

## **MINUTES OF THE 62<sup>ND</sup> MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON ENVIRONMENTAL IMPACT ASSESSMENT OF THERMAL POWER AND COAL MINE PROJECTS**

The 62<sup>nd</sup> Meeting of the reconstituted Expert Appraisal Committee (Thermal) was held on **December 4, 2012** at Scope Convention Centre, SCOPE Complex, Lodhi Road, New Delhi. The members present were:

- |    |                  |   |                  |
|----|------------------|---|------------------|
| 1. | Shri V.P. Raja   | - | Chairman         |
| 2. | Dr. C.R. Babu    | - | Vice-Chairman    |
| 3. | Shri T.K. Dhar   | - | Member           |
| 4. | Shri J.L. Mehta  | - | Member           |
| 5. | Dr. G.S. Roonwal | - | Member           |
| 6. | Shri M.S. Puri   | - | Member           |
| 7. | Dr. S.D. Attri   | - | Member           |
| 8. | Dr.Saroj         | - | Member Secretary |

Member Secretary, CPCB; Dr. CBS Dutt, Dr. K.K.S. Bhatia and Shri V.B. Mathur were absent.

In attendance: Sh. W. Bharat Singh, Deputy Director, MoEF.

The deliberations held and the decisions taken are as under:

### **ITEM No.1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING.**

The minutes of the 60<sup>th</sup> Meeting held during November 5-6, 2012 were confirmed with some minor changes noticed/suggested.

#### **2.1 1320 MW Coal based thermal power plant of M/s Sindya Power Generating Company Pvt. Ltd. at villages Perunthottam & Agaraperunthottam, Sirkazhi Taluk, District Nagapattinum in Tamil Nadu - reg. EC Reconsideration.**

The proposal was earlier considered in the 50<sup>th</sup> Meeting held during June25-26, 2012, wherein the project proponent gave a presentation and provided the following information:

The proposal was earlier proposed to be set up based on blended coal i.e. 70:30 (domestic coal: imported coal) but due to non-availability of the domestic coal, it has been decided to go ahead with imported coal from Indonesia for an interim period until domestic coal for blending is available. The site was inspected by a Sub-Committee of the EAC before recommendation of TOR. In

compliance to the suggestion made by the Sub-Committee, areas with probable salt marshes have been avoided. The proposed power plants of M/s Empee Power Ltd., M/s Patel Engg. Ltd; and M/s NSL Nagapattinam Ltd. are located in the vicinity. The revenue records were made in 1922 and the agricultural lands are recorded as wetland. There has been no reclassification after that even though there has been several land use changes. The agricultural areas in most of the Tsunami affected region including the present one has become significantly saline.

The proposal is for setting up of 2x660 MW Imported Coal Based TPP at villages Perunthottam & Agaraperunthottam, Sirkazhi Taluk, District Nagapattinam in Tamil Nadu. Earlier TOR was prescribed for 2x525 MW, on 20.01.2010, which was subsequently requested to be changed to 3x350 MW. Subsequently, this was again changed to 2x660 MW and TOR was reiterated for the changed configuration. Land requirement will be 594.18 acres, out of which 66.9 acres is Govt. revenue land; 37.62 acres is single crop agriculture land; 40.23 acres is dry land and 449.41 acres is agricultural land with no cultivation. About 430 acres of land has already been acquired. The co-ordinates of the site are located within Latitude 11°11'8.862" N to 11°12'9.782" N and Longitude 79°49'44.432" E to 79°50'37.597" E. Imported Coal requirement will be 6.11 MTPA at 85% PLF. Imported Coal will be obtained from Indonesia. FSA has been signed with M/s Sindya Resource Pte. Ltd. Ash and sulphur contents in imported coal will be 2-11% and 0.6% respectively. High Concentration Slurry disposal system for unutilized fly ash shall be proposed. About 1.76 MTPA of fly ash and 0.44 MTPA of bottom ash will be generated. Fly ash will be supplied to M/s Madras Cements Ltd. and M/s India Cement Ltd. Ash pond area will be 160 acres and co-ordinates of the ash pond site is located within Latitude 11°12'18.931" N to 11°12'45.891" N and Longitude 79°50'1.312" E to 79°50'46.592" E. Bi-flue Stack of 275m will be provided. Natural Draft cooling system will be installed. Water requirement of 2,67,792m<sup>3</sup>/day will be sourced from the Bay of Bengal through a pipeline at a distance of about 1.1 km from the project site. Approval from Tamil Nadu Maritime Board, Govt. of Tamil Nadu has recently been obtained on 07/04/2010. Desalination plant capacity will be 35,000 m<sup>3</sup>/day. State level CRZ committee has recommended for CRZ clearance and the approval from the Ministry is awaited. Common jetty with M/s Empee Power Ltd. is being worked out. About 93 homestead losers and 200 land losers will be involved. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within ten km of the project site. Public Hearing was held on 07.02.2012. Cost of the project will be Rs.6996.0 Crores approximately.

*The project proponent in the said 50<sup>th</sup> Meeting also informed that the proposed TPP is to be located at a distance of about 5.2 Km from Cauvery River and therefore does not come under the purview of G.O issued by the Tamil Nadu Govt. with respect to Cauvery River. The project proponent had also informed the status of various High Court cases including the one filed by M/s Bismi*

Prawn Farms Pvt. Ltd. bearing W.P. No. 3641 of 2012, which was disposed off as being premature. Other High Court cases filed were: W.P. No.3502 of 2012 (C. Manokar Vs State of TN &Ors); W.P. No.3654 of 2012 (Nagai District Consumer Protection Awareness Services Organisation Vs State of TN &Ors); W.P. No.29248 of 2011 (R.Tilaynayagam Vs State of TN &Ors). These cases have also been disposed of.

The Committee noted that TOR was prescribed on 20.01.2011 and the baseline AAQ was collected during December, 2010 to February, 2011. The project proponent clarified that post monsoon data during December, 2010 to February, 2011 was collected with due intimation to the EAC, in its first consideration in October, 2010, but the same appears to have inadvertently not been recorded in the minutes of the meeting.

The Committee observed that there are several representations regarding the proposed power project and noted the representation submitted by M/s Bismi Prawn Farm Pvt. Ltd. The point-wise response provided by the project proponent has been noted to be enclosed in the Final EIA/EMP Report. The Committee also noted the clarification provided with respect to representations made by an NGO viz. Coastal Action Network. It was noted that the project proponent's response has been enclosed in the final EIA/EMP report submitted. The project proponent also provided a list of 26 written representations received from various quarters including the above and indicated the various segments in the Final EIA Report where these have been appropriately addressed. The Committee perused the same and noted the contents.

The Committee further observed that Vedaranyam, a potential important coastal wetland is located at about 90 Kms (aerial distance) distance from the present site. The proposed site is reported to be about 5 Kms from Manigramam excavation site.

Regarding nesting ground of Olive Ridley Turtles, it was stated by representative of Annamalai University present in the meeting that the area has only sporadic occurrence of Olive Ridley Turtles and that too far off at aerial distance of about 65 Kms from the present TPP site. The Casuarina plantation and disappearance of sand dunes could possibly be the result of infrequent nesting in the region. The project proponent has nevertheless committed to take up conservation measures in association with Annamalai University and other organizations.

The Committee deliberated the issues raised in the Public Hearing and the response provided by the project proponent. The major issues raised were regarding conduct of public hearing involving volunteers from power company in obtaining signatures of participants; likely developmental activities due to power project; inability to do agriculture and fishing due to lower produce and

hence desired alternatives livelihood activities; acute shortage of drinking water; NGOs with self interest misleading the people; project being established within 500 m from HTL; details of compensation paid to land losers; preservation of mangroves in the area; ash dyke proposed to be very close to Buckingham canal; EIA not mentioning marine life but mentioning deep sea fishing; many thermal power plants being proposed in Nagapattinam District prone to Tsunami and floods; likely impact of fishing due to release of hot water to sea; three more power plants in the vicinity and cumulative impact assessment study required; project being located within 5 kms of Cauvery River; dust and ash likely to be generated and the impact on the health of local community; before 10 years all the lands in the region were farm lands, which have now become saline; employment being given only to migrants from other States; presence of a big lake very close to power plant site being a storage for water during rainy season avoiding flooding; ash utilized from power plants in the region would be only 2-3% by cement plants and action plans by the promoters for utilizing balance ash generated; presence of radio activity and mercury in coal; change in venue of Public Hearing etc.

