**MINUTES OF THE MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE, ORISSA HELD ON 14TH & 15TH DECEMBER , 2009**

The meeting of State Level Expert Appraisal Committee, Orissa was held on 14th and 15th December, 2009 in the Conference Hall of Orissa State Pollution Control Board, Bhubaneswar at 11.00 AM. Dr. Gagan Bihari Nityananda Chainy, Chairman, SEAC Orissa chaired the meeting. The following members were present in the meeting.

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| 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. | Prof.R.C. Mohanty | - | Member |
| 6. | Prof. Kumar Das | - | Member |
| 7. | Dr. Surendra Nath Das | - | Member |

The Committee decided to request the SEIAA to suggest to the BDA not to approve commercial complex along with high rise residential complex within the city limit in view of traffic/ solid waste disposal /water supplies and effluent disposal problem.

A total of 9 project proponents were invited for presentation of proposed TOR and Environmental Clearance proposals followed by discussion. The agenda-wise proceedings and recommendations of the committee are detailed below:

**ITEM NO. 1**

**PROPOSAL OF KUNDAPOSI IRON ORE MINE OF M/S OCL IRON AND STEEL LTD. FOR PRODUCTION OF 516160 TPAIRON ORE OVER AN AREA OF45.131 HA.**

The proposal was considered by the SEAC to determine the Terms of Reference (TOR) for taking detailed EIA study for the purpose of obtaining environmental clearance in accordance with the provisions of the EIA notification, 2006 project. Proponent had submitted information in the prescribed format (Form-I) along with feasibility report. According to the Form-I and presentations made by the proponent, the proposal is for production of iron ore at a rate of 516160 TPA. The mining lease area is 45.131 ha, and out of the total lease area, 12.6 ha is forest land. The Government of Orissa, vide letter no. III (A) SM/46/02/8556, dated 23.12.2008 has conditionally granted lease to Kundaposi Iron Ore Mine at village Kundaposi over an area of 45.131 ha. for a period of 20 years from the date of execution of the lease deed with the Government. This lease was originally granted to M/s. OCL India Ltd. but subsequently the proponent has been modified as M/s OCL Iron & Steel Ltd by the State Steel & Mines Dept. vide their letter Dt.04.02.2009.The mining plan was approved by the Office of the Regional Controller of Mines vide their letter no. MP/OTF.MECH/10-ORI/BHU/2009-10 dated 24.08.2009.The Forest Diversion proposal has been forwarded to DFO, Keonjhar Division by the PCCF, Orissa vide Sl.No-342/09/dated-05-11-09 for further field verification. The mine

working will be opencast mechanized for iron ore. The water requirement is 92 KLD and source of water is Bore well.

After deliberating on the documents submitted and facts presented, the SEAC recommended the proposal for the preparation of EIA/EMP as per the following TORs:

Considering the information furnished and presentation made by the project proponent, the SEAC suggested the following TORs for undertaking detailed EIA study:

1. Profile of the project proponent and background to establish the financial and entrepreneurial competency to undertake the project may be included.
2. Duly attested & certified Mining Plan approved by IBM may be submitted along with the copy of the current lease deed in the name of the proponent. Present status of mining lease may be given.
3. The EIA study area shall encompass 10 km radius from the mine lease boundary as buffer zone.
4. There are 18 mines around the proposed site out of which the majority would be in operation under normal conditions. The EIA/EMP should take care of the baseline data and their EIA/EMP should reflect the cumulative effect of the pollution load to the environment rather than their own individual load since environment has no boundary. Collection of one season (non-monsoon) primary baseline data on ambient air quality, water quality, noise level, soil and flora and fauna and site-specific meteorological data should also be collected. The location of the monitoring stations should be justified.
5. Air quality modeling should be carried out for prediction of impact of the project and the existing mines in the vicinity on the air quality of the area focusing more in the villages within 3 kms from the mine. It should also take into account the impact of movement of vehicles for transportation and handling of minerals, OB including mining activity through volume source modeling. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction and speed may also be indicated on the map. The modeling should take into consideration the existing mines in the study area as regards their polluting potential rather the existing level. Since the consultant is already working in the area for other proponents, the baseline data and air sampling stations proposed in the buffer zone are likely to overlap. This would make the EIA estimation erratic. The present core zone may have additional air sampling stations at different heights since the wind speed/direction is likely to be different and thus prediction modeling would be erratic.
6. Availability of requisite quantity of surface, sub-surface and ground water and their source to be furnished along with water balance. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the project should be provided.
7. The mine is going to divert 12.6 ha of forest land for mining purpose. The forest diversion proposal is expected to be cleared/processed simultaneously since environmental and forest clearance can be processed independently. Required information on forest clearance may be provided.
8. Details of water bodies and drainage pattern of the ML area may be specified.

