reclamation plan, post mine land use and progressive greenbelt development plan shall be prepared in tabular form and submitted. Milestones for the above activity may be specified.
  9. 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 may be furnished.
  10. Occupational health impact and remedial measures thereof of the project may be studied.
  11. 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..
  12. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified. 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.
  13. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health checkups, 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 funds for 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.
  14. Public hearing points likely to be raised and commitment of the project proponent on the same may be included.
  15. Plantation in at least 33% of the total area and its maintenance upto five years and regular follow up maintenance thereof has to be ensured; accordingly plan has to be submitted with EIA. [Plantation Scheme]. Total area for which afforestation has been proposed – plan stating how much plantation shall be taken up annually has to be submitted. Plantation of local species may be encouraged.
  16. Management of OB solid waste generated during mining has to be addressed through incorporation of a concrete plan for the same.
  17. Leachate study of the OB and Ore has to be conducted and addressed.

18. Water-shed management plan, depth of ground-water table and its recharging , run off management, rain water harvesting and treatment system for pumped out quarry water to be submitted.
19. Details of noise pollution control measures to be specified
20. Coloured maps depicting land use of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.
21. 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 revenue department. This will be used as baseline information to compare the impact of mining in the area in future.
22. Details of air pollution control measures to be specified.
23. Details of safety measures to be adopted during blasting are to be specified
24. Details of accessibility and nearby habitation may be specified.
25. Clarification with respect to land use breakup should be given as the figure in approved mining plan does not match with the figure in Form –I.
26. Details of Top Soil Management of existing mine to be specified
27. Effect of mining activity on nearby forest area may be studied and remedial measures thereof may be specified.

#### **ITEM NO. 6**

#### **M/S. TEMIRIMAL GRAPHITE MINES AT-TEMRIMAL, PAIKMAL, DIST –BARGARH**

The mining projects of <50 ha or > 5 ha of mining lease area are listed at S.N. 1(a) of the schedule under 'B' Category of EIA Notification, 2006 and are to be appraised by SEAC. The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed graphite mining project **over lease area 11.149 ha. to produce graphite ore of 521 Ton/Annum, at-Temrimal, Paikmal, in Bargarh district** . Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the proposal as category 'B' and recommended the inclusion of following TORS in the preparation of EIA/EMP.

1. Duly attested & certified Mining Plan approved by IBM has to be submitted along with the copy of current lease deed
2. The study area shall encompass 10 km radius from the mine lease boundary.
3. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna. Site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.

4. Air quality modelling 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 of mineral, handling of minerals & OB including mining activity through volume source modeling. 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. The modelling should take into consideration the existing mines in the study area.
5. Availability of requisite quantity of water and its source to be furnished along with water balance.
6. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
7. Details of water bodies and drainage of ML area may be specified
8. The progressive reclamation plan, post mine land use and progressive greenbelt development plan shall be prepared in tabular form and submitted. Milestones for the above activity may be specified.
9. 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 may be furnished.
10. Occupational health impact and remedial measures thereof of the project may be studied.
11. 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..
12. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified. 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.
13. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health checkups, 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 funds for 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.
14. Public hearing points likely to be raised and commitment of the project proponent on the same may be included.
15. Plantation in at least 33% of the total area and its maintenance upto five years and regular follow up maintenance thereof has to be ensured; accordingly plan has to be submitted with EIA. [Plantation Scheme]. Total area for which afforestation has been proposed – plan stating how much plantation shall be taken up annually has to be submitted. Plantation of local species may be encouraged.

16. Management of OB solid waste generated during mining has to be addressed through incorporation of a concrete plan for the same.
17. Leachate study of the OB and Ore has to be conducted and addressed.
18. Water-shed management plan, depth of ground-water table and its recharging, run off management, rain water harvesting and treatment system for pumped out quarry water to be submitted.
19. Details of noise pollution control measures to be specified
20. Coloured maps depicting land use of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.
21. 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 revenue department. This will be used as baseline information to compare the impact of mining in the area in future.
22. Details of air pollution control measures to be specified.
23. Details of safety measures to be adopted during blasting are to be specified
24. Details of accessibility and nearby habitation may be specified.
25. A proposal for common waste water treatment plant for treatment of waste water of all the operating graphite mines of that locality to be incorporated.

#### **ITEM NO. 7**

#### **M/S. GANDHABAHALI GRAPHITE MINE OF SRI PROMOD KUMAR AGRAWAL AT – GANDHABAHALI TEHSIL :KHARIAR, DIST – NUAPARA**

The mining projects of <50 ha or > 5 ha of mining lease area are listed at S.N. 1(a) of the schedule under 'B' Category of EIA Notification, 2006 and are to be appraised by SEAC.

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed graphite mining project over mine lease area of 35.409 ha for **production of graphite ore of 14250 Ton/Annum, at – Gandhabahali ,tehsil :Khariar, dist – Nuapara.** Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the proposal as category 'B' and recommended the inclusion of following TORs in the preparation of EIA/EMP.