The Committee took note of the response made by the project proponent to the various objections raised in the Public Hearing. The Committee, however, felt that some of the issues in the Public Hearing were important and the same need to be appropriately addressed by the proponent. After deliberations, the Committee decided that the project proponent shall first submit the **following additional information**, which are also issues raised in the Public Hearing, before their proposal could be considered for recommendation of environmental clearance.

- i) An addendum to EIA Report incorporating cumulative impact due to various TPPs and any industrial activity over 25 kms radius using appropriate Model for coastal region. The cumulative impact assessment shall comprise of marine component i.e. likely impact due to water drawal and discharge from and into sea by all TPPs in the area on the marine biology, as also likely impact on traditional fishing;
- ii) Detailed action plan for rehabilitation of homestead losers and details of compensation paid to land losers. The plan shall also include identification of marginalized section of people who do not own land but were dependant indirectly on the land acquired for the power plant and their rehabilitation thereof;
- iii) The proponent has committed Rs. 26.20 Crores as one time capital expenditure for CSR activities during construction phase. Thereafter recurring annual budget has to be Rs. 6.60 Crores till the operative life of the power plant with Social Audits to be got conducted annually. Action plan for implementation of CSR with time schedule and committed expenditure year marked. As part of CSR, scheme for supply of drinking water to nearby villages from the proposed desalination plant shall be

- formulated and commitment details for regular potable drinking supply, the quantity envisaged and villages to cover shall be furnished;
- iv) Proposed layout and details of diversion of small channels;
  - v) Action plan for employment of local population by imparting training in association with nearby ITI for eventual employment in the project shall also be made as also given in the TOR;
  - vi) Plan and possibility for de-siltation of lake/water body nearby and development of community pond(s);
  - vii) Action plan for carrying out long term study on radio activity, heavy metals from coal to be used and reputed institute identified for the task shall be formulated. The plan shall comprise of an in-built continuous monitoring mechanism for radio activity and heavy metals in coal and fly ash (including bottom ash);
  - viii) Impact on aqua farm due to proposed power plant;
  - ix) Tsunami protection measures in consonance with any guidelines formulated by NDMA as may be applicable to be detailed out.

***In view of the observation made by the Committee, the proposal was deferred for reconsideration at a later stage in the said 50<sup>th</sup> Meeting held during June 25-26, 2012.***

On submission of the clarification the matter was again placed before the Committee during the 62<sup>nd</sup> meeting of EAC.

*The Committee desired that the project proponent need to peruse through the Order of the National Green Tribunal (NGT) in the matter of Appeal No. 12 of 2011 pertaining to 2x600 MW TPP of M/s Chettinad Power Corpn. Ltd. in Nagapattinam Distt., in Tamil Nadu and ensure compliance of the observation of the NGT as may be applicable in their case.*

The project proponent made a detailed presentation on the point-wise clarification sought earlier as stated above and informed that in and around 25 kms of their site six more thermal power projects are in the offing of which four have already obtained environmental clearances. The power projects and their details are as follows:

<b>S.N</b>	<b>Name of company</b>	<b>Capacity (MW)</b>	<b>Fuel</b>	<b>Distance w.r.t present power project</b>	<b>Status of EC</b>
1.	M/s Sindya Power Generating Co. Ltd.	2x660	Coal	-	-
2.	M/s Empee Power Pvt. Ltd.	2x660	Coal	2.49 Km (S)	EC yet to be obtained.

3.	M/s NSL Power Ltd.	2x660	Coal	7.08 Km (SSE)	EC issued.
4.	M/s PEL Power Ltd.	3x350	Coal	8.25 Km (SSE)	EC issued.
5.	M/s PPN Power Generating Co. Pvt. Ltd. – Expansion by addition of 3x360 MW CC Gas Based	1080	Natural Gas	12.7 Km (SSE)	EC issued.
6.	M/s Chettinad Power Corpn. Ltd.	2x600	Coal	14.72 Km (S)	EC issued.
7.	M/s AES Naganadu Power Pvt. Ltd.	2x700	Coal	7.19 Km (N)	EC yet to be obtained.

*M/s Sindya Power Generating Co. Pvt. Ltd. informed the Committee that based on the Cumulative Impact Assessment Study undertaken; they have voluntarily decided to adopt FGD for one unit of 660 MW, in the interest of environment as a precautionary measure.*

The Committee revisited the issues and responses made w.r.t public hearing proceedings and observed that the action points cited for addressing the issues as largely acceptable.

The project proponent informed the Committee of the difficulties faced while carrying out cumulative impact assessment such as non-availability of data of other project activities and from SPCBs concerned.

The observation expressed by the project proponent for carrying out cumulative impact assessment was noted by the Committee and it was decided that the Ministry may assist the project proponents by writing to the relevant State Pollution Control Boards and other concerned agencies for access to data.

The Committee noted the issues flagged and felt that there were prima facie difficulties faced by a project proponent in the matter and advised the project proponent to state their difficulties in writing to the Ministry for taking further necessary action.

While discussing the cumulative impact assessment carried out over 25 kms radius the Committee observed that for coastal power projects different Models were being used for AAQ impact assessment by different project proponents with each Model giving varying results depending on the variables. In the instant case, the project proponent has used CALPUFF Model which is also reportedly an advanced Model accepted and validated by US EPA.

*The Committee directed the project proponent to submit a write up (for records) on the Models currently available for prediction / assessment of coastal projects and the reason for choosing the particular model. The Committee also agreed that the algorithm of the Model and the variables used need to be clearly specified while concluding that the Model used was an appropriate one. The Committee also decided that the Ministry may also in due process consult various institutes like Institute of Mathematical Sciences, Chennai; IIT Delhi etc. for determination of appropriate Models used by different project proponents.*

*The details of diversion of channels were also presented. The Committee decided that the project proponent shall obtain approved layout of such diversion from the PWD or concerned agency from the State Govt. and submit the same to the Ministry for records.*

While discussing the issue of hydrology report, it was stated that the canals in the area are at tail end of water flow and there is no active cultivation of land beyond the project area.

Regarding Action Plan for rehabilitation of homestead losers and compensation, the project proponent presented a plan of action. It was informed that 430 acres of private land has been purchased and 67 acres of Government land applied for delineation and is under process of allotment. That an amount of Rs 6.62 Crores have been paid as compensation so far. That about 93 houses (to be dislocated) would be built at its own cost for which a budget of Rs 4.33 Crores is earmarked. That about 200 people have been identified who are dependent on the land of the TPP site for their livelihood and an amount of Rs 10 lakhs is earmarked for disbursement.

*It was also informed that as one time capital expenditure Rs 26.20 Crores over and above the above has been earmarked for CSR activities during the construction phase of the project with Rs 6.60 Crores per annum for recurring expenses for CSR activities till the life of the TPP. Detailed break-up was also provided. That social audit will be conducted by institute / university of repute on annual basis and details would be put up on the company's website.*

It was informed that as an advance activity services of the local ITI and Polytechnic institutes have been approached for imparting training to local youth for various skills for employment in project related activities.

The project proponent has also reported to have identified for desiltation a large lake and a couple of water bodies which are located at villages Perunthottam and Agaraperunthottam. That 0.5 m depth of the lake and the water bodies (ponds) will be de-silted at the cost of Rs 3.72 Crores in consultation with PWD and village Panchayat.