9. Progressive reclamation plan, post-mining land use, progressive mine closure and greenbelt development plan should be prepared in tabular form and be submitted. Milestones for the above activities may be specified in the table.

9a. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife corridors, Tiger/Elephant reserves (existing as well as proposed), and existence of rare and endangered flora and fauna if any, within 10 km of the mine lease should be clearly indicated. Necessary clearance, if any, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above under the Wildlife (Protection) Act, 1972 and copy thereof, may be furnished.

10. A detailed biological study of the core zone and buffer zone (10 km radius of the mining lease area) should be carried out. Details of flora and fauna duly authenticated separately for core and buffer zones should be furnished based on field survey indicating the schedule of the fauna present. In case of any schedule-I fauna found in the study area, necessary plan for their conservation should be prepared in consultation with the State Forest & Wildlife Department and details may be furnished. Necessary cost details for executing the conservation measures should be furnished and incorporated as part of the project cost.

11. Occupational health impact and remedial measures thereof for the project may be studied.

12. Baseline data for health status survey for all the employees including labourers and the residents of the nearby villages within 5 km distance may be carried out. Welfare of mine workers is the prime responsibility of the project proponent. Various activities such as regular health 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 a common fund for the welfare of mineworkers may be created. Besides various Govt. schemes and other sources may be explored. This aspect has to be covered in the EMP.

13. Socio-economic impact due to project activity may be assessed and based on the study, developmental activity proposed to be undertaken by the project proponent to be specified and as far as possible, quantitative dimension to be given. Study should include Corporate Social Responsibility (CSR) and it should be carried out as the entry point activity as trust building measures.

14. Points raised/likely to be raised during public hearing and commitment of the project proponent on the same may be included.

15. The depth of the ground water table in the area vis-a-vis minable depth of the bodies may be clarified with either primary or authentic secondary data in the EIA report. Rainwater harvesting and treatment system for pumped out quarry water if any may be submitted.

16. Management of OB dumps and other solid wastes generated during mining may be addressed through incorporation of a concrete plan for the same. Proper care should be taken for treating the effluents along with rainwater harvesting and wash offs from OB dumps to adequately recharge the ground water resources.

17. Leaching study of the OB and ores may be conducted and addressed as a long-term pollution potential and remedies thereof may be proposed.

18. Since the fines produced will be to the tune of 25% the ores amounting to 1.29 million tons per annum, special care should be taken in handling and lifting the ores. Details of air and noise pollution control measures to ay be specified.

19. Colored maps depicting land use/change of the region showing sensitive / fragile features and detailed lay-out of the site clearly showing green-belt (existing & planned) should be furnished. Around 26.32% of the buffer zone is agriculture land and there are a number of

settlements around. The project proponent should be extra careful about the dust and effluent emissions that are likely to affect the surroundings.

20. Satellite imagery of the location of mine should be submitted with demarcation of other proposed/in-operation mines in nearby area. Location is also to be shown in Tehsil map procured from the Revenue Department. This should be used as baseline information to compare the impact of mining in the area in future.

21. Risk assessment and disaster management plan should be given.

22. EMP taking into account the pre- and post-project environment impacts may be included.

23. Any litigation/ court case pending against the proposal should also be included.

24. The estimated reserve of ore is based on the surface spread of ore body and depth of nearby mines while the grade is also assumed to be same as theirs. But the production of different grades of ore and OB approved by IBM is to be adhered to during the operational and conceptual periods since any change in these would need fresh approval. Since there is expected to be quite a bit of variation between these two figures and accordingly most of the environmental parameters will vary, the proponent may address the anomalies at the time of presentation of EIA/EMP for EC.