1. Duly attested & certified Mining Plan approved by IBM has to be submitted along with the copy of current lease deed
2. The study area shall encompass 10 km radius from the mine lease boundary.
3. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna. Site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.

***CHAIRMAN, SEAC***

***SECRETARY, SEAC***

4. Air quality modelling 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 of mineral, handling of minerals & OB including mining activity through volume source modeling. 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. The modelling should take into consideration the existing mines in the study area.
5. Availability of requisite quantity of water and its source to be furnished along with water balance.
6. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
7. Details of water bodies and drainage of ML area may be specified
8. The progressive reclamation plan, post mine land use and progressive greenbelt development plan shall be prepared in tabular form and submitted. Milestones for the above activity may be specified.
9. 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 may be furnished.
10. Occupational health impact and remedial measures thereof of the project may be studied.
11. 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..
12. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified. 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.
13. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health checkups, 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 funds for 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.
14. Public hearing points likely to be raised and commitment of the project proponent on the same may be included.
15. Plantation in at least 33% of the total area and its maintenance upto five years and regular follow up maintenance thereof has to be ensured; accordingly plan has to be submitted with EIA. [Plantation Scheme]. Total area for which afforestation has been proposed – plan stating how much plantation shall be taken up annually has to be submitted. Plantation of local species may be encouraged.

16. Management of OB solid waste generated during mining has to be addressed through incorporation of a concrete plan for the same.
17. Leachate study of the OB and Ore has to be conducted and addressed.
18. Water-shed management plan, depth of ground-water table and its recharging , run off management, rain water harvesting and treatment system for pumped out quarry water to be submitted.
19. Details of noise pollution control measures to be specified
20. Coloured maps depicting land use of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.
21. 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 revenue department. This will be used as baseline information to compare the impact of mining in the area in future.
22. Details of air pollution control measures to be specified.
23. Details of safety measures to be adopted during blasting are to be specified
24. Details of accessibility and nearby habitation may be specified.
25. A proposal for common waste water treatment plant for treatment of waste water of all the operating graphite mines of that locality to be incorporated.

#### **ITEM NO. 8**

#### **M/S. BAGIABURU IRON ORE MINES OF M/S. ORISSA MINERALS DEVELOPMENT COMPANY, AT- BARBIL, DIST – KEONJHAR**

The mining projects of <50 ha or > 5 ha of mining lease area are listed at S.N. 1(a) of the schedule under 'B' Category of EIA Notification, 2006 and are to be appraised by SEAC.

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed iron ore mining project over mining lease area of 21.52 ha. for **increase in iron ore production capacity upto 3.6 lac Ton/Annum, at- Barbil, Dist – Keonjhar** The lease area is under Reserve Fores. Forest diversion proposal has been approved. Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the proposal as category 'B' and recommended the inclusion of following TORS in the preparation of EIA/EMP.

1. Duly attested & certified Mining Plan approved by IBM has to be submitted along with the copy of current lease deed
2. The study area shall encompass 10 km radius from the mine lease boundary.

***CHAIRMAN, SEAC***

***SECRETARY, SEAC***

3. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna. Site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
4. Air quality modelling 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 of mineral, handling of minerals & OB including mining activity through volume source modeling. 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. The modelling should take into consideration the existing mines in the study area.
5. Availability of requisite quantity of water and its source to be furnished along with water balance.
6. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
7. Details of water bodies and drainage of ML area may be specified
8. The progressive reclamation plan, post mine land use and progressive greenbelt development plan shall be prepared in tabular form and submitted. Milestones for the above activity may be specified.
9. 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 may be furnished.
10. Occupational health impact and remedial measures thereof of the project may be studied.
11. 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..
12. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified. 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.
13. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health checkups, 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 funds for 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.
14. Public hearing points likely to be raised and commitment of the project proponent on the same may be included.
15. Plantation in at least 33% of the total area and its maintenance upto five years and regular follow up maintenance thereof has to be ensured; accordingly plan has to be

submitted with EIA. [Plantation Scheme]. Total area for which afforestation has been proposed – plan stating how much plantation shall be taken up annually has to be submitted. Plantation of local species may be encouraged.

16. Management of OB solid waste generated during mining has to be addressed through incorporation of a concrete plan for the same.
17. Leachate study of the OB and Ore has to be conducted and addressed.
18. Water-shed management plan, depth of ground-water table and its recharging, run off management, rain water harvesting and treatment system for pumped out quarry water to be submitted.
19. Details of noise pollution control measures to be specified
20. Coloured maps depicting land use of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.
21. 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 revenue department. This will be used as baseline information to compare the impact of mining in the area in future.
22. Details of air pollution control measures to be specified.
23. Details of safety measures to be adopted during blasting are to be specified
24. Details of accessibility and nearby habitation may be specified.
25. Details of nearby operating mines to be specified.
26. Clarification with respect to land use break up should be given as figure mentioned in approved mining plan is not matches with the figure given in the Form – I.