Regarding Long Term Study for radio activity and heavy metal in coal and fly ash, it was stated that reputed institutes like AMD, Hyderabad, Central Power Research Institute, Bangalore, Mangalore University will be contacted to take up relevant studies in due course. The Ministry will be informed about the same.

Impact analysis on aqua farms was also deliberated. It was informed that there is no possibility of any adverse impact on aqua farm due to setting up of the power project. The Committee advised that the representation by M/s Bismi Farms can be sorted out by the project proponent independently as it appears the representation is more due to social impact in nature than the environmental aspects involved.

The Cumulative Marine Impact Assessment was deliberated and it was informed that from Pt. Calimer all along Nagapattinam Coast the sea is very rough and therefore dispersion is very good. The salinity and temperature at 100 m from outfall of all proposed TPPs in 25 Km radius was presented. It was informed that the temporal maximum of excess temperature is only 0.45°C over 100 m distance from outfall point and the temporal maximum of excess salinity will be 1.6 ppt (within 100 m from outfall point).

The project proponent stated that there will be insignificant adverse impact on the fishing villages in and around the study due to ship movements as the number of ship movements anticipated due to proposed industries including proposed TPPs will be only four or five in a day considering all the TPP will get commissioned which is unlikely. It was also informed that at 20 m depth and at 5 kms distance from the coast, area occupied by marine facilities (intake and outfall) will be 9.464 km<sup>2</sup> and the impact area will be only 3.8% leaving 96.3% area available for fishing.

Regarding warm water discharge from the present power project and its impact, therefore the project proponent stated that the discharges disperses very quickly near then outfall location itself and behave independently and does not merge with that of other industries discharges. That therefore the expected cumulative impact due to warm water discharges from the present power project will be minimal. *It is also proposed to use capital dredging material for beach nourishment to ensure the coastline stabilization in and around the power project facilities, while also monitoring the shoreline changes and taking appropriate preventive measures.*

It was also informed that MoU has been signed with Faculty of Marine Sciences, Annamalai University for undertaking regular monitoring of marine environment parameters during construction and operation period of the power project.

Tsunami protection measures adopted by Kalpallam Atomic Power plant and possible adoption of similar measures were presented as part of preparedness for any such recurrence in future.

Based on the information and clarifications provided the Committee recommended *environmental clearance for the proposed project* subject to stipulation of the following specific conditions besides the recommendations made by the Sub-Committee in its site inspection report, a copy of which is already made available to the project Proponent:

- i) CRZ clearance for permissible activities in CRZ area shall be obtained.
- ii) The recommendation of environmental clearance shall be without prejudice to provisions of the Govt. of Tamil Nadu Order w.r.t Cauvery River.
- iii) Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation shall be submitted periodically.
- iv) A stack of 275 m height shall be provided with continuous online monitoring equipments for SO<sub>x</sub>, NO<sub>x</sub> and PM<sub>2.5</sub> & PM<sub>10</sub>. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.
- v) FGD shall be installed for first unit of 660 MW.
- vi) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm<sup>3</sup>. Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.
- vii) It shall be ensured that natural drainage in the region is not disturbed due to activities associated with operation of the plant.
- viii) The project proponent shall regenerate degraded water body (if any) located nearby within 5.0 km atleast.
- ix) COC of 1.25 shall be adopted and report submitted within 3 months of operation of the plant. Waste water generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB.
- x) Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.
- xi) The leveling in plant area should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted, the design for diversion should be such that the diverted canals not only drains the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy

- areas/major canals that enter into creek/nallah etc. Major canals should not be altered but their bunds should be strengthened and desilted.
- xii) Additional soil for leveling of the sites should be generated within the sites in a way that natural drainage system of the area is protected and improved.
  - xiii) Well designed acoustic enclosures for the DG sets and noise emitting equipments to achieve the desirable insertion loss viz. 25 dB(A) should be provided.
  - xiv) A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises. Action plan and road map for implementation shall be submitted to the Ministry **within four months**.
  - xv) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry. Mercury and other heavy metals (As,Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.
  - xvi) Ash pond shall be lined with HDPE/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.
  - xvii) Long term study for radio activity and heavy metal in coal and fly ash, shall be carried out through institutes like AMD, Hyderabad, Central Power Research Institute, Bangalore, Mangalore University and report submitted to R.O of the Ministry from time to time.
  - xviii) Degenerated mangrove located in the study area (if any) shall be adopted and regenerated in consultation with the concerned Dept. of the State Govt.
  - xix) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself . As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.
  - xx) At least three nearest village shall be adopted and basic amenities like development of roads, drinking water supply, primary health centre, primary school etc shall be developed in co-ordination with the district administration.
  - xxi) Special package with implementation schedule for providing free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.
  - xxii) It shall be ensured that vocation of traditional fishing community is not hampered due to the activities of the power project. The project proponent shall ensure that the fishing community is involved in

- developmental process and welfare schemes for traditional fishing community is drawn for sustainable implementation.
- xxiii) An amount of **Rs 26.20 Crores** as one time investment shall be earmarked for activities to be taken up under CSR during construction phase of the Project. Recurring expenditure for CSR thereafter shall be **Rs 6.60 Crores** per annum till the life of the plant. Social Audit by a reputed University or an Institute shall be carried out annually and details to be submitted to MOEF besides putting it on Company's website.
  - xxiv) In addition to above, for rehabilitation of homestead losers and compensation, 93 houses (to be dislocated) as committed shall be built at has been stated to be earmarked. And the 200 people identified to have been dependent on the land of the TPP site for their livelihood shall be given alternative source of livelihood with the budget of Rs 10 lakhs earmarked for disbursement for them.
  - xxv) A common **Green Endowment Fund** should be created by the project proponents out of EMP budgets. The interest earned out of it should be used for the development and management of green cover of the area.
  - xxvi) Continuous monitoring of marine biology shall be undertaken by an institute of repute.
  - xxvii) A **Fishermen Endowment Welfare Fund** of Rs. One Crore should also be created not only to enhance the quality of life of fishermen community through creation of facilities for fish landing platforms / fishing harbour / cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.
  - xxviii) There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other wards necessary preventive measures for spillage from pipelines, such as lining of guard pond used for the treatment of outfall before discharging in to the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because in the areas around the projects boundaries there may be fertile agricultural land used for paddy or other crop cultivation
  - xxix) An Environmental Cell comprising of atleast one expert in environmental science / engineering, occupational health and social scientist, shall be created at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the head of the organization who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.

**2.2 2x600 MW Sub Critical TPP of M/s Chettinad Power Corpn. Pvt. Ltd. at Tharangambadi Taluk, Nagapattinam District, Tamil Nadu-**

**reg. review of Environmental Clearance in accordance with the Order of the NGT.**

The review of environmental clearance accorded for the 2x600 MW Sub Critical TPP of M/s Chettinad Power Corpn. Pvt. Ltd. at Tharangambadi Taluk, Nagapattinam District, Tamil Nadu was earlier deliberated in the 58<sup>th</sup> and 60<sup>th</sup> Meetings of the Committee held during October 8-9, 2012 and November 5-6, 2012 respectively.

The Committee in the said 58<sup>th</sup> Meeting read out the Order of the NGT and the operative part of the judgment was flagged point-wise for analysis of the fulfillment required to be carried out by the project proponent for the purpose to review the environmental clearance.

*In the 58<sup>th</sup> Meeting the Committee noted inadequacy of information, and had decided that the project proponent shall submit para-wise response /remarks/ information of the order of the NGT. It was also decided that the response shall be submitted in the form of an affidavit duly signed by the Competent Authority in the organization and notarized. It was further also decided that the response/ remarks/ information shall be accompanied by a Board Resolution certifying that the signatory of the affidavit providing response/remarks/information submitted is authorized to sign. Accordingly, the matter was deferred.*

On receipt of the response / affidavit as stated above, the matter was again taken up in the 60<sup>th</sup> Meeting held during November 5-6, 2012. In the said meeting the Committee was informed of a letter received from NGO viz. Coastal Action Network, wherein it was informed of the non-availability of revised EIA report by M/s Chettinad Power Corpn. Pvt. Ltd. and seeking time for enabling them to give their response to the revised EIA report.