25. The operational phase is 5 years while the conceptual period is 13 years. Future prospecting may come up with more reserves. The proponent clarified that the mine closure plan would start on the 6th year, which might be quite improbable. Thus, most mined sites would be open for a longer period than approved by IBM. The EMP should categorically address the issue and make a commitment as to how and where the mines are going to be closed and old environment restored.

26. At the end of conceptual period, the entire undisturbed area (23.363 ha) after 5 years is proposed to be diverted for mining and dumping purposes while the thin (7m width) green belt is proposed around the lease hold boundary. It will expose the entire lease area to natural forces and in absence of a credible mine closure plan, would very likely ruin the environment. The EIA/EMP should seriously address this issue. Plantation in at least 33% of the total area and its maintenance up to five years and regular follow-up maintenance, has to be ensured and accordingly plan has to be submitted with EIA. [Plantation Scheme] should include the total area for which aforestation has been proposed and the plan stating how much plantation shall be taken up annually. Plantation of local species may have better prospects. Cost details of the aforestation/ plantation on backfilled reclaimed area may be furnished.

27. The plantation scheme presented and clarified in the meeting is impractical with respect to land availability and methodology. The geomorphology and geology of the ore bodies are shown, where plantation cannot be practically started. The land shown for future mining is at a higher elevation and tapers toward the centre of the lease area. While clarifying the matter, it was told that the low lying areas would be filled up with OB and top soil would be spread and plantation would start with grass, creepers to be followed by the species likely to survive in the environment. It is suggested the EMP should include a practical plan in consultation with an expert and after visiting similar plantation sites in the locality or elsewhere.

28. The consultant could not clarify the methodology to be adopted for collection and analysis of PM10 particles as per the latest MoEF guidelines. They should make sure that the methodology followed is as specified by the Ministry/CPCB and meet BIS standards. Specified methodology may also be adopted for CO estimation.

**ITEM NO. 2 :**

**PROPOSAL OF INSTALLATION OF 5X4.5 T INDUCTION FURNACE AND 300 TPD RE-ROLLING MILL OF M/S JAGANNATH SPONGE PVT. LTD. AT- PADA, PO.:GARVANA, DIST.:SUNDARGARH**

The project authorities and their consultant gave a detailed presentation on the salient features of the project. The unit has proposed for an additional 5 x 4.5 T induction furnaces and 300 TPD rolling mill. The total area acquired for the proposed expansion of the plant will be 28.3 ha. The cost of the project will be Rs.57.59 Cr including Rs.33.78 Cr towards Induction Furnaces and Rs.23.81cr. for Re-Rolling Mill. No eco-sensitive area is located within 10 km periphery of the plant.

Considering the information furnished and presentation made by the project proponent, the SEAC suggested the following TORs for undertaking detailed EIA study:

1. The unit shall provide registration certificate of the industry from competent authority and profile of project proponent and background to establish the financial and entrepreneurial competency to undertake the project.
2. In most places, it is mentioned as capacity expansion and the proponent admitted to having one such unit existing at the proposed site, on which they retracted later. So it is suggested that a certificate from the competent authority may be produced at the time of submitting EIA clarifying the issue.
3. The facilities are proposed at a distance from their sponge iron plant to process their own product along with others for value addition. But their present application is related to 5 induction furnaces along with a re-rolling mill, which were considered. They were also advised to limit their activities to the plan under process rather than going ahead with their present plan of setting up of a 1x4.5T induction furnace independent of this proposal. Alternatively, they may apply afresh for EC for 6 induction furnace units.
4. It was not clarified as to what kind of fuel they are going to use for reheating. The pollution load and handling/storage problem will be entirely different when fuel oil (of different sulphur contents) or coal gasification processes are followed. This may be clearly brought out along with associated EIA/ EMP measures.
5. The facility is proposed to handle nearly 86,000 T of raw materials per annum which would need ample covered space for storage and handling. Safety measures may be put in place for such operations.
6. Reheating and cooling would emit various gases in addition to the emissions from induction furnace. Water requirement and subsequent treatment, reuse and effluent disposal should be properly addressed.
7. The person representing the proponent, being non-technical, and the technical consultant were both unaware about the technicalities of the proposal. So it was suggested that the EIA/EMP presentation should be backed-up with technically competent person(s) to adequately clarify the issues raised.

