

## **MINUTES OF THE 64<sup>TH</sup> MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON ENVIRONMENTAL IMPACT ASSESSMENT OF THERMAL POWER AND COAL MINE PROJECTS**

The 64<sup>th</sup> Meeting of the reconstituted Expert Appraisal Committee (Thermal) was held on **January 7-8, 2013** 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 62<sup>nd</sup> Meeting held during December 4, 2012 were confirmed with some minor changes noticed/suggested.

#### **2.1 500 MW (Stage-IV) Coal Based Feroz Gandhi Unchahar Thermal Power Project of M/s NTPC Ltd. at Raebareli District, in Uttar Pradesh- reg. Environmental Clearance.**

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

The proposal is for expansion by addition of 500 MW (Stage-IV) Coal Based Feroz Gandhi Unchahar Thermal Power Project at Raebareli District, in Uttar Pradesh. The total existing capacity of the power plant is 1050 MW, consisting of Stage-I (2x210 MW); Stage-II (2x210 MW) & Stage-III (1x210 MW). No additional land is required for the expansion by addition of Stage-IV (1x500 MW). The same will be accommodated within available land, which is about

2203 acres. The co-ordinates of the site are located within Latitude 25°53'55" N to 25°54'56" N and Longitude 81°18'50"E to 81°20'25"E. Coal requirement for the expansion will be 2.14 MPTA and will be obtained from:(a) Talaipalli Coal Block 1.0 MTPA; (b) 0.5 MTPA from Pakri Barwadih Coal Block; and (c) 0.64 MPTA will be imported. Ash and sulphur content of blended coal will be 29-31% and 0.62%. Average Calorific value of the blended coal will be 4190-4470 kcal/kg. About 1428 T/day of fly ash and 357 T/day of bottom ash will be generated. Water requirement of 1980cum/hr will be sourced from Sharda Sahayak Canal (Normally)/ Dalmau Pumped Canal (During the closer of Sharda Shayak Canal) through a pipeline which is adjacent to the plant boundary. Irrigation Department had allocated 125 cusecs of water for Unchahar TPP. The water requirement for Stage-IV shall be accommodate within the existing water allocation. No additional land is required for ash dyke for Stage-IV and the unutilized ash shall be disposed off in the existing ash dykes of Stage-I & Stage-II. The co-ordinates of the existing two ash dykes are as follows: Stage-I ash dyke are located within Latitude 25°50'13" N to 25°51'29" N and Longitude 81°17'39"E to 81°18'54"E and Stage-II ash dyke are located within Latitude 25°57'07" N to 25°57'50" N and Longitude 81°21'19"E to 81°21'58"E. Nearest town is Mustafabad located at about 3 kms in the west. [Samaspur Bird Sanctuary located at 7.9 Km from the project site. Application for clearance from wildlife angle already submitted to Chief wildlife Warden and conservation plan has been drawn in consultation with Chief wildlife Warden.](#) 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 26.04.2012. Cost of the project will be Rs2848.52Crores.

M/s NTPC also informed that the power plant was taken over from the State Electricity Board, U.P and the PLF before take over was only 31%. After take over, the PLF increased to 69 % within first six months and is now operating above national average PLF of 73.29% at 93.28% and was ranked amongst the top 10 power plants.

The Committee discussed the issues raised in the public hearing and the response made by M/s NTPC Ltd. The major issues raised were regarding why study area of only 10 kms has been considered; afforestation and maintenance thereafter; access to medical treatment for local people; contribution of NTPC at local district level; pending issues in High Court and non-compliance of court orders; repair for roads from Unchahar to Salon; development of Joint Committee for local development; depletion of ground water level; local not getting electricity; acute problem of mosquitoes; disposal of ash generated from power plant; benefits to local people after NTPC came improved drastically; seepage due to ash dyke making land barren; regularly testing / monitoring of pollution within 10 kms etc.

With regard to afforestation, M/s NTPC Ltd. clarified that besides plantations done in their plant premises, afforestation in forests area has been carried out

in the last three years with the help of Forests Dept. and they have no control over the forests area. It was stated that CSR activities for Stage-IV will be undertaken for a separate budget beginning from the development of the project itself. It was also informed that in view of the circular by the Ministry of Power for provision of electricity within 5 kms from the power project, they have undertaken feasibility study for providing infrastructural facilities for power supply within 5 kms radius of the project and the distribution will be done by the State Govt.

With regard to issue raised on pending High Court cases, M/s NTPC clarified that there is no case pending in the High Court as far as NTPC is concerned.

On the issue of repair/ construction of road from Unchahar to Salon, it was stated that required amount of capital involved has already been paid to State PWD and repair/construction has been completed. It was also stated that community development and social welfare are undertaken based on need and requirement of local people and in consultation with the State Govt. and local people. That village development advisory committee (VDAC) consisting of Gram Pradhan, BDO and NTPC representative is already in existence and schemes in areas of health, education and vocational training have been undertaken in consultation with it.

Regarding issue of ground water it was clarified that no ground water is extracted for the power project or any of its activity.

The issue of seepage from canals and salinization of land is reported to be prevalent in the area. It was stated that NTPC has already undertaken a survey through IIT, Kanpur for problem of seepage around Umran Ash pond and report is awaited and action will be taken base on the recommendations made in the report. That as interim measure a drain has been constructed around the ash dyke. It was also stated that ash utilization of NTPC Unchahar TPP is very high and only unused ash is being disposed off in ash dykes.

M/s NTPC also made a presentation on TOR point wise compliance and the status of compliance with the conditions stipulated in the environmental clearances accorded for earlier stages.

M/s NTPC informed that within 15 kms no industrial activities including TPP are in existence and no new industrial project (including TPP) is known to be being proposed. That accordingly cumulative impact assessment taking into consideration of other activities has not been carried out. That however while assessment of impact due to addition of Stage-IV, the baseline AAQ has taken the existing units in the power station.

The Committee noted that conservation action plan for birds and the marshes if not already done need to be submitted for its perusal. It was also pointed out

that tripping due to bird hits on transmission line are a serious matter and the project proponent need to look into this in their own interest. The Committee felt that the green belt development need to be shown with photographs along with layout of proposed green belt development..

It was also observed that the impact (if any) due to the project on the Ganga Action Plan may be furnished / clarified.

The Committee also observed that the fly ash management need to be revisited and a report submitted to this effect. It was also observed that monitoring report of ground water quality around ash pond shall be carried out and shall form a part of the condition in the environmental clearance for the Stage-IV.