The Committee had advised M/s Chettinad Power Corpn Pvt. Ltd. to provide a copy of the revised EIA report to the appellant immediately. It was decided that objections from the appellant be awaited but in the meantime the process may continue and the proponent be heard while also following substantial and procedural due process.

Deliberations on the observation of the NGT was deliberated in the 60<sup>th</sup> Meeting, and M/s Chettinad Power Corpn. Pvt. Ltd. informed that as a proactive measure they had appointed CAS in Marine Biology, Annamalai University for carrying out a study on Olive Ridley Turtle nesting based on primary and secondary data and conservative measures have been recommended. That they have also obtained a report on conservative measures from Central Marine Fisheries Research Institute, Chennai related to power projects. That a copy of the study report has been submitted to Wild Life Warden / District Forest Officer, Nagapattinam for their perusal and implementation of mitigative measures throughout the project period.

M/s Chettinad Power Corpn. Pvt. Ltd. also made a presentation point-wise on the directions of the NGT Order and noted the submissions made and decided that they shall submit evidence on record of documents having been served to Coastal Action Network. It was further decided that the matter can be taken up in the next meeting after giving a last opportunity to the appellant /Coastal Action Network) for its response.

The matter was again taken up and the Ministry representative informed the Committee of another written representation dated 14.11.2012 from the NGO viz. Coastal Action Network seeking further time of 30 days from receipt of the report for submitting their objections/suggestions.

The Committee read out the contents of the representation and after detailed deliberations decided that in the spirit of natural justice time need to be given as requested and the matter can be taken up in the next meeting. **The matter was accordingly deferred.**

### **2.3 25 MW Co-generation Power Plant of M/s M.S. Patil Sugars Ltd. at Nimbali (BK), Taluka Indi, District Bijapur, in Karnataka- reg. TOR.**

The proposal was considered for determination of Terms of Reference (TOR) for undertaking EIA/EMP study as per the provisions of EIA Notification, 2006. The project proponent gave a presentation and provided the following information:

The proposal is for setting up of 25 MW Co-generation Power Plant at Nimbali (BK), Taluka Indi, District Bijapur, in Karnataka. A sugar plant is also proposed and environmental clearance has been obtained from the SEIAA along with co-gen of 19 MW. It is now proposed to set up 25 MW instead of 19 MW and it is proposed to apply afresh. Out of 25 MW, 6 MW will be for internal captive consumption and 19 MW will go to grid. Cash trash will also be used besides Bagasse. The co-ordinates of the site are located at Latitude 17°06'48.40" N and Longitude 75°52'28.40"E. Bagasse requirement will be 330814 TPA. Water requirement for expansion is 500cum/day which will be sourced from river Bhima (downstream) through a pipeline at a distance of 27 km from the project site. There are no National Parks, Wildlife Sanctuaries, and Tiger/Biosphere Reserves etc. within 10 km of the site.

Based on the information provided and presentation made, the Committee recommended TOR and prescribed the following additional specific TOR over and above the standard TORs (as applicable) at **Annexure-A1** for undertaking detailed EIA study and preparation of EMP.

- i) Firm availability of running the plant for the specified period shall be established and sources of Bagasse shall be disclosed with letters of commitments.
- ii) Composition of fuel shall be specified and quantity required and no. of days of operation of the plant in accordance with fuel availability shall be strictly indicated.

#### **2.4 2x660 MW Coal Based Thermal Power Project of M/s Patratu Energy Ltd. (a joint venture with M/s JSEB) at village Patratu, in Ramgarh Distt., in Jharkhand - reg. TOR.**

The proposal was earlier considered for determination of Terms of Reference (TOR) for undertaking EIA/EMP study in the 60<sup>th</sup> Meeting held during November 5-6, 2012, wherein the project proponent gave a presentation along with its consultant **M/s Tata Consulting Engineers, Bangalore** and provided the following information:

The proposal is for setting up of 2x660 MW Coal Based Thermal Power Project at village Patratu, in Ramgarh Distt., in Jharkhand. Land requirement will be 1050 acres which is already in possession of Jharkhand State Electricity Board. The co-ordinates of the site are located in between Latitude 23°36'49.65" N to 23°37'20.14" N and Longitude 85°15'58.34" E to 85°16'44.61" E. Coal requirement will be 6.3 MTPA. Water requirement of 37 MCM will be sourced from Patratu Reservoir of M/s JSEB through a pipeline at a distance of 1.5 km from the project site. There are no National Parks, Wildlife Sanctuaries, and Tiger/Biosphere Reserves etc. within 10 km of the site.

The Committee in the said 60<sup>th</sup> meeting had noted that the present proposal is being proposed in the premises of the existing Patratu Thermal Power Station of M/s Jharkhand State Electricity Board (JSEB) and the land belongs to JSEB. The existing units of JSEB in the Patratu Thermal Power Station are 10x110 MW, of which only few units are operational at present. *The Committee therefore noted that the present case is more of an expansion of the existing units and cannot be termed a green field project as claimed by the project proponent.*

The Committee had also noted that the area has large number of mines in operation and highly polluted. That the existing units of JSEB are very old and may have outlived its life and a life cycle assessment of the old units is a necessity. The Committee therefore desired that M/s JSEB shall furnish full details of the existing units and come out with full facts on the joint venture.

*The Committee further had noted that the existing site does not prima facie seem to meet the siting criteria for a thermal power plant and therefore decided that layout of the site indicating complete details of proposed location of the 2x660*

*MW and the old units shall be furnished. It was further decided that compliance of the environmental regulations for the thermal power station shall be submitted. In view of the above the proposal was deferred for re-consideration at a later stage.*

*The Committee noted that the joint venture entered into between PFC and Jharkhand State Electricity Board (JSEB) need clarity and decided that copy of the approval of the Board on the issue of JV shall be submitted.*

The Committee was informed of a representation forwarded by the Prime Minister's Office submitted by an Ex-MLA to the Govt. of Jharkhand on the environmental damages created by Patratu Thermal Power Station.

*After detailed deliberations, the Committee decided that the representation cannot be ignored and wanted a detailed response from the PP to represent. The Committee also decided that a site visit may be undertaken by a Sub-Group Chaired by Dr. C.R. Babu and comprising of other EAC members viz. Sh. J.L. Mehta, Sh. M.S. Puri and Sh. T.K. Dhar. The proposal was accordingly deferred.*

## **2.5 4x600 MW coal based TPP of M/s Jindal Power Ltd. at Tamnar, in Gharghoda Tehsil, in Raigarh District, in Chhattisgarh- reg. Amendment of EC.**

M/s Jindal Power Ltd. was accorded environmental clearance for its 2x600 MW Domestic Coal based Thermal Power Plant on 18.03.2011 and later addition for another 2x600 MW Imported coal based TPP was accorded on 04.11.2011.

M/s Jindal Power Ltd. has now requested for amendment of specific condition no. (xxvi) mentioned in the environmental clearance extracted as under:

*“Information on all new activities like the proposed setting up of a Coal Handling Plant, a Coal Gasification Plant, Coal Stock Yard etc. including the proposed pipe coal conveyor from Prasada to M/s JPL at Tamnar shall be brought to the notice of the people both through EIA/EMP studies and at the time of the Public Hearing for the proposed Steel Plant of M/s JSPL in an explicit, comprehensive and understandable fashion”.*

M/s JPL has now informed that the proposed pipe coal conveyor from Prasada to M/s JPL power plant site at Tamnar will take considerably long time due to delay in obtaining environmental clearance for the Steel Project. SECL and MCL have informed that the coal will be supplied from nearby mines located in the range of 20-30 km from plant site for an interim period only.