8. Executive summary may be provided as per EIA notification, 2006, Appendix – III (A)
9. Present land use based on satellite imagery shall be given. Location of national parks and reserve forests within 10 km. radius shall be given. The study area of the buffer zone should be 10km irrespective of the likely effects of adjoining manufacturing and processing units in the area since the locality is getting fast polluted with new industries being put up affecting the natural threshold limits. A list of industries indicating name and type within 10 km radius should be incorporated.
10. Manufacturing process details, list and quantity of raw materials required, their sources and details of the air pollution control equipments to be provided.
11. Site-specific meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall may be included.
12. Baseline data on emissions, wastewater generation and solid waste management shall be given. One season data for gaseous emissions other than monsoon season is necessary.
13. Ambient air quality at 8 locations within the study area of 10 km radius of the project site with at least one AAQMS in downwind direction shall be carried out.
14. Air quality modelling for specific pollutants from various sources and APCS for the control of emissions may be given.
15. Impact of the transport of the raw materials and end-products on the surrounding environment should be assessed and provided.
16. An action plan to control and monitor secondary fugitive emissions from all the sources should be included.
17. Permission for the drawl of water and water balance data including quantity of effluent generated, recycled, reused and discharged are to be provided. Methods adopted/to be adopted for the water conservation should be included.
18. Ground water monitoring, minimum at 8 locations and near solid waste dump zone should be carried out,
19. Details of land to be used for solid waste disposal should be included.
20. Risk assessment and damage control need to be addressed.
21. Occupational health of the workers should be taken care of.
22. Green belt development plan and a scheme for rainwater harvesting have to be included in EIA/EMP.
23. Socio-economic development activities need to be elaborated.
24. Detailed Environment management Plan (EMP) / and Environment Monitoring Programme with specific reference to air pollution control system, water management, monitoring frequency, responsibility and time bound implementation plan may be given. EMP should include the concept of waste-minimisation, recycle/reuse/recover techniques, energy conservation and natural resource conservation.

25. A tabular chart of the issues raised and addressed during public hearing/public consultation should be provided.

26. Any litigation/ court case pending against the proposal should also be included.

**ITEM NO. 3**

**PROPOSAL OF ADAGHAT IRON ORE MINES OVER AN AREA 15.07 HA, VILLAGE – ADAGHAT, DIST – SUNDARGARH**

The proponent did not attend the meeting. The committee decided to defer the case.

**ITEM NO.4**

**PROPOSAL OF SAGASAHI IRON ORE MINES OF M/S. NATIONAL ENTERPRISES AT – SAGASAHI, DIST – SUNDARGARH**

The proponent did not attend the meeting. The committee decided to defer the case.

**ITEM NO 5 :**

**EXPANSION PROPOSAL OF CEMENT GRINDING MILL OF KAPILASH CEMENT WORKS OF M/S. OCL INDIA LTD, AT – BISWALI, TANGI, DIST – CUTTACK**

M/s OCL India Ltd., have proposed to enhance the cement grinding capacity of their Kapilas Cement Works from their existing 0.9 MTPA to 1.35 MTPA. The proponent requested to consider this proposal under Category-B2 project and exempt it from EIA/EMP and grant Environmental Clearance. It was placed in the SEAC meeting held on 20-22 July under item no.17 and the Committee requested to clarify certain issues. The proponent during presentation requested once again to consider this capacity enhancement under Category-B2 project and exempt it from EIA/EMP and grant Environmental Clearance. The proponent proposed only to change the component mix and fineness of the particles keeping the product in compliance with BIS specifications. Thus they can conserve energy and improve efficiency of machineries. Therefore, the project, according to the proponent, the project should be accorded EC as a B-2 category project waiving off the EIA/EMP studies.

During the presentation and subsequent discussions, the Committee observed the following points:

1. The existing bag filters would be inadequate to arrest additional dust loads since clinker grinding and mixing/handling operations are highly polluting, especially with respect to particles having <5 micrometers of aerodynamic diameter. The efficiency would go down causing environmental pollution. A practical study with simulated conditions would be required if the same bag filter is to be used for the additional capacity.

2. The permission to use Birupa water for the industry is welcome. In view of their permission to draw more than the required amount, it should be used to completely

eliminate use of ground water. On the other hand, the industry should adopt treatment and recharge measures to replenish the ground water used so far.

