

## **MINUTES OF THE 26<sup>th</sup> MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON ENVIRONMENTAL IMPACT ASSESSMENT OF THERMAL POWER & COAL MINING PROJECTS**

The 26<sup>th</sup> Meeting of the reconstituted Expert Appraisal Committee (Thermal Power) was held on **27<sup>th</sup> & 28<sup>th</sup> November, 2014** at Teesta Conference Room, Vayu Wing, First Floor, Indira Paryavaran Bhawan (new building), Jorbagh, New Delhi-110003. The members present were:

- |    |                  |   |                                 |
|----|------------------|---|---------------------------------|
| 1. | Dr. C.R. Babu    | - | Vice Chairman (Acting Chair)    |
| 2. | Shri T.K.Dhar    | - | Member                          |
| 3. | Shri A.K. Bansal | - | Member                          |
| 4. | Shri J.L Mehta   | - | Member                          |
| 5. | Shri N.K. Verma  | - | Member                          |
| 6. | Shri G.S. Dang   | - | Member                          |
| 7. | Dr. Ratnavel     | - | Member                          |
| 8. | Dr. S.S. Bala    | - | Member (Representative of CPCB) |
| 9. | Dr. Saroj        | - | Member Secretary                |

In attendance: Dr. M. Ramesh, Scientist 'D', MoEF.

Dr. S.D. Attri, Shri N.S. Mondal, Dr. Asha Rajvanshi and Dr. C.B.S Dutt could not be present.

### **Item No.1: CONFIRMATION OF THE MINUTES OF THE LAST MEETING.**

The Minutes of the 24<sup>th</sup> EAC meeting held during 30<sup>th</sup>-31<sup>st</sup> October, 2014 were confirmed with minor corrections.

### **Item No. 2: CONSIDERATION OF PROJECTS**

#### **2.1 Dr. Narla Tata Rao Thermal Power Station (Dr. NTPS) Stage - V (1x800 MW) Ibrahimpattanam (M), Krishna, Andhra Pradesh, by M/s Andhra Pradesh Power Generation Corporation Ltd. (APGENCO). – reg. EC**

1. The project proponent and their environmental consultant, Ramky Enviro Engineers Ltd., Hyderabad made a presentation on the above proposal. At the outset, the committee inter-alia noted that there is no firm coal linkage for the proposed project as the allotment of Suliyari Belwar Coal Block of APMDC from which the coal is to be sourced was cancelled in compliance to the Hon'ble Supreme Court's Judgment. Although the PP informed that the project will be implemented using imported coal in case Suliyari coal block is not re-allotted to APMDC, there are no details of the imported coal i.e. the MoU, coal characteristics, transportation plan etc. Further, the EIA/EMP including public consultation were conducted only based on domestic coal.

2. *In view of above, the proposal was **deferred**. The Committee also sought the following additional information.*

- (i) Detailed reply on compliance to the issues raised in the monitoring report of the R.O. for the existing units.*
- (ii) Compliance to the Ministry's Notification dated 02.01.2014, as applicable, for the existing Units and proposed regarding maximum 34% ash in the coal.*

- (iii) Action plan for phasing out Units I and II as they were commissioned in 1979-80.
- (iv) Fresh approval of the Competent Authority for water drawl for the proposed expansion project.
- (v) Existing fly ash utilization and proposed in compliance to the fly ash utilization Notification. Accordingly, proposed ash pond area shall be minimized.

**2.2 Expansion by addition of 1x600 MW (Phase-II) Imported Coal Based TPP at Villages Bade Bhandar, Chote Bhandar, Sarvani & Amali Bhona, in Taluk Pussore, Distt. Raigarh, in Chhattisgarh by M/s Korba West Power Company Ltd. - reg. re-consideration for EC**

1. The proposal was earlier discussed in the 72<sup>nd</sup> and 20<sup>th</sup> Meetings of the EAC (Thermal) held during **April 22-23, 2013 and 28<sup>th</sup> - 29<sup>th</sup> August, 2014**, the minutes of which are as under:

**Quote “1.** The proposal is for consideration for environmental clearance. The project proponent made a presentation along with its consultant M/s J.M Environet Pvt. Ltd., Gurgaon and provided following information:

The project proponent informed that since domestic coal is not available they have now decided to go ahead with imported coal from Indonesia for an interim period till the time domestic coal is available.