M/s Jindal Power Ltd. has therefore now requested for installation of coal crushers along-with dump hopper within the plant site and permission for

transportation of coal by road for the interim period. That they now proposed to crush coal at TPP plant site.

The matter was placed before the Committee in its 58<sup>th</sup> Meeting held during October 8-9, 2012 for its consideration.

M/s Jindal Power Ltd.informed the Committee that the construction work has been commenced for all 4 units and with the current progress they expect the commissioning and COD by July 2013.

The Committee in the said 58<sup>th</sup> meeting had noted that while the appraisal for 4x600 MW was carried out, it was stated that due to paucity of land certain facilities like coal handling plant, fabrication units etc will be in the vicinity of Steel Plant and the position now seem to be reverse of the earlier statement.

*The Committee therefore had desired to know whether space is available now for location of the coal and crushing plant at site. The Committee had therefore decided that Sh. M.S. Puri, Member (and if possible Shri J.L. Mehta shall also join) may undertake a site visit and submit a report first before the present amendment is considered. Accordingly the matter was deferred.*

On submission of the site visit report by Shri. M S Puri, CEA representative, the matter was again taken up.

The project proponent now informs that CHP will be only for 2x660 MW Units. The Committee observed that during earlier discussions it was noted that minimum land was available and even certain facilities were required to be undertaken elsewhere **and brought to the site for installation/utilization** but now it is reported that after certain adjustments the CHP can be installed within the site. *That it was earlier noted that certain issues need to be taken up when the proposal for Steel Plant Public Hearing is conducted and details on the same are not available which are required to be examined.*

The Committee decided that the Site Visit report submitted by the CEA representative shall be circulated to all members for their perusal and since the matter is also sub-judice and pending in the National Green Tribunal detailed information w.r.t. NGT case needs to be submitted by the PP.

In view of the above the Committee decided that the matter be deferred and could be taken up on receipt of detailed information from the PP as noted above.

## **2.6 2x685 MW Super Critical Imported coal based TPP of M/s GMR Chhattisgarh Energy Ltd. at villages Raikheda, Gaitara and**

**Chicholi, in Tilda Block, in Raipur Distt., in Chhattisgarh- reg. change in layout and issue of ESP, Ash Pond and Water reservoir.**

M/s GMR Chhattisgarh Energy Ltd. was accorded environmental clearance for its 2x685 MW Super Critical Imported coal based TPP at villages Raikheda, Gaitara and Chicholi, in Tilda Block, in Raipur Distt., in Chhattisgarh on 09.05.2011. M/s GMR Chhattisgarh Energy Ltd. have requested the Ministry for amendment in environmental clearance by allowing a slight rearrangement of Ash Pond and Water Reservoir area without changing any other layout. This was required due to the non-uniformity of land. M/s GMR Chhattisgarh Energy Ltd. also requested for allowing installation of ESP alone instead of ESP along with Bag filter as mentioned in environmental clearance letter at specific condition no. (v). Project Proponent informed that efficiency of ESP alone will meet particulate emission limit of 50 mg/Nm<sup>3</sup>.

The request of M/s GMR Chhattisgarh Energy Ltd. was earlier placed in 60<sup>th</sup> meeting of EAC held during November 5-6, 2012 for its views and the Ministry informed the Committee that as a matter of principle / policy the environmental quality standard irrespective of the technology adopted needs to be abided. In the said meeting CEA member was of the opinion that there was not sufficient scientific, cost benefit analysis data to support any requirement of ESP along with Bag Filter for meeting the particulate emission of 50 mg/Nm<sup>3</sup>. **That hardcore operational data on ESP followed by Bag Filter is not available.**

The Committee was also informed that while for some time in the past owing to certain individual project proposal voluntarily suggesting for ESP followed by Bag Filter, the Committee had indeed recommended for ESP and Bag Filter but this has since been done away with members felt the irrelevance of the same.

*The Committee therefore decided that a consensus amongst members of the EAC may be arrived at with data / information furnished by the project proponent for conceding to their request.*

*Regarding changes in ash pond location the Committee felt that detail information such as topographical features of the new area now proposed to be acquired in lieu of the earlier area is unavailable, which is pertinent for conceding to the request. The Committee therefore decided that the matter can be taken up in the next meeting and the project proponent may provide details accordingly.*

The matter was again taken up and the views of the members were deliberated.

The Committee noted that as informed by the project proponent also, the Central Pollution Control Board recommends either the use of ESP or Bag Filter for removal of Particulate Matter in new power plants at the discretion of

the project developer, as both the technologies were comparable and capable to meet the desired objective of meeting regulatory standards for emissions.

The Committee therefore decided that CEA being the Competent Authority even in the Electricity Act, 2003 on technical matters related to power sector, the decision of the CEA will be followed. It was therefore decided that the request can be agreed and use of Bag Filter after ESP shall be dispensed with and installation of ESP only to meet the emission of 50mg/Nm<sup>3</sup> shall be carried out.

Regarding rearrangement of ash pond, the Committee observed that while the new area in the south east portion of the proposed layout seems more suitable environmentally (with 70% of it being reportedly barren) than the earlier portion in the south west, the same involves dislocation of a family for which suitable compensation and social impact need to be spelt out. The Committee therefore decided that the project proponent shall list out the details of the people who might be indirectly impacted (landless farmers) due to acquisition of the new ash pond area and submit details thereof. Accordingly it was decided that the same can be taken up in the next meeting after PP furnishes the required details.

## **2.7 2x660 MW Coal based Thermal Power Project of M/s Empee Power and Infrastructure Private Ltd. at village Neidavasal, Sirkali Taluk, Nagapattinam District, in Tamil Nadu- reg. Extension of Validity of TOR.**

M/s Empee Power and Infrastructure Private Ltd. was prescribed TOR for its 2x660 MW Coal based Thermal Power Project at village Neidavasal, Sirkali Taluk, Nagapattinam District, in Tamil Nadu on 20.01.2010. The validity of TOR was already extended for one year on 08.02.2012.

M/s Empee Power and Infrastructure Private Ltd. has again requested for extension of validity of TOR for one more year.

The matter was placed before the Committee for its views.

*Ministry representative informed the Committee that as per existing policy of the Ministry, TOR can be extended only for a period of one year and there is no provision for extension beyond one year.*

M/s Empee Power & Infrastructure Pvt. Ltd. informed that out of 526 acres of land, 512.45 acres of land had been acquired; draft EIA studies has been done; three season data for Marine EIA has also been carried out but final report is awaited. That required NOCs have been obtained from Wildlife Warden, Department of Archeology and from Airport Authority of India. However, due to

unavailability of coal linkage and acquisition of few areas of land required for TPP, the work for project is delayed.

*The Committee deliberated the matter and recommended one more year extension of validity period of TOR. It was also decided that in doing so the Ministry may ensure that additional TOR condition could be prescribed which were not stipulated earlier but pertinent now. It was further decided that an additional TOR condition for installation of FGD in one unit of 660 MW shall be prescribed considering that the AAQ assessment of the area, where 5 or 6 TPPs would be coming up in the vicinity will largely be affected as apparent while deciding Item No.1 pertaining to M/s Sindya Power Generating Co. Pvt. Ltd.*

**2.8 4x660 MW Super Critical Coal Based TPP of M/s Bhandara Thermal Power Corporation Ltd. at village Rohana, Mohadi Taluk, Bhandara Distt., in Maharashtra- reg. Extension of validity of TOR.**

M/s Bhandara Thermal Power Corporation Ltd. was prescribed TOR for its 4x660 MW Super Critical Coal Based TPP at village Rohana, Mohadi Taluk, Bhandara Distt., in Maharashtra on 03.02.2011 and an amendment issued on 12.09.2011. M/s Bhandara Thermal Power Corporation Ltd. has now requested the Ministry for extension of validity of TOR for one year.

The matter was placed before the Committee for its consideration.