3. Operating the grinding mills for 20-22 hrs out of 24hrs a day without any break-down is improbable. Thus, the earlier observations of the committee on the enhancement of working hours for workers and machineries are still valid. All the observations made earlier may adequately be addressed in the EIA/EMP.

4. The expenses on CSR activities are proposed to be brought down on certain activities like infrastructure development of the area. This should be projected by the proponent at the public hearing.

5. There are some amount shown under environmental expenses, which should be detailed and should not include routine maintenance of equipments or putting up of new mandatory ones for monitoring rather than control operations.

6. The proponent backed up with the consultant made a presentation on the issue requesting to waive off EIA/EMP preparation/presentation in view of their enhancing process efficiency, changing the composition and particle size/surface area of the product mix (clinker: gypsum: slag) but staying well within the relevant BIS specifications. The committee felt that capacity enhancement of 0.45MTPA over the existing 0.9 MTPA would need thorough EIA/EMP studies due to the following reasons:

   A. Environmental clearance was not obtained for the existing unit since it was not required then. But 50% addition to the existing capacity would enhance the present pollution load of the area significantly.

   B. The arguement of reducing power consumption through increasing grinding quantity (tonnage) and reducing particle fineness is improbable since the overall working hours are enhanced and the consultant could not adequately clarify the justification.

   C. Essential composition change may affect the standard parameters of commercial cement like strength and setting time/heat release etc. The product mix proposed by the proponent requires fresh BIS certificate.

Considering the information furnished and presentation and discussions made, the SEAC prescribed the following TOR for undertaking detailed EIA study and discussions which would the following.

1 Present land use of study area for 10 Km radius.

2 Site-specific micro-meteorological data including inversion height and mixing height.

3 Collection of baseline data on air, water, soil, noise, flora, fauna etc. for one season other than monsoon.

4 Ambient air quality monitoring modeling data of the existing unit and projected data for the proposed expansion.

5 Sources of secondary emissions, its control and monitoring as per the CPCB guidelines.

6 A write-up on use of wastes including BF slag and fly ash and commitment regarding supply of the wastes by the various companies.

7 Chemical characterization of RSPM and incorporation of SPM and RSPM data for AAQM stations including one in downward direction of wind.

8 Water balance including quantity of effluents to be generated, recycled, reused and discharged.

9 Ground water monitoring, minimum at 8 locations and efforts to minimize use of ground water including the time-bound action plan for reduction of consumption.

10 Action plan for surface as well as roof-top rainwater /storm water harvesting, treatment and recharge.

11 Scheme on proper storage of the raw materials including slag, gypsum, clinker, coal and mode of their transportation along with details of mitigation measures proposed.

12 Fugitive emissions and control technologies.

13 Risk assessment and damage control measures.

14 Occupational health of the workers.

15 Green belt (33%) development plan as per CPCB guidelines including a clear map for plantation/green belt.

16 Socio-economic developmental activities and corporate social responsibility of the project proponent to be mentioned.

17 Scheme for compliance to the recommendations mentioned in the CREP guidelines.

18 Details of location of wildlife sanctuary and national parks within 10 km radius of the plant and plan for conservation and protection of the same, if necessary.

19 Detailed Environment management Plan (EMP) and Environment Monitoring programme with specific reference to details of air pollution control system, water & wastewater and solid waste management, monitoring frequency, responsibility and time-bound implementation plan for mitigation measures

20 Concept of waste-minimization, recycle/reuse/recover techniques, energy conservation, and natural resource conservation.

21 Any litigation pending against the project and /or any direction /order passed by any Court of Law against the project, if any, with details thereof.