The proposal is for expansion by addition of 1x600 MW (Phase-II) Coal Based Thermal Power Plant at villages Bade Bhandar, Chote Bhandar, Sarvani & Amali Bhona, in Taluk Pussore, District Raigarh, in Chhattisgarh. Environmental clearance was granted for 1x600 MW (Phase-I) on 20.05.2010. The land required for Phase-II will be 402.86 acres, out of which 4.52 acres comprises of water bodies; 199.19 acres agriculture land; 179.86 acres fallow land; and 40.69 acres Open land. The co-ordinates of the site are located within Latitude 21°43'54.57" N to 21°44'53.37" N and Longitude 83°15'55.52" E to 83°16'45.37" E. Total land requirement for Phase-I&II will be 889.82 acres. Coal requirement will be 2.77 MTPA. Imported Coal will be transported from Indonesia and FSA have been signed with M/s Coal Trade Services International Pvt. Ltd. Ash and sulphur contents in coal will be 8% and 0.5% respectively. Gross Calorific value of the imported coal will be 4000 kcal/kg. About 0.178 MTPA of fly ash and 0.045 MTPA of bottom ash will be generated. High Concentration Slurry disposal system for disposal of bottom ash will be proposed. Ash pond area for phase-II will be 101.17 acres and co-ordinates of the ash pond site is located within Latitude 21°44'01.24" N to 21°44'22.94" N and Longitude 83°16'02.88" E to 83°16'19.24" E. MoU have been signed with M/s Biltech Building Elements Ltd. for taking of flyash for manufacturing of ash based buildings and utilization in cement industry. Water requirement of 16.8 MCM for Phase-II will be sourced from the Mahanadi river through a pipeline at a distance of about 5 km from the project site which same as for Phase-I. Permission for 20 MCM per annum has been obtained from Department of Water Resources, Bilaspur vide letter dated 20.03.2008 and permission for 15 MCM has also obtained from Department of water resources, Raipur vide letter dated 10.02.2011. Natural draft cooling system will be installed. There are two rivers i.e. Mand River (3 km, SW) and Mahanadi River (5 km, S) within the 10 km of the project site. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within ten

km of the project site. Public Hearing was held on 09.02.2012. Cost of the Phase-II project will be Rs.2926.0 Crores.

The project proponent informed that for Phase-I, out of 2.8 MTPA coal required, 2.0 MTPA will come for linked coal and remaining will be sourced through e-auction.

The Committee noted that while scoping the expansion proposal for TOR it was stated that diversion of about 60.17 acres of forests land and acquisition of 96.34 acres of tribal land will be involved. That the total land required for Phase-II stated then was 398.17 acres. *The Committee observed that the information now provided on land requirement is mismatched with what has been earlier stated. The Committee further noted that details revenue records for the power project site shall be submitted and the mismatch in formation clarified.*

On the issue of tribal land, the project proponent presented that Phase-II will involve 108.55 acres of tribal land and that these have been acquired in compliance with the tribal rights as per Central and State legislations. *The Committee observed that the project proponent shall identify tribal rights involved and the details of acquisition of the land shall be submitted.*

*The Committee was also informed of a representation forwarded by the Communist party of India, Central Office, at New Delhi on the expansion project. That the representation was sent to the Regional Office of the Ministry at Bhopal on 13.09.2012. That the R.O, Bhopal have subsequently forwarded the same to the Member Secretary, Chhattisgarh Pollution Control Board for submission of factual report and the same is still awaited. The Committee recommended that copy of the representation shall be furnished to the project proponent also for their response and the State Govt. may be perused for submission of an early report.*

Deliberating the status of compliance to the conditions stipulated in the environmental clearance of Phase-I, the Committee noted that a lot need to be answered and there seem to be may areas not suitably addressed. As an example the Committee noted that on the condition stipulated requiring submission of detailed hydro-geological study to be conducted and submitted within six months from an institute of repute / organization to assess the impact of surface water regime, the project proponent informed that a study has been carried out by the consultant viz. M/s J.M Environet Pvt. Ltd., Gurgaon, which is unacceptable.