#### **ITEM NO : 9**

#### **M/S. GANDHABAHALI GRAPHITE MINE OF SRI PRABHAS CHANDRA AGARWAL AT – GANDHABAHALI TEHSIL : KHARIAR, DIST – NUAPARA**

The mining projects of <50 ha or > 5 ha of mining lease area are listed at S.N. 1(a) of the schedule under 'B' Category of EIA Notification, 2006 and are to be appraised by SEAC.

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed graphite mining project over mine lease area of 28.615 ha **for production of graphite ore of 4750 ton/annum, at – Gandhabahali, Khariar, in district of Nuapara** Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the proposal as category 'B' and recommended the inclusion of following TORS in the preparation of EIA/EMP.

1. Duly attested & certified Mining Plan approved by IBM has to be submitted along with the copy of current lease deed



2. The study area shall encompass 10 km radius from the mine lease boundary.
3. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna. Site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
4. Air quality modelling 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 of mineral, handling of minerals & OB including mining activity through volume source modeling. 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. The modelling should take into consideration the existing mines in the study area.
5. Availability of requisite quantity of water and its source to be furnished along with water balance.
6. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
7. Details of water bodies and drainage of ML area may be specified
8. The progressive reclamation plan, post mine land use and progressive greenbelt development plan shall be prepared in tabular form and submitted. Milestones for the above activity may be specified.
9. 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 may be furnished.
10. Occupational health impact and remedial measures thereof of the project may be studied.
11. 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..
12. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified. 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.
13. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health checkups, 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 funds for 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.
14. Public hearing points likely to be raised and commitment of the project proponent on the same may be included.

15. Plantation in at least 33% of the total area and its maintenance upto five years and regular follow up maintenance thereof has to be ensured; accordingly plan has to be submitted with EIA. [Plantation Scheme]. Total area for which afforestation has been proposed – plan stating how much plantation shall be taken up annually has to be submitted. Plantation of local species may be encouraged.
16. Management of OB solid waste generated during mining has to be addressed through incorporation of a concrete plan for the same.
17. Leachate study of the OB and Ore has to be conducted and addressed.
18. Water-shed management plan, depth of ground-water table and its recharging , run off management, rain water harvesting and treatment system for pumped out quarry water to be submitted.
19. Details of noise pollution control measures to be specified
20. Coloured maps depicting land use of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.
21. 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 revenue department. This will be used as baseline information to compare the impact of mining in the area in future.
22. Details of air pollution control measures to be specified.
23. Details of safety measures to be adopted during blasting are to be specified
24. Details of accessibility and nearby habitation may be specified.
25. A proposal for common waste water treatment plant for treatment of waste water of all the operating graphite mines of that locality to be incorporated.

**ITEM NO :10**

**M/S. BANARAI DOLOMITE MINES AT – BANARAI, PO- KENDERKELA, DIST – SUNDARGARH**

The proponent intimated vide letter No. 81/09 dt. 5.5.09 that although their total mining lease area is of 9.324 ha., which should be treated as category 'B' project and appraised upon at SEAC, but the interstate boundary of Jharkhand is at a distance of 8.5 km from mining lease area for which their project is treated as category 'A' as per EIA notification, 2006. They have appraised the proposal before EAC of MoEF, Govt. of India, New Delhi. MoEF, Govt. of India has already issued TOR for EIA study. Copy of letter of proponent is enclosed as **Annexure – I**. The committee noted the representation made by the proponent.

**ITEM NO- 11****M/S. GHOGARPALLY FIRECLAY OF M/S. RUNGTA SONS PVT. LTD., AT – GHOGARPALI, DIST – SUNDARGARH.**

The mining projects of <50 ha or > 5 ha of mining lease area are listed at S.N. 1(a) of the schedule under 'B' Category of EIA Notification, 2006 and are to be appraised by SEAC.

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed fire clay mining project **over mine area of 45.014 ha to produce fire clay of 0.009 Million ton/Annum, at – Ghogarpali, in Sundargarh** Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the proposal as category 'B' and recommended the inclusion of following TORS in the preparation of EIA/EMP.

1. Duly attested & certified Mining Plan approved by IBM has to be submitted along with the copy of current lease deed
2. The study area shall encompass 10 km radius from the mine lease boundary.
3. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna. Site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
4. Air quality modelling 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 of mineral, handling of minerals & OB including mining activity through volume source modeling. 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. The modelling should take into consideration the existing mines in the study area.
5. Availability of requisite quantity of water and its source to be furnished along with water balance.
6. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
7. Details of water bodies and drainage of ML area may be specified
8. The progressive reclamation plan, post mine land use and progressive greenbelt development plan shall be prepared in tabular form and submitted. Milestones for the above activity may be specified.
9. 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 may be furnished.