22 A tabular chart of the issues raised and addressed during public hearing/public consultation.

**ITEM NO. 6**

**PROPOSAL OF M/S UTKAL BUILDERS LIMITED FOR CONSTRUCTION OF RESIDENTIAL-CUM-MARKET COMPLEX AT GOUTAMNAGAR, BHUBANESWAR WITH 62301.49 SQ.M BUILT-UP AREA.**

The proponent made a presentation on the proposal for consideration of the SEAC. As per details submitted and presentation made, the proposed development is a residential-cum-commercial complex. There will be 4 blocks of residential buildings with a lower basement, upper basement and 11 floors. The commercial block would have lower basement, upper basement and 4 floors. There would also be some residential bungalows. The total plot area is

16645.31sqm, total built-up area is 62301.49 sqm and green belt landscaping area is 3375.7$m^2$. The building is residential-cum-commercial in nature. Bhubaneswar Development Authority has approved the building plan. The total water requirement is 232 KLD. Source of water will be Ground water during construction phase. The water requirement will be met from municipal supplies and ground water during operational phase. Around 140 KLD of waste water will be generated which will be treated in a Sewage Treatment Plant (STP) of 150 KLD capacity. Treated water will be re-used for dual flushing, green belt and landscaping. Total solid waste generation will be 394 kg/day. The power requirement is 3407.84 KW. Total cost of the project is Rs.60 crores.

SEAC decided that the proposal in its present form is not acceptable and shall be considered for environmental clearance after getting satisfactory clarifications and compliance on the following points from the project proponent:

1. There is discrepancy in BDA approval letter and approved plan regarding the khata and plot numbers. The proponent shall submit a corrected copy of the approved plan duly authenticated by the competent authority and the approval letter thereof.

2. Bore well water is proposed to be used during construction phase to the tune of 70KLD since there is no PHED connection to the plot. The ground water depth is mentioned as 7m below ground level and they propose to put up a number of bore wells. The water at 7m depth is only shallow and limited. Drawing of huge volumes of water from ~80m depth (ground water body) would affect the ground water level in the heart of the city. The builder may get PHED supplies connected for construction purpose since they are to get 106KLD supplies from the same source during operational phase. For both the phases, a letter of allotment of water from the competent authority should be produced.

3. Swimming pool make-up water of 8 cubic m per day seems quite high since they are to drain/refill the pool only weekly once. There should be a realistic figure for this, which may be considered. The discharged water must be treated to improve its quality and used for suitable purposes like horticulture.

4. Evaporation and process loss of water at a rate of 3 cubic m per day in view of the huge volume of water being handled is theoretical.

5. Treatment of used water mixed up with flush water is a wastage of efforts and uneconomical. They should separately treat grey and normally used water and then recycle only the treated water while use treated black water for gardening and plantation after making it microbially fit for such uses.

6. The ETP suggested is not having professional touch since only aeration after oil and grease removal is suggested. Microbially infected water needs proper and separate treatment. They should consult an expert in the area of effluent water treatment and use a standard technology. There may be provision for a stand-by unit to be placed into service while the operating unit undergoes maintenance,

7. Rainwater harvesting calculations showing peak rainfall rate uniformly over 70days of the monsoon period seems to be over estimated. The collection of roof top rainwater and ground runoff along with recharge technology look erratic and need professional advice.

8. Allotment of 30% commercial space with 3+3 floors and the accompanying traffic congestion on the arterial roads, solid waste disposal and vehicular parking would create chaos in the already congested narrow roads in the populated area of the city. A large number of vehicles while starting or idling in addition to driving would emit huge quantity of environmentally harmful gases. Further, the commercial area having proposal for two-level parking would still complicate the issue and pollute the environment of the area which is located in the heart of the city.

9. The proposed project site is located in the close proximity of a number of important archeological structures, such as Mausi Maa temple and other historical monuments. The proponent claimed that he had obtained necessary clearance from the ASI on the matter without producing the documents. However, the proponent should produce the ASI clearance certificate along with the copy of his application therefore.

10. They should make a realistic estimate of existing plants/bushes on the site and go for plantation along with compensatory plantations before starting construction.

11. The construction space should be totally covered to arrest fine dusts and muffle sound during construction phase.

12. It is proposed to put up 4X750 KW diesel generators in a 3m high single storied structure for back-up during power failure. The fuel storage/handling and fugitive emission details and their safety aspects have not been included. The stack height for the combined capacity would be not less than 27.4 m above ground level. In addition, the dispersion of emissions from these units will be severely affected since it will be surrounded by high-rise building units. Realistic air dispersion modeling would clarify the situation and accordingly the proposal may be modified.

13. Fire sensors and escape routes for the high rise building units housing almost 1,000 inhabitants should have professional touch as regards to their planning and execution, which are lacking in the proposal.