M/s Bhandara Thermal Power Corpn. Ltd. informed that out of 1371 acres of land, 623 acres of land had been acquired and remaining land acquisition will take around 6 to 9 months. That draft EIA report preparation will take about 4 months and that coal linkage is pending with Ministry of Coal and has therefore sought extension of validity period of TOR.

*The Committee noted that coal availability scenario in the country is a matter of concern and considering that for the 12<sup>th</sup> Plan Projects the MoP and MoC are still yet to carry out the exercise for coal allocation, the request can be agreed. Accordingly the Committee recommended for extension of validity of TOR for a period of one year. It was also decided that in doing so the Ministry may ensure that additional TOR conditions which were not stipulated earlier but pertinent now should be incorporated.*

**2.9 1800 MW (3x600 MW) Mahan Super Thermal Power Project of M/s Essar Power (M.P.) Ltd at Singrauli Tehsil, District Sidhi in Madhya Pradesh- Change in source of Coal reg.**

M/s Essar Power (M.P.) Ltd. were accorded environmental clearance for its 1800 MW (3x600 MW) Mahan Super Thermal Power Project, in Singrauli Tehsil, in District Sidhi, in Madhya Pradesh on 20.04.2007. The power project is linked to Mahan Coal Block. M/s Essar Power (M.P) Ltd. has informed the Ministry that the coal production from the block could not be commenced as per the schedule for want of Stage-II forestry clearance. That under the circumstances, it has become a necessity for the power plant to source coal from alternative sources such as: i) Tapering Linkage for which M/s Essar Power (M.P.) Ltd. has already applied to MoC; ii) E-auction; and /or iii) Imported Coal. M/s Essar Power (MP) Ltd. has therefore requested for allowing use of imported coal for an interim period until the coal block becomes operational.

The matter was placed in the 52<sup>nd</sup> meeting of EAC held during July 2-3, 2012, wherein M/s Essar Power (M.P.) Ltd. informed that unit-I(600 MW) is under advanced stage of commissioning. That the unit-I and unit-II(600 MW) will be synchronized by August, 2012 and November,2012 respectively. That the Mahan Coal Block was allocated jointly between M/s Essar Power (M.P.) Ltd. and the M/s Hindalco Industries Ltd. and the block has been accorded environmental clearance. But the coal production from the block could not be commenced as per the schedule for want of Stage-II forestry clearance. That under the circumstances, it has become a necessity for the power plant to source coal from alternative sources such as: i) Tapering Linkage for which M/s Essar Power (M.P.) Ltd. has already applied to MoC; ii) E-auction; and/ or iii) Imported Coal.

The Committee in the said 52<sup>nd</sup> meeting noted that e-auction coal at best can be used for topping up and not as a means of base load requirement. The Committee also noted that since tapering linkage is yet to be allotted, the project proponent can explore imported coal option for using in the power plant for limited period until Coal Block becomes operational. The Committee however observed that coal sourced from a trader for imported coal cannot be considered as imported coal option unless full proof mechanism is in place ensuring that actual imported coal of required quantity is brought to the country.

The Committee in view of the above observed that the project proponent may immediately submit MoU for imported coal for 5.5 MPTA as required for operation of the plant and along with following information to the Ministry:

- i) Assessment of impact due to transport of coal with changed sources;
- ii) Plan for development of avenue plantation along the route of transportation;
- iii) Commitment for using only mechanized covered trucks for coal transportation.

The Committee finally decided that the request for using imported coal with e-auction coal topping up can be agreed for a limited period of **three years only** and the Ministry may do the needful accordingly.

The Ministry however decided that the above documents to be submitted were technical in nature and the EAC need to give a comprehensive recommendation based on assessment of the impacts due to transportation of coal for imported coal.

The matter was accordingly referred back to the Committee.

M/s Essar Power (M.P) Ltd. informed the Committee that MoU has been signed with PT KCC Mining Services, Indonesia for supply of 5.5 MTPA of Indonesian Coal. That the route of imported coal transportation will be Mahadiya-Gorbi-Bargwana-Parsona-Khutar-Rajmilan-Gadakhad- Bandhoura Plant, which comprises of 35 Km along NH and 12 Km laong PWD road and 16 Kms along MPRRDA road. That permission for strengthening and expansion of road has been obtained. That railway siding at Mahidiya from where coal will traverse by road to plant site is a full length siding and permission to handle coal at the railway siding has been obtained.

That existing PCU per day along Mahadiya to Parsona (NH) is 6041 and additional PCUs per day due to coal movement for the power project will be 4554 as against the capacity of the road calculated as 40,000 PCUs per day. That similarly PCU per day along Parsona to Rajmilan (PWD) is 3811 and additional PCUs per day due to coal movement for the power project will be 4554 as against the capacity of the road calculated as 15,000 PCUs per day; and PCU per day along Rajmilan to Bandhoura (MPRRDA) is 1661 and additional PCUs per day due to coal movement for the power project will be 4554 as against the capacity of the road calculated as 15,000 PCUs per day.

It was also informed that resultant concentration due to additional coal movements on road for PM will be 26.6  $\mu\text{g}/\text{m}^3$ ;  $\text{NO}_x$  63  $\mu\text{g}/\text{m}^3$ ; and CO 191 $\mu\text{g}/\text{m}^3$ . It was also stated that green belt will be developed all along the route (63 Kms) of coal transportation at a cost of Rs 1.5 Crores as capital investment and maintenance of green belt will also be carried out by the company at its own expense.

It was further stated that mechanized covered 20 T capacity trucks will be used for coal transportation to reduce no. of trips.

One of the Member of the EAC pointed out that the power project was denied tapering linkage for 5.5 MTPA applied for, on the ground that the road along which coal is to be transported does not have the capacity to allow such large volumes for trucks for coal transportation. That recommendation was only made for 2 MTPA due to aforesaid issue.

*The Committee deliberated the issue further and decided that full facts need to be submitted before the decision earlier taken in the 52<sup>nd</sup> meeting is upheld. Accordingly the matter was deferred and it was decided that the same can be taken up in the next meeting.*

**2.10 6x350 MW (2100 MW) Gas Based Combined Cycle Power Plant of M/s Urban Energy Generation Pvt. Ltd. at village Kondgaon, in Roha Taluk, in Raigad Distt., in Maharashtra -reg. Environmental Clearance reconsideration.**

The proposal was recommended for environmental clearance in the 40<sup>th</sup> Meeting of the Committee held during January 9-10, 2012. The Committee in the said meeting had noted that the discharge of hot water is proposed to be ultimately let off to the Dharamtar Creek and had therefore decided that the project proponent shall develop a guard pond and discharge the treated effluent after bringing down to ambient temperature. The Committee also decided that the project proponent shall submit data on benthic flora and fauna of the Creek *within six months*.

The Ministry however felt that since waste water from cooling tower is to be ultimately discharged into Dharamtar Creek, the project proponent need to have carried out Marine EIA Study.

In the meantime, the project proponent decided that they will go for 'Zero discharge concept' and the treated effluent will not be discharged into the Dharamtar Creek as was earlier envisaged and proposed by them.

The matter was accordingly referred back to the Committee in the 52<sup>nd</sup> Meeting held during July 2-3, 2012 for its views, wherein, M/s Urban Energy Generation Pvt. Ltd. informed that water requirement will now be reduced from 58 MLD to 49 MLD and the solid waste generated from the RO System will be disposed off to the TSDF site at 40 Kms distance.

The Committee in the said 52<sup>nd</sup> meeting deliberated the issue and recommended for revised proposal with 'Zero' liquid discharge and High Efficiency RO System with additional safe guards for solid waste of R.O rejects. Accordingly the Committee decided that its earlier recommendation stands valid with the changes affected due to 'Zero Liquid Discharge' and High Efficiency RO System now introduced.