*The Committee also discussed the TOR point-wise and noted that many of the conditions stipulated in the TOR have been inadequately addressed. It was specifically observed that replies to TOR point Nos.9, 10, 11, 12, 19, 25 were inadequate and detail study reports etc. sought shall be submitted.*

On the issue of R&R, the project proponent stated that no R&R is required as no displacement of population is involved. *The Committee observed that whereas, the land acquired may not involve homestead oustees but that there certainly may have involved marginalized farmers whose livelihood / sustenance were earlier dependent on the land acquired for the project. The Committee therefore desired that details of such landless farmers who have been further marginalized shall be identified and full details submitted.*

The Committee also discussed the issues raised in the public hearing and the responses made by the project proponent. The major issues raised were regarding employment to local unemployed youths; employment to the land losers after giving technical education; details for the storage of flyash; safety measures proposed to avoid the explosion of chlorine gas cylinder; measures taken to protect the surrounding environment from pollution; details of CSR activities for the development of the region; plans for socio-economic development of the local

people; plans for advancement of agriculture in nearby areas etc. The project proponent also informed that there are no litigations in any courts w.r.t the proposed power project.

The Committee noted that the presentation now made with regard to issues raised and responses made by the project in the public hearing have been clubbed with action plan proposed resulting into no clarity on actual responses provided then. *The Committee therefore decided that the project proponent shall clearly state all issues raised and the responses made then and also submit action plan for implementation of relevant issues.*

The Committee noted that FSA for Phase-I is yet to be signed and is held up due to want of PPA. That even after signing FSA, there still may be shortage of coal and there seem to be no detailed plan of action submitted to the Ministry/EAC for its appraisal. *The Committee therefore desired to know the status of PPA and advised the project proponent that the steps taken for PPA and status thereof shall be submitted.*

*The Committee also noted that as described in the TOR water availability report need to be submitted. That in doing so it shall be ensured that water availability for 12 months need to be satisfactorily addresses indicating the water available data for last decade in all seasons in river Mahanadi. The Committee further stated that the impact due to drawl of water on other competing sources such as irrigation, drinking downstream of the tapping point shall be submitted.*

*Further it was observed that a large number of thermal power projects are being planned in Raigarh District, and these TPPs are to source water from the same river Mahanadi, the Committee therefore decided that a cumulative impact due to drawl of water on other competing sources such as irrigation, drinking downstream shall be carried out and details submitted. It was also felt that since Narmada river is an inter-state river, clearance from the Central Water Commission need to be submitted for perusal by the Committee.*

*The Committee also advised the project proponent to go through the judgments of the National Green Tribunal of some power projects and integrate it with the present proposal listing out the applicable issues.*

*The Committee felt that in view of the large gaps of information as noted above the present proposal is pre-mature for further appraisal and accordingly deferred the proposal for re-consideration at a later stage.*

2. On submission of information by the PP for the above aspects, the matter was again placed before the EAC in the present meeting for its re-consideration, wherein the PP and their environmental consultant made a presentation and provided the following information.

3. The actual land acquired for the proposed expansion (Phase –II) is 402.84 acres of which 200.27 acres of private land was purchased, 142.42 acres of private land (non tribal) was acquired and 60.15 acres of forest land was obtained possession from the forest department. The forest clearance is available for the forest land. The land of Village- Chote Bhandar, Bade Bhandar, Sarvani & Amla Bhouna of Tehsil-Pussore, Raigarh acquired for the proposed TPP does not fall under the Notified Tribal Land which is confirmed by the Tehsildar vide his certificate dated 27.11.2009. The land for proposed TPP is acquired as per the State Government procedure by Chhattisgarh State Industrial Development Corporation (CSIDC) and handed over to the PP.

4. Point wise response of the queries/objections/suggestions by the Communist party of India, New Delhi and Raipur has been submitted to the Member Secretary, CECB with copy to CCF, Regional Office (WZ), Bhopal. The factual report has been forwarded by CECB, Raipur on 25.08.2014 to MoEF's Regional Office (WZ). The reply of PP was discussed in detail by the Committee.