14. Detailed demographic survey of the study area (3 km radius) to be made and data to be provided including the anticipated changes due to the project.

**ITEM NO. 7**

**PROPOSAL OF MULTISTORIED BUILDING AT BAMIKHAL WITH BUILT-UP AREA 372874 SQFT. BY M/S. SAFAR RETREATS PVT. LTD.**

The proponent did not attend the meeting for presenting the proposal. The SEAC decided to defer the case.

**ITEM NO. 8**

**PROPOSAL APPRAISAL FOR RESIDENTIAL COMPLEX ROYAL GARDENS WITH BUILT-UP AREA 372874 SQFT. BY M/S. S.J. DEVELOPERS & HOUSING PRIVATE LTD AT RAGHUNATHPUR, BHUBANESWAR**

The proponent did not attend the meeting for presenting the proposal. The SEAC decided to defer the case.

**ITEM NO. 9**

**PROPOSAL OF M/S. ESSAR POWER LTD FOR 2X30 MW (PHASE II) COAL BASED CPP AT PARADEEP, DIST. JAGATSINGHPUR**

The proposal was considered by the SEAC to determine the Terms of Reference (TOR) for undertaking detailed EIA study for the purpose of obtaining Environmental Clearance in accordance with the provisions of the EIA notification, 2006. For this purpose, the proponent had submitted information in the prescribed format (Form-I) along-with pre-feasibility report.

M/s. Essar Steel Orissa Limited (ESOL) is in the process of setting up of a 6 MTPA Integrated Steel Plant (ISP) including a 12 MTPA Pellet Plant at Paradeep, Kujang Tehsil, Jagatsinghpur District, Orissa . M/s Essar Power Ltd. (EPOL) has also proposed to set up 120 MW (4 x 30 MW) coal based CPP in two phases to partially cater to their power requirements. Out of this 120 MW project, MoEF Govt. of India has already issued ToR for 2x30 MW (Phase I). The present proposal is for 2x30 MW (PHASE –II) coal based captive thermal power project at Paradeep in the district of Jagatsinghpur, Orissa. It is for the captive use of M/s Essar Steel Orissa Ltd for their 12 MTPA Pellet Plant. Land requirement is 50 acres. Water requirement is 256 $m^3$/hr, which will be taken from Taladanda canal. The proponent will use 1400 MT/day Indian coal transported by rails up to Paradeep port and then to their work site by trucks. Total cost of project is Rs.257.4 crores.

Considering the information furnished and presentation made by the proponent, the SEAC prescribed the following TORs for undertaking detailed EIA study and EMP of the project:

1. The EIA data collected in 2008 for their earlier proposal to MoEF for the first half of their CPP should not be used here as this would only reflect the baseline data as if the proposed project is located in an unpolluted environment. The EIA/EMP study should reflect the cumulative effects of the three units, i.e., the integrated steel plant including the pallet plant, the first and second phases of the CPP together rather than for this particular unit (Phase-II) while submitting data for EC appraisal since the present proposal will be the latest addition to their former two proposals at the same site.

2. The study area should cover an area of 10 km radius around the proposed site. Land use of the study and project area shall be given.

3. 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 with copy may be furnished.

4. A detailed biological study of the study area (core zone & buffer zone - 10 km radius) shall be carried out. Details of flora & fauna, duly authenticated separately for core & buffer zones should be furnished based on field survey indicating the schedule of the fauna present. In case of any schedule-I fauna found in the study area, necessary plan for their conservation should be prepared in consultation with the State Forest & Wildlife Department and details furnished. Necessary cost details for executing the conservation measures should be furnished & incorporated as part of the project cost.

5. 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).

6. Coal consumption at a rate of 14,000 TPD needs transportation, handling, storage and processing steps. This would produce 41,580 TPA bottom ash and 166,320 TPA fly ash for proper and safe disposal. This would amount to 46% ash content taking an average 320 days of operation in a year. The proponent should specify the blend of coal with source for the purpose. Land earmarked for bottom ash and fly ash disposal may be specified. Measures for controlling environmental damages, due to storage and transport/handling of dry bottom ash or fly ash through silos and semi-wet disposal into ponds before disposal for 100% use in ancillary industries (as proposed) may be spelt out.