10. Occupational health impact and remedial measures thereof of the project may be studied.
11. 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..
12. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified. 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.
13. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health checkups, 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 funds for 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.
14. Public hearing points likely to be raised and commitment of the project proponent on the same may be included.
15. Plantation in at least 33% of the total area and its maintenance upto five years and regular follow up maintenance thereof has to be ensured; accordingly plan has to be submitted with EIA. [Plantation Scheme]. Total area for which afforestation has been proposed – plan stating how much plantation shall be taken up annually has to be submitted. Plantation of local species may be encouraged.
16. Management of OB solid waste generated during mining has to be addressed through incorporation of a concrete plan for the same.
17. Leachate study of the OB and Ore has to be conducted and addressed.
18. Water-shed management plan, depth of ground-water table and its recharging , run off management, rain water harvesting and treatment system for pumped out quarry water to be submitted.
19. Details of noise pollution control measures to be specified
20. Coloured maps depicting land use of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished.
21. 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 revenue department. This will be used as baseline information to compare the impact of mining in the area in future.
22. Details of air pollution control measures to be specified.
23. Details of safety measures to be adopted during blasting are to be specified
24. Details of accessibility and nearby habitation may be specified.
25. Reserve forest is located nearby to the mining lease area. Impact of mining activity on Reserve forest may be studied and remedial measures thereof may be specified.

**ITEM NO :12****M/S. MAADURGA THERMAL POWER COMPANY LTD. FOR 60(2X30)MW THERMAL POWER PLANT WITHIN THE PREMISES OF EXISTING PLANT AT BAINCHUA TANGI, CUTTCK**

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a expansion proposal of existing **husk based power plant of capacity 1.2 MW for establishment of 60 (2x30)MW thermal power plant (coal based) within the premises of existing plant at Bainchua Tangi, Cuttack.** Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the proposal as category 'B' and recommended the inclusion of following TORS in the preparation of EIA/EMP:-

1. Land earmarked for bottom ash and fly ash disposal may be specified. Measures for controlling environmental damages, if any, due to storage of dry bottom ash or fly ash before disposal of 100% use in ancillary industries may be spelt out.
2. Project site details should be depicted in the toposheet showing plant site, ash pond area etc.
3. The study area should cover an area of 10 km radius around the proposed site.
4. Land use of the study area as well as the project area shall be given.
5. 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 project site 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 may be furnished.
6. Land requirement for the project to be optimized. Item wise break up of land requirement and its availability to be furnished as per the norms prescribed by Central Electricity Authority (CEA).
7. Topography of the area should be given clearly indicating whether the site requires any filling. If so, details of filling, quantity of fill material required, its source, transportation etc. should be given.
8. Impact of the project on drainage of the area and the surroundings to be studied.
9. Information regarding surface hydrology and water regime and its impact may be furnished.
10. One season (non-monsoon) site-specific meteorological data shall be provided.
11. One complete season AAQ data (except monsoon) to be given along with the dates of monitoring. The parameters to be covered shall include SPM, RSPM, SO<sub>2</sub> NO<sub>x</sub> and Ozone (ground level). The location of the monitoring stations should be so decided so as to take into consideration the pre-dominant downwind direction, population zone and sensitive receptors including reserved forests. There should be at least one monitoring station in the upwind direction.

***CHAIRMAN, SEAC***

***SECRETARY, SEAC***

12. Impact of the project on the AAQ of the area, details of the model used and the input data used for modelling should also be provided. The air quality contours may be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The wind roses should also be shown on this map. Height of chimney shall be taken into account while drawing wind rose diagrams. The wind speed and wind direction at the chimney height determines dispersal pattern of the emissions released at that height. Also details of flue gas treatment to reduce/remove trace polluting gases like SO<sub>2</sub>, NO<sub>x</sub> etc. alongwith reducing temperature should also be indicated.
13. Details of fugitive emission from Coal Handling Plant (CHP), ash handling and ash disposal area and its control system may be specified..
14. Data on existing ambient air, stack, fugitive emission, water, noise etc should be included in baseline data.
15. Fuel analysis to be provided (sulphur, ash content and mercury) with grade of coal. Details of auxillary fuel, if any including its quantity, quality, storage etc should also be given.
16. Adequate space shall be earmarked for installation of Flue Gas Desulphurisation (FGD) system in future if required. This should also include for management and disposal of solid waste to be generated from FGD system. Details of flue gas management system may also be provided.
17. Quantity of fuel required, its source and transportation may be provided. A confirmed fuel linkage should also be provided.
18. Source of water and its availability and commitment regarding availability of requisite quantity of water from the competent authority may be provided.
19. Details of rainwater harvesting and how it will be used in the plant shall be provided.
20. The feasibility of zero discharge may be examined. In case of any proposed discharge, its quantity, quality and point of discharge, users downstream etc. should be provided.
21. Water conservation measures proposed in different units of operation of the project should also be given. Quantity of water requirement for the project should be optimized.
22. Detail run off management of coal stockyard and ash disposal area to be specified.
23. Details of water balance taking into account reuse and re-circulation of effluents may be provided.
24. Details of green belt i.e. land with not less than 1600 trees per ha giving details of species, width of plantation, planning schedule etc. should be furnished
25. Detailed plan of ash utilization / management may be furnished.
26. Details of evacuation of ash may be provided.
27. Details regarding ash pond impermeability and whether it would be lined, if so details of the lining etc. may be provided.
28. Occupational health impact and remedial measures thereof of the project may be studied
29. Details of flora and fauna duly authenticated should be provided. In case of any scheduled fauna, conservation plan should be provided.
30. Public hearing points likely to be raised and commitment of the project proponent on the same may be included. An action plan to address the issues raised during public hearing and the necessary allocation of funds for the same should be provided.
31. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified. 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