*In view of the shortcomings as pointed above, the proposal was deferred for re-consideration at a later stage. It was also decided that in case the information can be furnished timely, the matter can be placed in the next month for re-consideration.*

## **2.2 2x660 MW Imported Coal Based Shahdol Thermal Power Project (based on super critical technology) of M/s SJK Powergen Ltd. at village Lalpur, in Sohagpur Taluk, in Shahdol Distt., in Madhya Pradesh - reg. Environmental Clearance.**

The proposal was earlier considered in the 46<sup>th</sup> Meeting held during April 9-10, 2012, wherein the project proponent gave a presentation and provided the following information:

The proposal was earlier proposed based on domestic coal but due to non-availability of the same, it has been decided to go ahead with imported coal from Indonesia for an interim period until domestic coal is available. The proposal is for setting up of 2x660 MW Supercritical Imported Coal Based Thermal Power Plant at village Lalpur, in Sohagpur Taluk, in Shahdol Distt., in Madhya Pradesh. Land requirement will be 700 acres, of which 163 acres is Govt. land (chote jhar ka jungle), 527 acres is private land and 10 acres is revenue land. Stage-I forests clearance has been obtained for diversion of 66.294 ha of revenue forest land. The co-ordinates of the site are located within Latitude 23°15'50"N to 23°17'10" N and Longitude 81°28'12" E to 81°30'20" E. Imported coal requirement will be 4.72 MTPA at 85% of PLF and will be obtained from Indonesia, Kuansinginti Makmur (KIM) Coal mines and PT Borneo Indobara (BIB) Coal mines. MoU has been signed with M/s GMR Coal Resource Pvt. Ltd, Singapore. Ash and sulphur contents in imported coal will be 7.5% and 0.59% respectively. Total ash generation will be 0.356 MTPA. Fly ash will be supplied to M/s ACC Keymore Cement Works of Katni, MP. Ash pond area will be 240 acres and co-ordinates of the ash pond site is located within Latitude 23°15'50"N to 23°16'57" N and Longitude 81°29'1" E to

81°30'20" E. HCSD is being envisaged for disposal of ash from power plant. Twin flue Stack of 275m shall be provided. Induced Draft cooling system shall be installed. Water requirement of 34.69 MCM will be sourced from the River Son through a pipeline at a distance of about 2.5km from project site. Permission to draw water has been obtained from the Govt. of Madhya Pradesh and the Central Water Commission. Water will be drawn upstream of Bansagar Dam in River Son. Sarphanala (seasonal) is located at 0.2 km distance from the project site. There are 9 reserve forest blocks within 10 km of the study area of the project site. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within 10 km of the site. Public Hearing was held on 08.10.2009. Cost of the project will be Rs8000.0 Crores.

In 46<sup>th</sup> meeting, the Committee noted that land has been optimized from 950 acres to 700 acres in order to reduce the area of forest land (Jhudpi jungle). It was also informed that proposed ash pond has been relocated further away from the River Sone. That the colony (township) has also been removed.

The project proponent also informed that their intention for installation of Assisted Spray Air Cooled Condensers is under serious examination.

The Committee discussed the issues raised in the Public Hearing held on 18<sup>th</sup> December, 2009 and the responses provided by the project proponent. The major issues raised were regarding unemployment of local youth and provision of employment especially to land losers and educated youth; pollution due to stone crushers in the area; educational facilities; request for non-disposal of fly ash in Son river or Sarphanallah as these are sources of drinking water for the villagers; regular monitoring of air and water, general pollution, plantation of trees, provisions of drinking water, electricity, hospital and roads. The project proponent also informed that there are no litigation in any court of law pertaining to the project.

The Committee also discussed the reply given by the project proponent to the written communication received during the Public Hearing.

The Committee noted that even though water allocation appears to be in place, a detailed analysis on the water availability during lean season, taking into account the flow available in Sone river, (considering the riparian needs) and the storage capacity for meeting the lean season period, need to be submitted.

The Committee also noted that transportation of coal and associated impacts including coal handling at ports and railway rolling stocks availability etc. need to be substantiated with available study reports / materials / data etc.

It was also observed that the study area has Schedule-I species including Sloth Bear for which conservation plan should be prepared for immediate implementation.

In view of the missing gaps and requisite information sought as above, the Committee decided to defer the project for reconsideration on receipt of following information:

- i) Detailed Action plan for implementation on relevant issues / concerns raised in Public Hearing along with response made and the rough budgetary allocation shall be prepared.
- ii) Geological map of the plant area shall be furnished;
- iii) Location of additional ash pond details shall be provided;
- iv) MoU for Fly Ash Utilisation signed with contracting parties shall be submitted;
- v) Transportation of coal and associated impacts / barriers, including coal handling capacity at Ports and railway rolling stocks availability shall be studied and report submitted;
- vi) A copy of R&R plan to be submitted.
- vii) CSR Action Plan shall be revised and financial break up activity wise along with firm commitment shall be submitted;
- viii) Detailed analysis on the water availability during lean season taking into account the flow available in Son river (considering the riparian needs) and the storage capacity for meeting the lean season requirement shall be prepared and report submitted; and
- ix) Wildlife Conservation Plan drawn in consultation with the office of the Chief Wildlife Warden for immediate implementation shall be prepared and submitted.

On submission of the clarification, the matter was again placed before the Committee during the 64<sup>th</sup> meeting of EAC.

The project proponent informed that imported coal from own mine in Indonesia will be brought to Vizag Port, and transported to TPP site by rail, which is about 900 Kms.

The project proponent informed that a barrage will be constructed at a distance of about 2 Kms from the TPP site. It was however clarified that the barrage will entail no submergence as such as the same is being proposed on high banks of the river for holding excess monsoon water for use of TPP during lean season and that mean minimum flow of river required will be maintained. It also stated that Bansagar Reservoir is located at about 150 Kms downstream.

*The Committee observed that more detail information such as impact on other competing sources of water downstream of the proposed barrage and detail water availability for the proposed TPP need to be established along with detail analysis on the adverse impact due to water storage (barrage) on flora & fauna. The Committee also decided that the project proponent shall satisfy the Committee that Barrage will have no significant adverse impact on livelihood of*

*people downstream. It was also decided that approval of the CWC, as may be applicable, shall also be submitted for records.*

The Committee also noted that the information provided on land use pattern in the study area shall be revisited; preferably using IRSA satellite maps and R&R plan shall be submitted. That while formulating CSR, the methodology adopted and the issues and activities studied/ examined shall be clearly indicated.

*In view of the shortcomings as pointed above, the proposal was deferred for re-consideration at a later stage. It was also decided that in the information as stated above may be furnished timely, so that the matter can be placed in the fourth coming meeting for re-consideration.*

### **2.3 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 in the 62<sup>nd</sup> Meeting held on December 4, 2012 and the views of the members were deliberated.

The Committee in the said 62<sup>nd</sup> Meeting 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 the project proponent furnishes the required details.

On submission of the details as mentioned above, the matter on relocation of ash pond location was again placed before the Committee during the 64<sup>th</sup> meeting of EAC.

M/s GMR submitted a copy of report prepared by IIT, Madras on 'Review of design of ash pond and raw water reservoir of proposed 2x685 MW Coal Based TPP.



The Committee deliberated on the report and noted that the recommendations made therein are reasonable and need to be adopted.

The Committee also perused the information on impact of three families who are directly effected and 16 families indirectly effected and their livelihood restoration plan formulated.