The Ministry however felt that since the scope of the project has changed, the project proponent needs to revise its proposal according to the changes made and submit revised Form-I, addendum to EIA Report etc. reflecting changes

now conceived. It was therefore decided that the matter be placed for views of the Committee on the above lines.

The matter was accordingly placed before the Committee.

The Committee noted that the changes now made i.e. 'Zero Discharge concept' is more environment friendly and the decision taken earlier stands upheld. The Committee reiterated its recommendation for the proposal and accordingly decided that revised Form-I, addendum to EIA/MP report reflecting the changes on account of 'Zero Discharge' if not already submitted shall be furnished.

**2.11 4000 MW Imported Coal Based UMPP of M/s Coastal Tamil Nadu Power Ltd. at villages Cheyyur Block B, Chitharkadu, Gangadevankupam, Panaiyur, Vedal, and Vilangadu, Taluk Cheyyur, District Kancheepuram, in Tamil Nadu- reg. Environmental Clearance.**

The proposal is for consideration for environmental clearance. The project proponent made a presentation along with its consultant **M/s WAPCOS Ltd.**, and provided following information:

The proposal is for setting up of 4000 MW Imported Coal Based Ultra Mega Power Project at villages Cheyyur Block B, Chitharkadu, Gangadevankupam, Panaiyur, Vedal, and Vilangadu, Taluk Cheyyur, District Kancheepuram, in Tamil Nadu. Land requirement will be 416.45 ha, out of which 342.62 ha is agriculture land, 9.83 ha is forest land and 64 ha is Poromboke and barren govt. land. Stage-I forestry clearance has been obtained. The co-ordinates of the site are located within Latitude 12°18'15.70" N to 12°19'15.38" N and Longitude 79°57'58.33"E to 79°59'17.91" E. Imported Coal requirement will be 12-14 MPTA at 90 %PLF. Water requirement of 30,575 cum/hr will be sourced from Bay of Bengal through a pipeline at a distance of about 4to 5 km from project site. Ash dyke area will be 90.36 ha and the co-ordinates of the ash dyke are located within Latitude 12°18'15.70" N to 12°19'15.38" N and Longitude 79°57'58.33"E to 79°59'17.91" E. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere Reserves etc. within 10 km of the project site. Public Hearing was held on 30.07.2010. Cost of the project will be Rs 20,000.00 Crores.

It was also informed that 40% of the power produced will be given to Tamil Nadu. That unit configuration may be between 660 MW to 800 MW Super-Critical.

It was also informed that Expression of Interest for fly ash utilization has been floated in newspaper in May, 2011 and major cement producers have been approached.

The Committee noted that AAQ data was collected during the period January – March to May, 2009; August to November, 2009; and December 2009 to February, 2010. TOR was issued on 19.03.2009.

*The Committee informed the project proponent that while technical appraisal has been the primary the focus of the Committee, sometimes there are cases of oversight with regard to procedural compliance due to paucity of time. The Committee therefore decided that the project proponent should examine some of the judgments of the National Green Tribunal such as the judgment delivered on 30.05.2012 in the matter of Appeal No. 12 of 2011 viz, Ossie Fernandes & Ors Vs MoEF & Ors, and with due diligence submit point-wise compliance with its observations with regard to the present project as applicable in their case.*

*The Committee also noted that not only has the marine EIA been submitted, but the project proponent was also not prepared for a presentation on the same, which is essential for assessment of impact on the biological fauna and the social impact on the fishing community, particularly traditional fishing families. The Committee therefore decided that the project proponent shall submit the marine EIA to the Ministry and the members of the EAC for their perusal. It was also decided that the project proponent shall submit detailed survey report of fishermen families in the study area and measures undertaken for their sustainable welfare.*

*The Committee further noted that about 193 land losers may be impacted due to the power project for which detailed R&R action plan need to have been provided which include details of population indirectly impacted due to loss of land not owned by them but were indirectly dependent on the land for sustenance.*

*The Committee also desired that the project proponent shall give response in writing to various issues raised in the Public Hearing and formulate Action Plan for implementation of the issues relevant along with responses made (including response to written objections received against the project).*

*On the issue to cumulative impact assessment, the Committee observed that on perusal of the documents available, neither in the presentation, nor in the EIA Report, the predicted cumulative impact on ambient air, water regime (marine and surface and ground) and soil seem to have been not carried out. It was therefore decided that cumulative impact assessment of these parameters due to proposed UMPP and other activities in the study area shall be submitted as an addendum to the EIA.*

*On the issue whether ISC3 1993 Dispersion Model reportedly used for prediction of ambient AAQ is appropriate or not - while some members felt that as pointed out in the previous day while deliberating the item no.1 i.e. 1320 MW Coal based thermal power plant of M/s Sindya Power Generating Company Pvt. Ltd. at*

*villages Perunthottam & Agaraperunthottam, Sirkazhi Taluk, District Nagapattinum in Tamil Nadu, the Model adopted by the Project Proponent may not be the appropriate Model for a coastal project of such a nature. The Committee therefore decided that the project proponent shall submit documents to establish that the Model used for prediction of AAQ is appropriate or otherwise rework the AAQ impact assessment and submit as an addendum to the EIA.*

*The Committee was also of the opinion that the project proponent does not seem to have fully complied with the requirements of information / study to be carried out as given in the TOR prescribed for the project. The Committee therefore decided that the project proponent shall fulfill the requirements of TOR point-wise and presentation shall be made TOR point-wise during deliberations / appraisal of the project. Accordingly the proposal was deferred for consideration at a later date.*

## **2.12 ANY OTHER ITEM WITH THE PERMISSION OF CHAIR.**

### **2.12.1 Change in Configuration form 2x660MW to 2x800 MW Gadwara Super Thermal Power Project of M/s NTPC Ltd. near villages Gangai, Umaraiya, in Gadarwara Tehsil, Narsinghpur District, in Madhya Pradesh - reg. Amendemnt in TOR.**

M/s NTPC Ltd. was prescribed TOR on 13.01.2011 for conducting EIA/EMP study for its 2x660 MW Gadwara Super Thermal Power Project of M/s NTPC Ltd. near villages Gangai, Umaraiya, in Gadarwara Tehsil, Narsinghpur District, in Madhya Pradesh. Public hearing for the project was held on 20.06.2012. M/s NTPC informed that they have decided to set up 2x800 MW instead of 2x660 MW. That this was also a demand in the public hearing held for the power project. That the equipment orderd for 2x800 MW Gajmara TPP will now go to this Gadwara TPP, as Gajmara TPP is presently being withheld due to want of firm coal linkage and land.

The request for M/s NTPC Ltd. was placed in 58<sup>th</sup> meeting of EAC held during October 8-9, 2012 wherein, the Committee felt that the change in configuration would generate more power per megawatt but the additional incremental adverse environmental impacts (due to 2x800 MW) in deviation from the earlier 2x660 MW as provided in the EIA/EMP report need to be declared for information of all the stake holders. The Committee had therefore decided that M/s NTPC shall issue a public notice/advertisement in local and national newspapers declaring the deviation and the associated environmental implications as stated above seeking comments / objections if any. The Committee had therefore decided that after fulfilling the above, the matter shall be rescinded by the Committee and accordingly the matter was deferred.

M/s NPTC submitted details of public advertisements and informed the Committee that no objections were received till date. The Committee perused through the contents of the advertisements published and decided that the same is acceptable and recommended that the change in configuration can be agreed. The Committee therefore decided that the Ministry shall carry out the needful.