32. Impact of the project on local infrastructure of the area such as road network and whether any additional infrastructure would need to be constructed and the agency responsible for the same with time frame should be provided.
33. EMP to mitigate the adverse impacts due to the project along with item wise cost of its implementation may be provided.
34. Risk assessment should be carried out. It should take into account the maximum inventory of storage at site at any point in time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be provided. Onsite and off site Disaster Management plan to be prepared and included in the EMP.
35. The industry has informed that it will manufacture @60,000 brick per day for which 144 Ton fly ash will be utilized but the unit will generate 240 TPD fly ash. This to be clarified.
36. Aspect of noise pollution control in air compressor, DG set, turbine house etc. has to be addressed in detail. The unit shall take adequate noise pollution control measures in case of steam venting by passing through adequate control system.
37. The proponent shall prepare impact study and environmental management plan for construction phase and operation phase separately.

### **ITEM NO. 13**

#### **EXPANSION OF CEMENT PLANT OF M/S CHARIOT STEEL AND POWER PVT. LTD., INDUSTRIAL ESTATE KALUNGA, ROURKELA – 770 031**

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed **expansion proposal of existing cement plant for enhancement of clinker production capacity from 39000 TPA to 279000 TPA and cement (PSC) production capacity from 180000 TPA to 630,000 TPA.** The applicant **M/s Chariot Steel and Power Pvt. Ltd., Industrial Estate Kalunga, Rourkela** , aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. The SEAC observed that expansion proposal is within the industrial estate. After detailed deliberation, the SEAC recommended that public hearing may be exempted **as per section 7(III) (b) of EIA notification, 2006** and also inclusion of following TORS in the preparation of EIA/EMP.

1. Present land use based on satellite imagery should be included.
2. 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 may be furnished.

***CHAIRMAN, SEAC***

***SECRETARY, SEAC***

3. Site specific meteorological data including inversion height and mixing height should be incorporated.
4. Data on existing ambient air, stack & fugitive emissions, water & noise etc should be included. Details on flue gas treatment to reduce/remove some of the residual SPM from ESP, trace polluting gases like SO<sub>2</sub>, NO<sub>x</sub> etc. alongwith reducing temperature should also be indicated.
5. Air quality modeling for the expansion plant including existing cement plant should be incorporated. Possible traces of polluting trace gases alongwith flue gases may be assessed and management plan thereof may be prepared.
6. Sources of secondary emissions, its control and monitoring as per the CPCB guidelines should be included.
7. Impact of the transport of the raw materials and end products on the surrounding environment including agricultural land may be assessed.
8. A write up on use of high calorific hazardous wastes in kiln and commitment regarding use of hazardous waste should be included.
9. Chemical characterization of SPM & RSPM and incorporation of SPM & RSPM data. Location of one AAQMS in downwind direction should be included.
10. One-month data for gaseous emissions other than monsoon season should be included.
11. Permission for the drawl of ground water from concerned department should be obtained and copy may be furnished.
12. Water balance cycle data including quantity of effluent generated, recycled, reused and discharged should be included.
13. Efforts may be made to minimize use of ground water. Ground water monitoring minimum at 8 locations should be included.
14. Surface as well as roof top rain water harvesting and ground water recharge should be done.
15. The unit shall give detail proposal for use of fly ash as raw material. Scheme of proper storage of gypsum, clinker and fly ash should be included.
16. Risk assessment and damage control should be incorporated. On site and off site Disaster Management plan should be prepared.
17. Occupational health of the workers and buffer zone should be incorporated.
18. Green belt development plan for 33 % as per CPCB guidelines should be incorporated.
19. Total capital cost and recurring cost/annum for environmental protection and pollution control measures should be categorically assessed.
20. Compliance to the recommendations mentioned in the CREP guidelines should be included.
21. The unit shall furnish detail proposal of APC device for point source as well as fugitive emission.



**ITEM NO. 14****M/S S.S METAL AND SCRAPS, NUAPADA, TANGI DISTRICT – CUTTACK FOR ESTABLISHMENT OF CHROME ORE BENEFICIATION PLANT OF CAPACITY 19,200 TPA**

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a proposed project for **CHROME ORE BENEFICIATION PLANT OF CAPACITY 19,200 TPA, AT NUAPADA, TANGI DISTRICT – CUTTACK**. Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the proposal as category-B and recommended the inclusion of following TORS in the preparation of EIA/EMP.