*The Committee decided that the relocation of ash pond area as requested may be agreed and accordingly recommended.*

#### **2.4 1080 MW (4x270 MW) Captive Power Plant (CPP) for CTL Project of M/s Strategic Energy Technology System Pvt. Ltd. at village Ranjagoal, Tehsil Hindol, District Dhenkanal, in Odisha - 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 along with its consultant **M/s Tata Consulting Engineers Ltd.** and provided the following information:

The proposal is for setting up of 1080 MW Captive Power Plant (CPP) for Coal To Liquid (CTL) project at village Ranjagoal, Tehsil Hindol, District Dhenkanal, in Odisha. Land requirement for CPP will be 212Ha. CPP will be set up as part of CTL complex. Fuel for CPP will be fines and washery rejects. The integrated project shall comprise of coal mining, CTL plant, coal washery, CPP and ash dyke. The total land required for CTL complex is 1410 Ha which includes 172 ha of forest land; 81 ha of grazing land; 125 ha of leasable non-forest Govt. land); 61 ha of community (non-forest Govt. land) and 974 ha of agriculture land. The co-ordinates of the site are located in between Latitude 20<sup>o</sup>41'33.05" N to 20<sup>o</sup>44'18.29" N and Longitude 85<sup>o</sup>16'1.46" E to 85<sup>o</sup>18'28.51" E. Fuel for the CCP will be coal fines and washery rejects from the beneficiation plant and fuel requirement will be 6.5 MTPA. Water requirement of 85 MLD will be sourced from Mahanadi river, upstream of Naraj through a pipeline at a distance of 40 km from the project site. Brahmani river is about 10 km from the project site. Badajoda Nallah is about 4 km from the project site and there are few mountains envisaged within 15 km of the project site. There are around 11 Reserve forests within the radius 15 km from the project site. There are no National Parks, Wildlife Sanctuaries, and Tiger/Biosphere Reserves etc. within 10 km of the site. There will be about 100 homestead oustees and 1500 land oustees.

The project proponent also informed that TOR for coal mining has been obtained in January, 2012 and TOR for CTL project in May, 2012.

The Committee observed that for such a large project very little information of associated projects (i.e. coal mining, washery and CTL projects) with the CPP placed for consideration.

The Committee observed that the energy involved in the integrated project seem to be larger than the energy required to be produced and prima facie a lot of missing gaps of information. It was also noted that a proper energy balance diagram / flow chart, describing complete details of coal quantity required etc. need to have been placed.

The quantity of ash to be generated and the utilization plan, considering that the project is envisaged in Orissa, where ash disposal is a major concern was also raised.

The Committee therefore decided that complete details of the activities involved in the project, the location layout of each activity and preliminary information on associated environmental impacts need to be provided before the project is reconsidered.

In view of the above, the proposal was deferred.

## **2.5 3x800 MW Super-Critical TPP of M/s Odisha Thermal Power Corpn. Ltd. at village Annupurna Khamar, Taluk Kamakhyanagar, in Dhenkenal Distt., in Odisha - 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 along with its consultant **M/s MECON Ltd.** and provided the following information:

The company is a joint venture company between M/s Orissa Mining Corpn. Ltd. and M/s Odisha Hydro Power Corpn. Ltd. The proposal is for setting up of 3x800 MW Super-Critical Coal Based TPP at village Annupurna Khamar, Taluk Kamakhyanagar, in Dhenkenal Distt., in Odisha. Land requirement will be about 1969.78 acres, which includes 83.91 acres of forests land, 982.13 acres of single crop agriculture land and 903.74 acres of Waste/ Barren land. The co-ordinates of the site are located in between Latitude 20°50'3.51" N to 20°50'55" N and Longitude 85°30'58.34" E to 85°31'26.7" E. Coal requirement will be 12.07 MMTA at 85% PLF. Ash pond area will be 716.09 acres and co-ordinates of the ash pond site is located within Latitude 20°48'42" N to 20°49'53.19" N and Longitude 85°29'12.07" E to 85°30'66" E. Water requirement of 6950 m<sup>3</sup>/hr will be sourced from Brahmani river through a pipeline at a distance of 8.5 km from the project site. There are 5 Reserve forests within the 10 km of the plant boundary. There are no National Parks, Wildlife Sanctuaries, and

Tiger/Biosphere Reserves etc. within 10 km of the site. There are about 121 Homestead oustees and 1747 land oustees.

Secretray, Energy, Govt. of Odisha was also present in the meeting.

*The Committee noted that diversion of forests land is involved and the total ash both for TPP site and ash pond is unacceptably large. The Committee therefore decided that the project proponent shall reduce the land and avoid forests land to the extent possible. It was also decided that land shall be in strict adherence to CEA norms and accordingly layout revised shall be submitted along with EIA Report.*

*The Committee also decided that Shri. M.S Puri of CEA may visit the site and submit a report based on which addl. TOR may also be prescribed at a later stage.*

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) Land shall be reduced and shall be in strict consonance with CEA norms (both for TPP site and Ash Pond) and revised layout of plant indicating ash pond location shall be submitted.
- ii) Forests area shall be avoided if possible. In case some portion is unavoidable clear demarcation of forests area in a layout shall be submitted.
- iii) Report of CEA site visit (recommended to be undertaken) and its recommendation shall be detailed in the EIA Report.

## **2.6 28 MW Co-generation Power Plant of M/s Cane Agro Energy (India) Ltd. at Post Hingangaon, Tehsil Kandegaon, District Sangli, in Maharashtra- 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 28 MW Co-generation Power Plant at Raigaon, Post Hingangaon, Tehsil Kandegaon, District Sangli, in Maharashtra. Land requirement is 27.46 ha which already under possession. The 28 MW CPP is proposed within existing Sugar Plant. The co-ordinates of the site are located at Latitude 17°24'42.77" N and Longitude 74°19'19.83"E. Bagasse and cane crash requirement will be 233600 MT and 52037 MT. Water requirements of 420 cum

will be sourced from Lake through a pipeline at a distance of 3 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.

## **2.7 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.**

The above matter was earlier discussed in the 58<sup>th</sup> and 62<sup>nd</sup> Meetings of the Committee held during Oct' 8-9, 2012 and December 4, 2012 respectively. The discussions held in the said meetings are given as under:

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 on 62<sup>nd</sup> meeting of EAC held during December 4, 2012.

The project proponent informs that CHP will be only for 2x600 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 examination of report submitted by CEA as noted above.

The matter was taken up again after submission of the above mentioned information.

The project proponent informed that the coal will be transported by the road only for an interim period from the two expected coal mines viz. one located at the distance of 20-25 km and another at distance of about 50 km from the project site.

The project proponent also informed that the NGT case pertains to Unit 3&4 and there is no other litigation for Unit 1&2 for which amendment is being requested.

The Committee examined the report submitted by CEA and noted that there is a possibility for installation of CHP within the plant site.