7. Fuel analysis may be provided (sulphur, ash content and mercury) with grade of coal. Details of auxiliary fuel, if any including its quantity, quality, storage etc should also be given.

8. Details regarding ash pond impermeability and whether it would be lined, if so details of the lining etc. may be provided. The steps to ensure long-term storage of ashes, if warranted, should also be indicated.

9. There is also no clarity on the quality and quantity of effluent water involved in the process of ash handling or storage nor its treatment/disposal technique. The Committee is very much apprehensive of environmental effects in view of the rupturing of fly ash ponds in Talcher inundating the Nandira river and adjoining agricultural land had suffered from adverse impacts a number of times in recent past.

10. 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 along with their long-term leachability potential.

11. Information regarding surface water and surface hydrology and water regime and its impact may be furnished. Assurance of the proponent not to discharge any affluent into the canal or any other water body with recycles and reuse technology would be illogical in view of the integrated steel and another captive power unit in the same campus. They were advised to recalculate the entire water requirement and recycle/treatment processes in an integrated manner rather than a peace-meal manner. Impact of the project on drainage of the area and the surroundings are to be studied especially in view of its shallow surface water and proximity to the sea.

12. One season (other than monsoon) site-specific meteorological data shall be provided. The AAQ data for the period may be given along with the dates of monitoring. The parameters to be covered shall include PM10, RSPM, $SO_2$ NOx and Ozone (ground level). The location of the monitoring stations should be so decided as to take into consideration the predominant downwind direction, population zone and sensitive receptors including reserved forests. There should be at least one monitoring station in the upwind direction.

13. The emission of particulate matter, $SO_2$ and NOx from the unit needs much more vigorous treatment rather than simply putting up the required chimney height or employing low NOx burners. Since the area is virgin and sensitive due to thick habitation and agricultural activities around, the AAQS for residential areas should be employed as a yardstick. Impact of the project on the AAQ of the area, details of the model used and the input data used for modeling should also be provided. The air quality contours may be plotted on a location map showing the location of project site, habitation nearby and the 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.

14. Details of fugitive emission from Coal Handling Plant (CHP), ash handling and ash disposal area and its control system may be specified.

15. 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.

16. Drawing 6,200 $m^3$ of water per day from the adjoining Taldanda canal would severely affect the population living up- or down-stream of the water body since it is the only dependable source of sweet water for them. Though the irrigation Dept. might have cleared the proposal, it needs a re-look by the authorities concerned.

17. Details of rainwater harvesting and how it will be used in the plant shall be provided. 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. Details of water balance taking into account reuse and re-circulation of effluents may be provided.

18. Detail run off management of coal stockyard and ash disposal area to be specified.

19. Details of green belt, i.e. the land with not less than 1600 trees per ha giving details of species, width of plantation, planning schedule etc. should be furnished.

20. Detail precaution measures for handling chlorine, one of the raw materials, needs inclusion.

21. 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.

22. Paradeep coast is always prone to natural disasters, particularly flooding, low pressure winds, cyclonic winds and heavy rains. The place being only a few kilometers away, would be prone to such natural disasters before/during and after the monsoon season. A fool-proof plan for dealing with such natural disasters may be included.

23. The NH-5A and State Highway connecting Cuttack to Paradeep is narrow and busy all the time. Traffic congestion on and around the adjacent Mahanadi bridge on Express Highway and on the Cuttack-Paradeep road due to ore and general traffic is well known. The proponent should clearly mention how to manage their own supplies and disposal networks under such adverse situations.

24. The municipal solid waste generation to the tune of 1600 kg/day and unspecified amount of effluents out of the human habitation both during construction and operation phases needs serious thinking. There is no clarity on this aspect in the proposal Simply septic tank disposal of liquid municipal effluents will severely contaminate the surface and the shallow sub-surface water bodies. So the treatment and disposal methods should be technically good enough to rule out such eventualities.

25. Occupational health impact and remedial measures of the project may be studied.

26. The location is surrounded by thickly populated villages not far away and rice fields being the mainstay of the local populace, the very sighting looks ambiguous. This should come out clearly in the next public hearing and accordingly the representatives of the Pollution Control Board and local administration may be informed. Public hearing points

raised or 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.

27. Socio-economic impacts due to project activity are to be assessed and based on the study. Developmental activities 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.

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