1. The study area will comprise of 10 km zone around the project area and the data contained in the EIA such as waste generation etc. should be for the life of the project.
2. Chrome ore analysis shall be done in an accredited National Laboratory and the report furnished.
3. Size distribution of the chrome ore with percentage weight shall also be done to assess the source of fugitive dust emission of the ore feed to the plant.
4. Measures to manage the ore size waste from the feed ore shall be provided.
5. Adequacy of the tailing pond for the life of the beneficiation plant should be provided with supporting data and documentation.
6. Design and capacity of tailing pond to protect against overflow from the tailing pond during heavy rainfall shall be provided. The provision of lining, nature of lining with supporting permeability studies to be provided.
7. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary and national park, migratory routes of fauna, water bodies, human settlements and other ecological features shall be provided.
8. The land requirement for the project with activity-wise break-up should be given. The land requirement should be optimized.
9. Land use plan of the project area should be prepared to encompass pre-operational, operational and post operational phases.
10. Location of the proposed plant with respect to the source of raw material and mode of transportations of the ore from mines to the beneficiation plant should be provided. Steps proposed to be taken to protect the ore from getting air borne to be specified.
11. Details of the slime treatment and their management shall be provided. The safeguard measures confinement of tailings and slimes should also be given.
12. Details of treatment system of run off from the slimes shall be provided.
13. Detailed estimation of the chrome going into the washings and its management shall be provided.
14. Detailed material balance to be provided.

***CHAIRMAN, SEAC***

***SECRETARY, SEAC***

15. Management and disposal of tailings and closure plan of the tailing pond after the project is over shall be provided.
16. Biological as well as health impact of chromium and other dust generated in the plant should be studied with reference to WHO and ILO standards including CPCB norms. The proposed mitigation measures with EMP should also be provided.
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 project site 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 may be furnished.
18. A detailed biological study for the study area [core zone and buffer zone (10 km radius of the periphery of the project site)] shall be carried out. Details of flora and fauna, duly authenticated, separately for core and buffer zone should be furnished based on field survey clearly indicating the rare and endangered species present. In case of any scheduled-I fauna found in the study area, the necessary plan 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.
19. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna. Site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
20. 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.
21. The water requirement for the project, its availability and source to be furnished. A detailed water balance should also be provided. Fresh water requirement for the project should also be indicated.
22. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
23. Details of water conservation measures proposed to be adopted in the project to be provided
24. 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.
25. Quantity of solid waste generation to be estimated and details for its disposal and management may be provided.
26. Impact on local transport infrastructure due to the project. Projected increase in truck traffic as a result of the project in the present road network (including those outside the project area) and whether it is capable of handling the increased load. Arrangement for improving the infrastructure, if contemplated including action to be taken by other agencies such as State Government, if any, should be covered.

27. Plantation in at least 33% of the total area and its maintenance upto five years and regular follow up maintenance thereof has to be ensured; accordingly plan has to be submitted with EIA. [Plantation Scheme]. Total area for which afforestation has been proposed – plan stating how much plantation shall be taken up annually has to be submitted. Plantation of local species may be encouraged.
28. Occupational health impact of the project may be studied. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP.
29. Measures of socio economic influence to the local community proposed to be provided by project proponent. As far as possible, quantitative dimension to be given.
30. Risk assessment and disaster management plan, which should inter-alia include breach of tailing pond, pipeline failure and over flow from the tailing pond. On site and off site plan to be prepared and incorporated in EMP.
31. Public hearing points likely to be raised and commitment of the project proponent on the same may be included.
32. The cost of the project (capital cost and recurring cost) as well as the cost towards implementation of EMP should clearly be spelt out.

#### **ITEM NO. 15**

#### **CENTRAL GOVERNMENT EMPLOYEES WELFARE HOUSING ORGANIZATION, MINISTRY OF URBAN EMPLOYMENT & POVERTY ALLEVIATION, GOVERNMENT OF INDIA AT – BEGUNIABARAH, BHUBANESWAR, ORISSA**

The building and construction projects are listed at S.N. 8(a) of schedule under 'B' category of EIA notification, 2006 and are to be appraised by SEAC. The project proponent submitted prescribed Form - **Form 1, Form 1A and the conceptual plan**. It's a proposed housing project having multiple floors At – Beguniabarahi, Bhubaneswar, Orissa. The projects consist of 31 blocks of S+4 and one block G+1 storied (community centre) with total Built up area 56941.95 Sqm . The project is approved by BDA. Applicant aided by the consultant gave a presentation on the salient features of the project. After detailed deliberations, the SEAC decided to consider grant of environmental clearance after submission of the following information/supportive data in the EMP.

1. Provide back up calculation of waste water generation and fresh water usage in the proposed project.
2. Details of ground water potential (no. of borings proposed, level of ground water, available quantity etc.) of the area and proposed volume of withdrawal is to be furnished. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
3. Concrete management plans for following should be incorporated in the EMP :
  - i) Dumping of construction material and dug out soil in a safe manner maintaining excellent house keeping during construction phase.

- ii) Sewage treatment giving all calculations pertaining to capacity efficiency and ultimate disposal of the treated water.
  - iii) Solid waste management plan for bio-degradable and non-biodegradable solid waste (segregation, collection, transportation and disposal etc.)
4. Details of re-charge pit with calculations or estimates of net recharge based on the rainfall of the region and detailed specifications of the pits to be provided.
  5. Conservation of energy through maximizing the use of natural light and air to be explored and implemented.
  6. The proponent shall prepare impact study and environmental management plan for construction phase and operation phase separately.