The Committee also observed that the project proponent's request for the road transportation of the coal from the mine over distance of 20 to 50 from two mines can be agreed only for a limited period of **three years only** subject to following submission of documents thereof:

- i) Assessment of impact due to transportation of coal through dedicated road to TPP site;
- 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 recommended the proposal with additional conditions which is as under:

- i) That in the interest of consumers power from these Units of the TPP shall either be sold on tariff based bidding or through competitive bidding route on long term PPA with DISCOMS.
- ii) Recommendation made by CEA in its report at conclusion shall be strictly implemented

## **2.8 4x135MW Coal based Thermal Power Plant of M/s Wardha Power Company Ltd. at Warora Growth Centre, MIDC, Warora, in Maharashtra- reg. Change in source of fuel.**

M/s Wardha Power Company Ltd. was accorded environmental clearance for its Phase-I (2x135 MW) and Phase-II (2x135 MW) Coal based Thermal Power Plant at Warora Growth Centre, MIDC, Warora, in Maharashtra on 17.07.2007 and 21.11.2007 respectively.

M/s Wardha Power Co. Ltd. has informed that subsequent to multiple developments including mismatch in the timing of commissioning of power

project and coal supply by GMDC, rejection of Forests Clearance to Morga-II Coal Block, the originally planned coal supplies could not materialize. That they have now entered into alternative Fuel Supply Agreement with M/s Western Coal Fields Ltd. on 03.04.2012 for supply of coal and balance required coal will be obtained through imported coal.

M/s Wardha Power Co. Ltd. has therefore requested for taking note of the above information and oblige for necessary action.

M/s Wardha Power Co. Ltd. made a presentation and provided the following information:

Presently M/s WPCL is operating 4x135 MW Coal Based TPP at Warora Growth Centre, MIDC Warora, in Chandrapur District, in Maharashtra. Environmental clearance for Phase-I (2x135 MW) was obtained in July, 2007 and for Phase-II (2x135 MW) in November, 2007 respectively. That from the first year of operation itself, the plant has achieved 100% Fly Ash utilization. Total coal required as per EC is 2.23 MTPA, which will be now be 2.525 MTPA at Domestic coal 78%: Imported coal 22% blending ratio. That FSA with M/s WCL has been signed for 1.625 MTPA, with GCV of 4600 Kcal/Kg, Ash content less than 36%, Sulphur content 0.6%. For imported coal FSA has been signed with Ask RE Ltd., Hongkong on 12.10.2012 for 0.9 MTPA with GCV of 4100 Kcal/Kg, Ash content of 36% and Sulphur content of 0.5%. That hybrid ESP with Bag Filter as given in EC will be installed.

M/s WPCL also informed that coal requirement will be now 1912 TPD per unit as against earlier envisaged 1800 TPD per unit. Average sulphur contents will be now 0.5% as against earlier envisaged at 0.6%. That the change in coal specification will not have any additional impacts on environment with reference to SO<sub>2</sub>, other pollutants and ash generation.

*The Committee noted the request was of the view that the coal block allocated has now been declared in the No-Go area which is still being deliberated by the Central Govt. n view of this the Committee decided that the request for change in fuel source can be agreed provided the project proponent establishes that the imported coal is an additional (actual coal) coming to the country. In ascertaining so, the project proponent shall submit documents to establish that Bill of imports (direct imports) for imported coal is meant for this power plant and the records are duly maintained for further verification.*

**2.9 1050 MW Gas based CCPP of M/s GSPC Pipavav Power Company Ltd. at village Kovaya, Taluka Rajula, in District Amreli- reg. Extension of validity of environmental clearance.**

M/s GSPC Pipavav Power Company Ltd. was accorded environmental clearance for its 1050 MW Gas based CCPP at village Kovaya, Taluka Rajula, in District Amreli on 28.01.2008. M/s GSPC Pipavav Power Company Ltd has informed that the project is in advance stage of completion but generation could not be started on time due to technical problem in gas turbine supplied by BHEL after an accident on 08.08.2009 during transportation. That the truck carrying the turbine from Mundra Port to Pipavav site had an accident and fell into River Shetrunji near Talaja, about 100 km from the site. That new gas turbine was reassembled but during pre-start inspection have observed damages in the compressor part of new gas turbine. M/s GSPC Pipavav Power Company Ltd. has therefore requested for extension of validity period of the environmental clearance for a period of further five years.

The request was placed before the Committee for its views and the Project proponent also made a presentation and show photographs of the accident.

*The Committee noted the information furnished and decided that in accordance with the provisions of EIA Notification, 2006 a further extension of 5 years can be given under the circumstances stated by the project proponent. The Committee therefore recommended that the Ministry may issue extension of validity period for further period of 5 years.*

#### **2.10 2x800 MW Thermal Power project of M/s APPDCL at Krishnapatnam, Nellore, in Andhra Pradesh- reg. Extension of validity of EC & Correction of co-ordinates of location of plant site.**

M/s APPDCL was accorded environmental clearance for its 2x800 MW Thermal Power project at Krishnapatnam, Nellore, in Andhra Pradesh on 17.07.2007 and its amendment on 03.05.2012.

M/s APPDCL has informed that the units were delayed due to finalization of certain design aspects and exchange of engineering inputs and units are in advance stage of erection and are likely to be commissioned by September, 2013 and December, 2013. M/s APPDCL has also informed that there is typographical error in the co-ordinates of the ash dyke in its Office Order (amendment letter) dated 03.05.2012. The PP have therefore requested for extension of validity period of the environmental clearance and for issuing the necessary amendment to the MoEF letter dated 03.05.2012 by revising the co-ordinates of ash dyke.

*The Committee noted the information furnished and decided that in accordance with the provisions of EIA Notification, 2006 a further extension of 5 years can be given. The Committee also recommended that the Ministry while issuing the extension of validity period for further period of 5 years shall also make corrections of co-ordinates which prima facie seem to be factual error.*



**2.11 2x660 MW Coal Based Thermal Power Plant of M/s Arissan Power Ltd. at villages Domuhan & Jamua, in District Banka, in Bihar- reg. Extension of validity of TOR.**

M/s Arissan Power Ltd. was prescribed TOR for its 2x660 MW Coal Based Thermal Power Plant at villages Domuhan & Jamua, in District Banka, in Bihar on 08.12.2010. M/s Arissan Power Ltd. has now informed that Draft EIA/EMP report has been submitted to Bihar SPCB for Public Hearing and the process will take some time for finalization of the Draft EIA/EMP report. It was also informed that public hearing has now been fixed on 23.01.2013 and advertisement issued in newspapers on 21.12.2012. M/s Arissan Power Ltd. has therefore requested the Ministry for extension of validity of TOR for one year.

The matter was placed before the Committee for its consideration.

The Ministry representative informed that validity for TOR for two years is for conduct of public hearing and as public hearing is already fixed on 23.01.2013, the necessity for extension of TOR does not seem to arise.

*The Committee however noted the request and decided that the request can be agreed as per policy decision taken by the Ministry and as may be so necessary.*

**DATE: 08.01.2013**

**2.12 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.**

M/s Chettinad Power Corpn. Pvt. Ltd. (M/s CPCPL) proposed to set up 2x600 MW Sub Critical TPP of M/s Chettinad Power Corpn. Pvt. Ltd. at Tharangambadi Taluk, Nagapattinam District, Tamil Nadu. The project was accorded environmental clearance on 20.01.2011.