*There being no agenda item left, the meeting ended with a vote of thanks to the Chair.*

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**Terms of Reference (TOR) :**

- i) Vision document specifying prospective long term plan of the site, if any, shall be formulated and submitted.
- ii) Status of compliance to the conditions stipulated for environmental and CRZ clearances of the previous phase(s), as applicable, shall be submitted.
- iii) Executive summary of the project indicating relevant details along with recent photographs of the approved site shall be provided. Response to the issues raised during Public Hearing and to the written representations (if any), along with a time bound Action Plan and budgetary allocations to address the same, shall be provided in a tabular form, against each action proposed.
- iv) Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and status of implementation shall be submitted to the Ministry.
- v) The coordinates of the approved site including location of ash pond shall be submitted along with topo sheet (1:50,000 scale) and confirmed GPS readings of plant boundary and NRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/river shall be specified, if the site is located in proximity to them.
- vi) Layout plan indicating break-up of plant area, ash pond, area for green belt, infrastructure, roads etc. shall be provided.
- vii) Land requirement for the project shall be optimized and in any case not more than what has been specified by CEA from time to time. Item wise break up of land requirement and revised layout (as modified by the EAC) shall be provided.
- viii) Present land use as per the revenue records (free of all encumbrances of the proposed site, shall be furnished. Information on land to be acquired) if any, for coal transportation system as well as for laying of pipeline including ROW shall be specifically stated.
- ix) The issues relating to land acquisition and R&R scheme with a time bound Action Plan should be formulated and clearly spelt out in the EIA report.
- x) Satellite imagery or authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest villages, creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
- xi) Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on

the map duly authenticated by the Office of the Chief Wildlife Warden of the area concerned.

- xii) Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, alongwith a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of fill material required; its source, transportation etc. shall be submitted.
- xiii) A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land to be acquired is developed alternatively and details plan shall be submitted.
- xiv) A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on economically feasible mineable mineral deposit shall be submitted.
- xv) Details of 100% fly ash utilization plan as per latest fly ash Utilization Notification of GOI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash.
- xvi) Water requirement, calculated as per norms stipulated by CEA from time to time, shall be submitted along with water balance diagram. Details of water balance calculated shall take into account reuse and re-circulation of effluents which shall be explicitly specified.
- xvii) Water body/nallah (if any) passing across the site should not be disturbed as far as possible. In case any nallah / drain has to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of diversion required shall be furnished which shall be duly approved by the concerned department.
- xviii) It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc.
- xix) Hydro-geological study of the area shall be carried out through an institute/ organisation of repute to assess the impact on ground and surface water regimes. Specific mitigation measures shall be spelt out and time bound Action Plan for its implementation shall be submitted.
- xx) Detailed Studies on the impacts of the ecology including fisheries of the river/estuary/sea due to the proposed withdrawal of water / discharge of treated wastewater into the river/creek/ sea etc shall be carried out and submitted alongwith the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.
- xxi) Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of

withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project. Commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.

- xxii) Detailed plan for carrying out rainwater harvesting and its proposed utilisation in the plant shall be furnished.
- xxiii) Feasibility of zero discharge concept shall be critically examined and its details submitted.
- xxiv) Optimization of COC along with other water conservation measures in the project shall be specified.
- xxv) Plan for recirculation of ash pond water and its implementation shall be submitted.
- xxvi) Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals.
- xxvii) Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out by a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of local communities.
- xxviii) Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
- xxix) If the area has tribal population it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
- xxx) A detailed CSR plan along with activities wise break up of financial commitment shall be prepared. CSR component shall be identified considering need based assessment study. Sustainable income generating measures which can help in upliftment of poor section of society, which is consistent with the traditional skills of the people shall be identified. Separate budget for community development activities and income generating programmes shall be specified.
- xxxi) While formulating CSR schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CSR details done in the past should be clearly spelt out in case of expansion projects.

- xxxii) R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.
- xxxiii) Assessment of occupational health as endemic diseases of environmental origin shall be carried out and Action Plan to mitigate the same shall be prepared.
- xxxiv) Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conducive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two years shall be conducted with an excellent follow up plan of action wherever required.
- xxxv) One complete season site specific meteorological and AAQ data (except monsoon season) as per MoEF Notification dated 16.11.2009 shall be collected and the dates of monitoring recorded. The parameters to be covered for AAQ shall include SPM, RSPM (PM10, PM2.5), SO<sub>2</sub>, NO<sub>x</sub>, Hg and O<sub>3</sub> (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, villages in the vicinity and sensitive receptors including reserved forests. There should be at least one monitoring station each in the upwind and in the pre - dominant downwind direction at a location where maximum ground level concentration is likely to occur.
- xxxvi) A list of industries existing and proposed in the study area shall be furnished.
- xxxvii) Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the Model used and the input data used for modelling shall also be provided. The air quality contours should 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 the location map as well.
- xxxviii) Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
- xxxix) Fuel analysis shall be provided. Details of auxillary fuel, if any, including its quantity, quality, storage etc should also be furnished.

- xl) Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished.
- xli) Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
- xlii) For proposals based on imported coal, inland transportation and port handling and rolling stocks /rail movement bottle necks shall be critically examined and details furnished.
- xliii) Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.
- xliv) EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.
- xlv) A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be carried out. It should take into account the maximum inventory of storage at site at any point of 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 invariably provided.
- xlvi) The DMP so formulated shall include measures against likely Tsunami/Cyclones/Storm Surges/Earthquakes etc, as applicable. It shall be ensured that DMP consists of both on-site and off-site plan, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan shall be prepared both in English and local languages.
- xlvii) Detailed plan for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary (except in areas not possible) with tree density of 2000 to 2500 trees per ha with a good survival rate of about 80% shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports.
- xlviiii) Over and above the green belt, as carbon sink, additional plantation shall be carried out in identified blocks of degraded forests, in close consultation with the District Forests Department. In pursuance to this the project proponent shall formulate time bound Action Plans along

with financial allocation and shall submit status of implementation to the Ministry every six months.

xlix) Corporate Environment Policy

- a. Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
- b. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
- c. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions. Details of this system may be given.
- d. Does the company has system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.

All the above details should be adequately brought out in the EIA report and in the presentation to the Committee.

- l) Details of litigation pending or otherwise with respect to project in any court, tribunal etc. shall invariably be furnished.

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**Additional TOR for Coastal Based TPPs:**

Over and above the TOR mentioned in **Annexure- A1**, the following shall be strictly followed (as applicable):

- a) Low lying areas fulfilling the definition wetland as per Ramsar Convention shall be identified and clearly demarcated w.r.t the proposed site.
- b) If the site includes or is located close to marshy areas and backwaters, these areas must be excluded from the site and the project boundary should be away from the CRZ line. Authenticated CRZ map from any of the authorized agency shall be submitted.
- c) The soil levelling should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted, the design for diversion should be such that the diverted canals not only drains the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy areas/major canals that enter into creek. Major canals should not be altered but their bunds should be strengthened and desilted.
- d) Additional soil for leveling of the sites should be generated as far as possible within the sites, in a way that natural drainage system of the area is protected and improved
- e) Marshy areas which hold large quantities of flood water shall be identified and shall not be disturbed.
- f) No waste should be discharged into Creek, Canal systems, Backwaters, Marshy areas and seas without appropriate treatment. The outfall should be first treated in a guard pond (wherever feasible) and then discharged into deep sea (10 to 15 m depth). Similarly, the intake should be from deep sea to avoid aggregation of fish and in no case shall be from the estuarine zone. The brine that comes out from desalinization plants (if any) should not be discharged into sea without adequate dilution.
- g) Mangrove conservation and regeneration plan shall be formulated and Action Plan with details of time bound implementation shall be specified, if mangroves are present in study area.
- h) A common **Green Endowment Fund** should be created by the project proponents out of EMP budgets. The interest earned out of it should be used for the development and management of green cover of the area.
- i) Impact on fisheries at various socio economic level shall be assessed.
- j) An endowment of **Fishermen Welfare Fund** should be created out of CSR grants not only to enhance their quality of life through creation of facilities for fish landing platforms / fishing harbour / cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.

- k) Tsunami Emergency Management Plan shall be prepared and plan submitted prior to the commencement of construction work.
- l) There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other words necessary preventive measures for spillage from pipelines, such as lining of guard pond used for the treatment of outfall before discharging into the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because the areas around the projects boundaries is fertile agricultural land used for paddy cultivation.

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