#### **ITEM NO. 16**

#### **RESIDENTIAL PROJECT OF AMRI BHUBANESWAT – A MULTI SPECIALTY HOSPITAL , KHANDAGIRI, BHUBANESWAR**

The building and construction projects are listed at S.N. 8(a) of schedule under 'B' category of EIA notification, 2006 and are to be appraised by SEAC. The project proponent submitted prescribed Form - **Form 1, Form 1A and the conceptual plan**. It's a proposed – a multi specialty hospital project. The proposed multi specially hospital has B+G+5 storied building with 313 beds and 234 Nursed and dormitory beds at Khandagiri i, Bhubaneswar, Orissa. The Built up area is 37,485 Sqm . Applicant aided by the consultant gave a presentation on the salient features of the project. After detailed deliberations, the SEAC decided to consider grant of environmental clearance after submission of following information/supportive data in the EMP.

1. Clearance from BDA shall be provided.
2. The proponent has to furnish detail quantification and characterization of different biomedical waste to be generated from the health care units and its disposal practice.
3. The proponent shall dispose of expired drugs as per existing guideline of the State without causing any environmental nuisance.
4. The proponent has to furnish detail biological treatment system for waste water to be generated from different sources.
5. The proponent shall furnish air quality management for constructional phase as well as operational phase.
6. The proponent shall provide back up calculation of waste water generation and fresh water usage in the proposed project.
7. Details of ground water potential (no. of borings proposed, level of ground water, available quantity etc.) of the area and proposed volume of withdrawal is to be furnished. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
8. Concrete management plans for following should be incorporated in the EMP :
  - i) Dumping of construction material and dug out soil in a safe manner maintaining excellent house keeping during construction phase.

- ii) Sewage treatment giving all calculations pertaining to capacity efficiency and ultimate disposal of the treated water.
  - iii) Solid waste management plan for bio-degradable and non-biodegradable solid waste (segregation, collection, transportation and disposal etc.)
9. Details of re-charge pit with calculations or estimates of net recharge based on the rainfall of the region and detailed specifications of the pits shall be provided.
  10. Conservation of energy through maximizing the use of natural light and air to be explored and implemented.
  11. The proponent shall prepare impact study and environmental management plan for construction phase and operation phase separately.

### **ITEM NO. 17**

#### **M/S NR INTERNATIONAL LTD., BAINCHUA, TANGI DISTRICT – CUTTACK FOR ESTABLISHMENT OF A COAL WASHERY PLANT OF CAPACITY – 0.9 MTPA**

The project proponent submitted prescribed Form -1 along with the draft TORs. It's a proposed project for coal washery plant of capacity – 0.9MTPA at Cuttack. Applicant, aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC treated the project as category-B and recommended the inclusion of following TORS in the preparation of EIA/EMP:-

1. A brief description of the plant, the technology used, the source of coal, the mode of transport of incoming unwashed coal and the outgoing washed coal shall be provided. Specific pollution control and mitigative measures for the entire process shall also be provided.
2. The EIA/EMP report should cover the impacts and management plan for the project specific activities on the environment of the region, and the environmental quality, air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity taking into account the existing and proposed activities in that area so as to address the related environmental issues in an integrated way.
3. A Study area map of the core zone and 10km area of the buffer showing major industries/mines and other polluting sources shall be provided.
4. Collection of one-season (non-monsoon) primary base-line data on environmental quality, air (SPM, RSPM, SO<sub>x</sub> and NO<sub>x</sub>), noise, water (surface and groundwater), soil.
5. Detailed water balance should be provided. The break up of water requirement as per different activities in the beneficiation operations vis-à-vis washery should be given separately. Source of water for use in washery, sanction of the competent authority in the State Govt.. and examine if the unit can be zero discharge including recycling and reuse of the wastewater for other uses such as green belt, etc. Periodically discharge of waste water if any shall be made after proper treatment and confirming the prescribed standard.