2. Subsequently, an Appeal was filed by Shri Ossie Fernandes, Co-Convener, Coastal Action Network (an NGO), before the National Green Tribunal (NGT) seeking to assail the environmental clearance accorded to M/s CPCPL. The Hon'ble National Green Tribunal in its Order dated 30.05.2012 directed the Ministry of Environment & Forests (MoEF) to upload the updated EIA report (both terrestrial and marine ecology) and thereafter appraise the project along with objections / suggestions received on updated EIA Report. That the recommendation of the EAC/MoEF shall be placed in public domain.

3. In pursuance of the Order of the Hon'ble NGT, dated 30.05.2011, the Expert Appraisal Committee (Thermal Power) on receipt of request from M/s CPCPL first deliberated the matter in the 58<sup>th</sup> Meeting held during October 8-9, 2012 followed by deliberations in the 60<sup>th</sup>& 62<sup>nd</sup> Meetings of the Committee held during November 5-6, 2012; and December 4, 2012 respectively and thereafter in this 64<sup>th</sup> Meeting.

4. The Committee in the 58<sup>th</sup> Meeting while deliberating the issue, 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.

*5. In the said 58<sup>th</sup> Meeting, the Committee noted few inadequacy of information, and had decided that the project proponent shall submit para-wise response /remarks/ information on 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.*

6. 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.

7. 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.

8. Deliberations on the observation of the NGT was again 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.

9. 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.

10. The matter was again taken up on 62<sup>nd</sup> Meeting of EAC 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.

11. 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.

12. The matter was again taken up and Coastal Action Network which represented by Shri Rahul Chaudhury, Advocate.

13. Para-wise comments / response to the representation made by Coastal Action Network earlier circulated prior to the meeting to the members was taken up and a copy provided to the representative of Coastal Action Network. The Committee observed that Coastal Action Network may send their views within one week.

14. Representative of Coastal Action Network briefly narrated the objections raised by them and submitted in writing to the Ministry.

15. M/s Chettinad Power Corpn. Pvt. Ltd. also stated that the issue raised by Coastal Action Network are same as contested in the National Green Tribunal. M/s Chettinad Power Corpn. Pvt. Ltd. while making their presentation also revisited the issues earlier discussed regarding compliance of NGT Order point-wise and made a brief presentation.

The chronology of significant issues and deliberations made in the 58<sup>th</sup>, 60<sup>th</sup> and 62<sup>nd</sup> Meetings were summed up as under:

<b>EAC Meeting (Thermal Power)</b>	<b>Observations / Remarks</b>
58 <sup>th</sup> Meeting held during October 8-9, 2012	<ul style="list-style-type: none"> <li>• To provide primary and secondary data on Olive Ridley Turtle – vetted by Competent Authority</li> <li>• To submit compliance with NGT Order in form of an</li> </ul>

	affidavit duly notarised.
60 <sup>th</sup> Meeting held during November 5-6, 2012.	<ul style="list-style-type: none"> <li>• Deliberations on submission made in form of affidavit.</li> <li>• Discussions on Turtle nesting and its conservation actin plan</li> <li>• Discussion on letter seeking non accessability of updated EIA Report on MoEF website</li> <li>• Directions to provide hard copy to Coastal Action Network</li> </ul>
62 <sup>nd</sup> Meeting held on December 4, 2012.	<ul style="list-style-type: none"> <li>• Discussion on proof of serving copy of updated EIA Report to Coastal Action Network</li> <li>• Decision to give more time to Coastal Action Network to submit objections on updated EIA Report</li> </ul>

M/s Chettinad Power Corpn. Pvt. Ltd. also summed up that objections of Coastal Action Network divided into four headings as under:

- Pre-amble;
- Inconsistency between EIA reports;
- Certain TOR conditions not complied; and
- Miscellaneous & Conclusion

It was stated that they have dealt the entire objections of Coastal Action Network(CAN) in detail and submitted in the reply affidavit in order to have transparency. The point wise objection of Coastal Action Network and the response made by M/s Chettinad Power Corpn. Pvt. Ltd. (M/s CPCPL)and presented before the Committee is tabulated as under:

#### **Responses of M/s CPCPL to CAN - Preamble**

<b>Para Ref</b>	<b>CAN Objection</b>	<b>CPCPL Response</b>
1.1	Issuance of TOR by MoEF	Factual - No Comments
1.2	Wide variation between EIA Reports ( April 2010, September 2010 and Updated August 2012)	No Variation . Inclusion are only to – a)Public Consultation related matters b)Approvals obtained after the PH c)PM 2.5 data (PM 2.5 measuring instrument was not available)

		d)To comply NGT order
1.3	With deficient EIA Report public consultation process took place and Environmental Clearance issued	Wrong allegation . No such defects would cause environmental threat as concluded by NGT.
1.4	Order passed by NGT against the appeal No.12/2011	Factual -No Comments
1.5	Additional particulars included in another EIA Report (Aug 2010) and the same was never brought to the knowledge of public consultation process.	Wrong allegation. No another EIA report was made. Only an update of point no.3 as per NGT order. Additionally point no.2 also updated.
1.6	Want of further study as reviewed in 58th EAC meeting	Fully Complied and reviewed in 60th EAC meeting
1.7	Contents of Sep 2010 & Aug 2012 EIA Reports never brought to the notice of public	Wrong allegation . Improper comparison of EIA reports made by CAN by adopting incorrect particulars
1.8	April 2010 EIA report did not include Rapid Marine EIA/EMP	Wrong allegation. Rapid marine EIA report prepared and submitted before public hearing was overlooked by CAN.
	When Comprehensive Marine EIA report carries three reason data and Terrestrial EIA report carries only one season data	Comprehensive marine EIA report prepared as per the CRZ notification 2011 and Terrestrial EIA report prepared as per EIA notification 2006
	281 pages Comprehensive Marine EIA Report added as Annexure in Aug 2012 EIA Report	Comprehensive marine EIA report prepared and submitted for CRZ Clearance and included in updated EIA report as per NGT suggestion.
1.9	No integration of various studies carried out by different agencies and no change in the EMP cost of Rs 320 crores	Studies were done through third party consultants and integrated to EIA report. No Change in environmental protection measures, hence there is no change in EMP budget.

**Responses of M/s CPCPL to CAN – Comparison of EIA reports**

<b>Para Ref</b>	<b>CAN Objection</b>	<b>CPCPL Response</b>
-----------------	----------------------	-----------------------

2.1	Additionally 3 Annexure included in August 2012 report – more than 50% annexure details not shared to public.	Repetition of previous objection as in Para 1.2,1.5 and 1.7
2.2	Lands not fully identified for acquisition. Due to R&R issues acquisition of private and Government land not completed	Wrong allegation. Wrong figures projected by CAN lands are without habitation, hence no R & R issues
2.3	Sea water temperature 22.5 deg C in the Apr 2010 EIA Report, 28 -30 deg C in August 2012 – manipulated?	Typographical error corrected in Terrestrial EIA report. Temperature correctly mentioned in the Executive summary annexed with Terrestrial EIA report and Marine EIA Reports.
2.4	<ul style="list-style-type: none"> <li>• Allegation on Fly ash &amp; bottom Ash utilization</li> <li>• Bottom Ash calculation seems OK</li> <li>• Fly ash disposal solid consistency of 100% water requirement for disposal – 60m<sup>3</sup>/hr of water for 60 MT of Ash</li> <li>• EIA report envisages 100% loss by evaporation.</li> <li>• EIA report not addressed overflow of ash pond</li> </ul>	Wrong calculation. While mixing 60m <sup>3</sup> /hr of water with 60MT of ash Solid percentage is 47.4 % only. Pumps are available to transfer solid of 65%. Such 60 m <sup>3</sup> /hr of water requirement is only on emergency situations. Fly Ash will not be sent to Ash Dyke all 24 x 365 hrs except during emergency. Ash dyke will have 1 meter free board at all times. Hence there will not be any overflow.
2.5	Details of SWRO and Cooling water discharge , Guard Pond design, Adequacy of Guard Pond for temperature correction not given in EIA Report. No possibility of sludge generation from SWRO Plant	The scheme of waste water discharge viz., SWRO and Cooling water discharge explained in the EIA Report. All other design details will be decided at the time finalization of design and engineering. The pre-treatment of sea water will generate sludge as indicated in water balance diagram as in fig 2.4 of EIA report.
2.6	Change to double flue gas RCC Structure will result in change in exit velocity	Typographical error in one place corrected in updated EIA report. Hence there will not be change in exit velocity from chimney.

2.7	Surface water and ground water quality not figuring in Apr 2010 EIA Report	Wrong observation by CAN. Details available in Apr 2010 EIA Report
2.8	Temperature profile across cooling circuit outlet, blended SWRO reject & cooling circuit water in guard pond and outlet of guard pond not provided. Basis and adequacy of guard pond volume and modulus-operandi of collection & conveyance to outfall tank has also been not addressed. Impact of outfall temperature in the context highlighted by various institutions not addressed?	Baseless allegation. Design details will be fine tuned and decided at the time of finalization of design & engineering. Statutory norm of discharge water temperature, not exceeding 5 deg C above ambient temperature will be ensured through the design of cooling water system. No threat will be caused to marine environment especially Olive Ridely turtle.
2.9	Comprehensive Marine EIA Report ( 281 pages) , Report on turtle not made available to public.	Repetition of para 1.2,1.5 and 1.7. Made only to mislead the EAC/MoEF.

### **Responses of CPCPL to CAN – TOR related**

<b>Para Ref</b>	<b>CAN Objection</b>	<b>CPCPL Response</b>
3.1	Non-acquisition of balance private lands and government lands are due to R & R issue. TOR condition XVI not complied	Complete wrong interpretation of TOR conditions. Baseless allegations. Repetition of para 2.2 in order to mislead EAC/MoEF.
3.2	Seawater temperature of 28 deg C considered for marine impact study, discharge of waste water was proposed at 8.4 m depth instead of 12 - 15 m and impact on marine ecology due to various activities not studied. Thereby TOR additional condition (g) not complied	Input recognized by the model is the difference in temperature i.e., between discharge and ambient temperature which is 5 deg C. Hence ambient temperature can't be considered for impact study . Discharge at 8.4 m was based on the CORMIX model study to have least impact and it is the depth at 750 m from shore, where discharge is proposed. TOR is only guideline and the appropriate depth is decided on the basis of prevailing dispersion characteristics and practical requirements

		derived from the outcome of the study.
3.3	For 70:30 ratio of import and Indian coal , less than 34 % Ash content -Indian coal not available. Impact of use of 100 % Indian coal not considered	Source for supply of 30 % ash content -Indian coal available. CPCPL proposes to use only 100 % imported coal. 70 :30 ratio considered for worst case scenario. As per EC any change in coal specification shall be subject to approval of MoEF. 100 % Indian coal usage not at all envisaged.
3.4	Source of water for construction. TOR condition XXIV not complied	Wrong allegation by CAN. TOR condition fully complied. C4 & C10 of EIA report envisages non-usage of ground water for construction purpose. However, EC condition provides, “No ground water will be used for construction purpose”. Sea water after treatment through desalination plant will be used for construction purpose.
3.5	Confirmation not given from Cement Industry for 100 % Utilization of Fly Ash generated. If the group's demand is 1.25 MTPA of Fly Ash, CPCPL may generate 1.25 MTPA of Fly Ash using 100 % Indian Coal, thereby TOR condition XXIX not complied.	Baseless allegation raised by CAN. Entire group cement plant requirement is 1.25 MTPA. Worst case scenario of Fly ash generation using 70:30 imported and Indian Coal will be 0.48 MTPA. Imported Coal generation of Fly ash will only be 0.24 MTPA as per EIA report. At no point of time 100% Indian Coal is envisaged for the project. The project is aimed at using 100% imported Coal. However, from one of our group cement plant in Ariyalur itself has given 0.365 MTPA
3.6(a)	Major lacunae in amending the EMP. Removal of details of treatment of run-off from peripheral drains of Ash Pond from Apr 2010 Report – not justified. Budget not provided.	Baseless allegations. ToR Condition fully complied with. Impact of Ash dyke and mitigation already available in chapter 4 of 4.3.8.1 of the EIA reports (draft, final& updated). Hence no overflow as envisaged by CAN.
3.6(b)	Chapter 8 of EIA report (Aug'2012) declared various budgets to the tune of 11.99 Crores, based on socio-economic survey & outsourced Institutional studies. Not detailed in various annexure.	Not Necessary to reflect or repeat the same in Annexure, having stated in Chapter 8 of the EIA report. Baseless claim made by CAN only to mislead the EAC/MoEF.
3.6(c)	Annexure XX of EIA,	Complete failure of understanding the



	provides capital budget of 1.57 Crs and recurring expenditure of 0.595 Crs. Same not integrated to main EIA at Table 6.4 of EMP	purpose of the study by CAN, A baseless allegation. The said Annexure XX deals with need based study done to comply requirement arose subsequent to PH proceedings, a voluntary act of Project Proponent. The study carries separate budget. Such budget outlay not relevant to be included in EMP cost as detailed in Table 6.4.
3.6(d)	No budget for socio-economic study is stated in Annexure XIX	Baseless allegation. Misleading facts. Budget provided in Table 8.5 of EIA reports.
3.6(e)	No capital investment have been addressed for marine EIA report – establishment for guard pond, marine outfall structure (with collection system, conveyance system, diffusers, pipeline etc.) dredging, accidental coal spill control devices etc. Additional pages of 281 is included as Comprehensive Marine EIA report ?	Wrong assumption. Project costs includes costs towards marine facilities like establishment for guard pond, marine outfall structure (with collection system, conveyance system, diffusers, pipeline etc.) dredging, accidental coal spill control devices etc. Regular maintenance costs will take care environmental protection during operation, hence no separate EMP cost for marine is shown. Additional pages of 281 is only inclusion of Comprehensive Marine EIA report instead of marine Executive summary.
3.6(f)	No budget for mitigation measures for hydro-geological study	Wrong assumption. Such costs were all included in project costs itself. It is self explanatory, without which project cannot suffice.
3.6(g)	Emission value of < 50 mg/Nm3 will be ensured by ESP as against the available norms of CPCB/SPCB. Such is the position, project consultant or ESP supplier must have vetted and should have given such low emission could not be met. Call for review of ESP scheme.	Such low emission levels have been met by existing ESP scheme, which are proven case through our own captive power plants used in the cement factories. CAN has made baseless allegation without any justification.
3.7	Status of pending litigation mentioned as “None” in ToR compliance	As no case was pending subsequent to disposal of Appeal 12/2011 and during uploading of updated EIA report (Aug 2012). Hence no amendment required.