6. Impact of choice of the selected use of technology and impact on air quality and waste generation (emissions and effluents) shall be provided.
7. Impacts of mineral transportation - the entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with the specific points where fugitive emissions can arise and the specific pollution control/mitigative measures proposed to be put in place.
8. Details of various facilities to be provided for the personnel involved in mineral transportation in terms of parking, rest areas, canteen, and effluents/pollution load from these activities. Examine whether existing roads are adequate to take care of the additional load of mineral transportation, their impacts.
9. Impacts of Coal Handling Plant (CHP), if any on air and water quality. A flow chart of water use and whether the unit can be made a zero-discharge unit to be provided.
10. Details of green belt development including cost of EMP (capital and recurring) in the project cost to be provided.
11. Submission of sample test analysis of:
  - i) Characteristics of coal to be washed- this includes grade of coal and other
  - ii) Characteristics ash, S and Hg level etc.
  - iii) Characteristics and quantum of washed coal.
  - iv) Characteristics and quantum of coal waste rejects.
12. Management/disposal/Use of coal waste rejects to be provided
13. Copies of MOU/Agreement with linkages for the capacity for which EC has been sought to be provided.
14. Pre-feasibility report to be provided as same is not attached with form-I.
15. It is mentioned that they will wash 0.9 MTPA coal and produce washed coal 0.9 MTPA which is not acceptable. This has to be clarified. Detail quantity of middling and rejects to be generated and proposal of its end use with detailed material balance to be provided.
16. The proponent shall explore the possibility to use surface water instead of ground water
17. Details of run off management to be included.
18. 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 project site 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 may be furnished.
19. Plantation in at least 33% of the total area and its maintenance upto five years and regular follow up maintenance thereof has to be ensured; accordingly plan has to be submitted with EIA. [Plantation Scheme]. Total area for which afforestation has been proposed – plan stating how much plantation shall be taken up annually has to be submitted. Plantation of local species may be encouraged.
20. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be

specified. 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.

21. Public hearing points likely to be raised and commitment of the project proponent on the same may be included.

### **ITEM NO. 18**

#### **M/S. MALATI STEELS PRIVATE LTD., AT- CHADEIBHOL , KARANJIA, MAYURBHANJ**

The project proponent submitted prescribed Form -1 and pre-feasibility report along with the draft TORs. It's a expansion **proposal for installation of** 1X8 ton per heat induction furnace after replacing the existing 1X3 ton per heat induction furnace of M/s. Malati Steels Private Ltd., at Cadeibhol , Kranjia in Mayurbahnj. Applicant , aided by the consultant gave a presentation on the salient features of the project and the draft Terms of Reference for undertaking detailed EIA study. After detailed deliberations, the SEAC recommended that no public hearing is required due to expansion of the proposed unit in the same campus as per section 7(ii) of EIA notification, 2006. and also recommended for inclusion of following TORS in the preparation of EIA/EMP.

1. The unit has to recheck the values with respect to water quality data and information on flora and fauna.
2. Present land use should be prepared based on satellite imagery.
3. Location of national parks and reserve forests within 10 km. radius should specifically be mentioned.
4. A list of industries containing name and type in 10 km radius should be incorporated.
5. List of raw material required and source should be included.
6. Site-specific meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall should be collected.
7. Data on air emissions, wastewater generation and solid waste management for the existing plant should be incorporated.
8. Ambient air quality at 6 locations within the study area of 10 km., aerial coverage from project site with one AAQMS in downwind direction should be carried out.
9. Ground level concentration of pollutants from the stack emission based on site-specific meteorological features shall be determined..
10. Air quality modeling for particulate matter needs to be done. Air Pollution Control System (APCS) for the control of emissions from the Induction Furnace to be specified.
11. Impact of the transport of the raw materials and end products on the surrounding environment should be assessed and provided.
12. One season data for gaseous emissions other than monsoon season shall be provided.

13. An action plan to control and monitor secondary fugitive emissions from all the sources as per CPCB guidelines should be included.
14. Permission for the drawl of water from concerned authority and water balance data including quantity of effluent generated, recycled, reused and discharged is to be provided. Methods adopted/ to be adopted for the water conservation should be included.
15. Ground water monitoring minimum at 8 locations and near solid waste dump zone, Geological features and Geo-hydrological status of the study area are essential as also. Ecological status (Terrestrial and Aquatic) is vital. This should be provided.
16. Action plan for solid / hazardous waste generation, storage, utilization and disposal particularly Slag from IF, dust from APCS etc. shall be prepared and provided.
17. Risk assessment and damage control needs to be addressed. Onsite and off site disaster management plan shall be prepared and included in the EMP.
18. Occupational health impact and remedial measures thereof of the project may be studied.
19. Green belt development plan in 33 % area and a scheme for rainwater harvesting have to be put in place.
20. Socio economic impact due to project activity to be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified. 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
21. Detailed Environment management Plant (EMP) with specific reference to air pollution control system, water management, monitoring frequency, responsibility and time bound implementation plan shall be prepared and submitted..
22. EMP should include the concept of waste-minimisation, recycle / reuse / recover techniques, Energy conservation, and natural resource conservation.
23. EMP should include a clear map for plantation/green belt.

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

**(DR. SWOYAM PRAKASH ROUT)**  
**MEMBER, SEAC**

**( DR. HAREKRISHNA NAYAK)**  
**MEMBER, SEAC**

**( DR. MOHESHWAR PATRA)**  
**MEMBER, SEAC**

**(SRI SASANKA SEKHAR PATNAIK)**  
**MEMBER, SEAC**

**(DR. SURENDRA NATH DAS)**  
**MEMBER, SEAC**

**( DR. R. C. MOHANTY )**  
**MEMBER, SEAC**

**( SRI. S. DAS)**  
**SECRETARY, SEAC**

***CHAIRMAN, SEAC***

***SECRETARY, SEAC***