3.8	Other alternative for coal movement through rail/common jetty not considered. TNMB condition & ToR additional Condition (f) not complied with.	All possibilities explored and MoEF cleared the separate jetty. TNMB condition is only to avoid any overlapping of port boundary, on the other hand CAN misconstrues the same and seeks to present an incorrect picture.
-----	--	--

**Responses of CPCPL to CAN – Issues & Conclusions**

<b>Para Ref</b>	<b>Can Objection</b>	<b>CPCPL Response</b>
4.1	Majority of information were not made available to public.	Repetition and reliance placed on para 1.2,1.5 1 and 1.7, which was already proven baseless, not sustainable on facts or law and devoid of merits.
4.2	No involvement of Project Proponent, DPR Consultants, EIA Consulting Organization and several sub-contracted specialists agencies in the preparation of EIA Reports	Without involvement of the Project Proponent and different consulting agencies, the EIA reports meeting the requirement as prescribed in the EIA Notification, could not have been met , which was already appraised by EAC/MoEF before granting EC. However NGT also appreciated the reports, except pointing out certain errors as curable and ruled out as unwarranted the recalling of PH process.
4.3	Not able to access the uploaded EIA Report, no pop up or scroll message to highlight updation	Such excuse is devoid of merit as it is accessible by other persons except CAN, though CAN is a frequent visitor of MoEF website.
4.4	In EAC 58th meeting, certain information/data have been sought	Project Proponent has fully complied with the directions of EAC and the same has been thoroughly examined by EAC in its 60th EAC meeting.
4.5	EIA Report submitted is not a quality report and to be scrutinized by a limited member committee	AS pointed in the previous responses there were no such technical gaps alleged by CAN. It is made only to mislead EAC/MoEF. However, EAC/MoEF cannot seek to justify or remedy what it has failed in Appeal before Hon'ble NGT. CAN shall not be allowed to interpret in its own way the NGT order. The Hon'ble NGT have disposed of the Appeal 12/2011 filed by CAN stating that CAN has failed to point out any Environmental threat in its Appeal. Now it

	cannot seek such remedy again before EAC/MoEF.
--	--

The Committee deliberated the issues flagged by Coastal Action Network and the response made by M/s Chettinad Power Corpn. Pvt. Ltd. and recommended that the environmental clearance earlier recommended stands upheld as no purpose in particular environmental and social concerns could be solved by further delaying in implementation of the project. The Committee however recommended that few additional conditions earlier not prescribed as under shall be added viz:

- i) The project proponent shall setup a good laboratory, well equipped with advance instruments for long term monitoring of marine and terrestrial water, soil and air quality and take mitigative measures if there are any negative impacts;
- ii) Sea water quality shall be continuously monitored for salinity, turbidity and temperature at selective sites across the impacted zone in order to protect and preserve the marine flora and fauna of the region. Sea water quality and sediments shall also be monitored at selective sites across the impacted zone including estuarine waters. The monitoring data should be uploaded on the website of the company and also be submitted to Regional Office (RO) of the Ministry every six months.
- iii) Regeneration of degraded mangroves (if any in the study area) shall be taken through institutes such as Annamalai University.
- iv) To minimize entrapment of small marine flora and fauna, state of the art low aperture intake screens with high effectiveness for impingement and entrainment and fishnet around intake shall be installed.
- v) Fish catch along the impacted zone of sea should be monitored periodically by the Department of Fisheries, Government of Tamil Nadu.
- vi) The waste stream from the FGD should be disposed in an environmentally sound and safe manner.
- vii) Marginalized section of society particularly traditional fishermen communities shall be identified based on 2011 population census data and socio-economic study of the various strata of families such as those carrying out subsistence fishing, commercial fishing etc. shall be carried out and impact on their livelihoods shall be assessed separately. Accordingly, sustainable welfare scheme/measures shall be undertaken and status of implementation shall be submitted to the R.O. of the Ministry.

- viii) A study on the identification of local employable youth shall be immediately carried out and training shall be imparted for eventual employment in the project itself. The status implementation shall be submitted to the R.O. of the Ministry from time to time.

The Committee further recommended that the Ministry shall take early action in compliance to the directions contained in the Order issued by the NGT.

**2.13 4000 MW Chhattisgarh UMPP of M/s Akaltara Power Ltd.(now M/s Chhattisgarh Surguja Power Ltd.)near Salka/ Khamaria, District Sarguja, in Chhattisgarh- reg. Extension of validity of TOR.**

M/s Akaltara Power Ltd. was prescribed TOR for its 4000 MW Chhattisgarh UMPP near Salka/ Khamaria, District Sarguja, in Chhattisgarh on 30.03.2009.

M/s Akaltara Power Ltd. (name changed to M/s Chhattisgarh Surguja Power Ltd.) has informed that Pindrakhi & Puta Parogia Coal Blocks in Hasdeo-Arand allocated to this UMPP were categorized as “No-Go Area”, thereby delaying the various activities including Public Hearing for the project.

M/s Chhattisgarh Surguja Power Ltd. also informed that REIA was submitted to SPCB, Raipur for conduct of public hearing vide their letter dated 01.02.2010, which has not progressed also till date. M/s Chhattisgarh Surguja Power Ltd. has therefore requested that the validity period of TOR be extended for a further period of four years.

*The Committee noted the TOR earlier prescribed in 2009 may be inadequate additional TOR points may be prescribed. It was also noted that in doing so it shall be ensured that for such a large project a comprehensive EIA need to be carried out and placed for public consultation. The Committee accordingly recommended that validity of TOR extension can be given for one year in accordance with the existing policy decision.*

**2.14 2x600 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. was 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. had 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 earlier 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 on its 62<sup>nd</sup> Meeting held during December 4, 2012.

In the 62<sup>nd</sup> Meeting 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 long 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 i.e. 64<sup>th</sup> Meeting of EAC (T).*

*The Committee observed that perusal of documents seem to suggest that the handling capacity by the railway siding where coal is reported to be brought to seem highly inadequate and there appears many loose ends, earlier not envisaged, in the request of change of source of fuel made. The Committee therefore decided that a competent organization like RITES or any other institute of similar standing and competence may study the adequacy of coal transportation handling capacity and authenticated by the Railways.*

*The Committee therefore expressed its inability to uphold its earlier recommendation and decided that the matter be deferred until convincing material evidence on the above and others issues such as proof that imported coal is an additional actual import coming to the country is placed before them.*

**2.15 2x525 MW of Malaxmi Mega Thermal Power Project of M/s Navabharat Power Pvt. Ltd. at villages Meramundali & Kharagprasad, Dhenkanal District, in Odisha- reg. Extension of validity of EC reconsideration.**

M/s Navabharat Power Pvt. Ltd. was accorded environmental clearance for its 1050 MW (3x350 MW) Phase-I Malaxmi Mega Thermal Power Project at Meeramundali & Kaharagprased, Dhenkanal, in Orissa on 08.02.2008. Later the configuration was changed to 2x525 MW (1050 MW) and permission for change of configuration was accorded on 03.06.2011.

M/s Navabharat Power Pvt. Ltd. had informed that the land acquisition is getting delayed and will be starting construction soon once land is transferred to the company. M/s Navabharat Power Pvt. Ltd. have requested for extension of validity period of EC for further period of five years.

The matter was placed before the Committee on its 58<sup>th</sup> meeting held during October 8-9, 2012 for its views. In the said meeting M/s Navabharat Power Pvt. Ltd. made a presentation and informed the Committee that EPC contract for supply of BGT and BOP has been signed in July, 2010 and long term open access agreement signed with PGCIL on 07.06.2010.

The Committee had noted that as reported by the project proponent, nothing have progressed on ground and as part of due diligence it is required to know about the issue of coal block – a matter which has come in public domain.

The Committee therefore decided that the matter need to be re-considered only after details on coal bock issue is placed before the Committee. Accordingly the matter was deferred.

The matter was again taken up on the assurance that adequate information will be placed before the Committee and on submission of further information /documents on coal block allocation.

The Committee noted that the inert ministerial group (IMG) meeting review does not fall for the Rampia Coal Block. That tapering linkage for Phase-I (1050 MW) is yet not available and the SLC Meeting held latest did not discuss the tapering linkage for this thermal power project.

*The Committee therefore felt that the position as was discussed in the last meeting is same as of now and no new information is available. The Committee therefore declined to recommended extension of validity of environmental clearance with the information available as on date. Accordingly the matter was dropped.*

**2.16 390 MW (ISO) Expansion (Phase-II) Gas Based Combined Cycle Power Project of M/s GVK Industries Ltd., at Jejurupadu, in Kadiyam Mandal, in District East Godavari, in Andhra Pradesh- reg. Amendment in EC reconsideration.**

M/s GVK Industries Ltd. was accorded environmental clearance for 390 MW (Phase-II) Gas Based Combined Cycle Power Project at Jejurupadu, in Kadiyam Mandal, in District East Godavari in Andhra Pradesh vide File no. J-13011/4/2000.IA-II(T) on 02.11.2000. The condition no. (vi) of the environmental clearance letter states that:

*“Use of naphtha should be restricted @ 500 MT/d till the Company obtains full quantity of natural gas to operate the plant on 100% natural gas”.*

M/s GVK Industries Ltd. informed that the gas supply from M/s Reliance Industries Ltd. to the project is in reducing trend and the current supply is at about 0.5 MMSCMD instead of 1.1 MMSCMD. With the less quantity of gas available, the project can be operated at 47% PLF only. Due to continuous reduction in gas supply, the plant operation has fallen below technical limits of 60% loading, thus reducing available energy to the grid. In order to meet the power demand of the grid, it is envisaged to use liquid fuel (HSD) as an alternative fuel in place of Naphtha. M/s GVK Industries ltd. has therefore requested that they may be permitted to use HSD as back up fuel when required by grid upto maximum quantity of 900 MTD as an alternate fuel in place of Naphtha. That HSD is a better fuel compared to Naphtha as sulphur content is much higher than HSD. It was also stated that this will be only as an interim arrangement until full natural gas supply is available.



The matter was earlier placed in the 52<sup>nd</sup> Meeting of EAC held during July 2-3, 2012, wherein, the Committee noted that that HSD is a subsidized fuel for specific end users and its use for commercial power generation is uncalled for. The proponent informed the Committee that HSD can be used as fuel for power plant and referred to notification of MoP&NG in this regard. The Committee, however had decided that the project proponent may submit its request, which can be forwarded to MoP&NG and Ministry of Power for their views.

M/s GVK Industries Ltd also informed that Phase-II capacity has been reduced from 390 MW to 220 MW as given in EC and the commercial operation began in 2009. That the power generated from Phase-II (220 MW) is supplied to Andhra Pradesh through PPA entered into with DISCOMS of Andhra Pradesh through competitive bidding process. That the industries at present are not getting power for the whole week instead there is an acute shortage of power with the result they get power only for 3 days in a week.

M/s GVK Industries Ltd. submitted 'No Objection' letters for use of HSD as fuel for power generation from MoP in line with the existing policy of the Govt. of India.

The Committee noted the contents of the letters written by M/s GVK to MoP&NG and MoP requesting to issue 'No Objection' for using HSD as fuel for power generation.

The Committee deliberated the notification issued by the Central Govt. in the Ministry of Power vide F.No. FU-32/97-IPC.I(Vol.VI), dated 19.01.2001 regarding liquid fuel based power plants. The Committee noted that the Central Govt. has decided vide the aforesaid notification that indigenously produced High Speed Diesel (HSD) will be allowed as fuel for power generation. That the notification prescribes that the power producer using HSD for power generation could source their requirement of HSD from Oil companies authorized to market HSD, at mutually agreed terms and conditions, at a price outside the oil pool mechanism. That the commercial agreement entered into between the oil company supplying HSD and power producer would be registered with Oil Coordination Committee (OCC) as long as Administered Price Mechanism regime continues. That a power project using HSD may be required to submit periodical statements indicating HSD purchased, consumed, power generated etc. to the Oil Coordination Committee. Import of HSD for this purpose will be considered on a case to case basis only if there is a shortfall in the availability of domestic HSD.

The Committee observed in the 52<sup>nd</sup> meeting the decision to disallow HSD as fuel was based on the fact that HSD is a subsidized fuel for specific end users and its use for commercial power generation is uncalled for. Whereas, the project proponent have now informed the decision of the Ministry of Power wherein, HSD sourced from Oil companies authorized to market HSD, at

mutually agreed terms and conditions, at a price *outside the oil pool mechanism*. The Committee also considered the environmental implications due to HSD vis-à-vis Naphtha and satisfied itself that SO<sub>2</sub> emission will be significantly reduced whereas, incremental GLC of NO<sub>x</sub> at 1 Km, 0.2 Km and 0.5 Km will be 4 µg/m<sup>3</sup>, 2.1 µg/m<sup>3</sup> and 0.8 µg/m<sup>3</sup> respectively. That the baseline NO<sub>x</sub> data ranges from 9.2 to 19.5 µg/m<sup>3</sup> and the AAQ for NO<sub>x</sub> is 80µg/m<sup>3</sup>.

In view of the information provided in the preceding paragraphs above, the Committee finally recommended that HSD may be permitted as top up fuel only till 100% natural gas supply is available. The Committee also decided that in doing so the project proponent shall institute a long term study on radiation budget due to NO<sub>x</sub> from the power plant and shall also continuously monitor NO<sub>x</sub> emission.

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

-----

**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.
- xlviii) 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.

-----



**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.

-----