5. National Institute of Hydrology (NIH), Roorkee was engaged for the hydro-geological study to assess impact on ground and surface water regime. NIH has also carried out the source sustainability study adopting water balance approach using real life flow data of 31 years (1981-2011). Based on the detailed analysis and study, NIH has suggested some mitigation measures and action plan to cope up with the scarcity of water observed mainly during lean flow months of drought years. The average drought frequency in the area has been observed once in five years. The specific mitigation measures suggested by NIH are enhancing River flows, implementation of suitable rainwater harvesting based aquifer scheme around the project, development of artificial ground water recharge scheme on both sides of the Mand and Mahanadi River by selection of appropriate site, Contour Trenches/Gully Plugs Nala Bunds, Check Dams/Recharging pit/Recharging Shaft as the probable recharge structure for the area. M/s Water Solution Pvt. Ltd. has been engaged for designing of rain water harvesting scheme & its implementation. Design of rain water harvesting scheme is already authenticated by CGWB, Raipur.

6. Impact on catchment area of the River due to proposed withdrawal of water has been carried out by the NIH. The directions of groundwater flow has been found from North to South and South to SouthEast direction and indicated that from both sides, groundwater feeds the Mand and Mahanadi River. The proposed withdrawal of water being from the accumulated storage of the Kalma Barrage and the groundwater feeding the River, no significant negative influence on the catchment area is expected as per NIH Report. The source of water is Kalma Barrage based on Mahanadi River. The Water availability study at the Kalma barrage site has also been carried out by NIH using real time inflow, losses and demand for computation of environmental flows. The comparison of the different competitive uses indicates that the raw water demands of the PP are about 10.75% of the total demands of water at the Kalma Barrage site and 18.7% of the other industrial demands of 187.23 MCM. The PP requirement of water is about 0.38% of the annual average flow in the River.

7. The Department of Water Resources, Bilaspur, Government of Chhattisgarh has given permission for withdrawal of 15 MCM/annum of raw water from the Kalma Barrage located about 5 km away from the Project site. The water allocation is from the share of State of water form Mahanadi River. Any permission from CWC for allocation of water needs to be initiated/acquired by WRD Chhattisgarh and the PP doesn't have any independent locus standi.

8. All persons having qualification in B.E/B tech (Engineering), ITI trained in electrician and fitter, Post Graduates, Graduates and having special technical skills etc. were given employment. Organized 6 nos of "employment shivirs" and invited 124 people for the employment. All persons sent for ITI/ skill training will be given employment after successful completion of their training. Employment has been given to 111 persons, 53 persons have been deployed for ITI training and about 1500 local people were employed during the project stage. A total of 240 persons will be offered different trainings like ITI, vocational and employment facilitations. R&R/CSR plan for the Phase-1 is in place and successfully implemented. In the same way, R&R/CSR plan and in-built monitoring mechanism has been prepared for Phase-II by an independent third party which will be implemented successfully. The same were presented.

9. A list of farmers has been prepared whose land has been acquired for the project. After individual consultation with the farmers, it has been found that farmers have sold their part of the land which was either barren land or single cropping land. Most of the farmers have started the local business with the help of compensated amount such as purchasing of earth moving equipment, real estate business, tankers, LMV etc. based on the area necessity apart from the existing farming. Various income generating activities were also initiated through Self-Help-Groups which helped their enhanced income. Therefore, there is no further marginalization. A detailed activity wise action plan with financial commitment and status of implementation of the issues raised during Public Hearing held on 09.02.2012 were presented and discussed.

10. Regarding status of PPA of Phase -1, the PP will supply 5% power to Chhattisgarh Govt. at variable cost and 30% power to the State or through nominated agency by Chhattisgarh Govt. The Chhattisgarh Govt. has already nominated the Chhattisgarh State Power Trading Company Ltd. (CSPTCL) for purchase of 30 % power from PP and the same was confirmed by CSPTCL vide letter dated 06.10.2009. PPA has already been signed with M/s Reliance Energy Trading Ltd. (RETL) for sale of 210 MW (35%) power and balance 30% power will be sold on merchant basis under short term or medium term arrangements. The Judgments of Hon'ble NGT on some of the power projects have been studied thoroughly and the issues have been listed out. The issues listed have been integrated & interpreted with the expansion proposal and observed that the proposal is not falling under these issues.

11. *After perusal of the presentation made and detailed discussion, the committee sought the following information and **deferred** the proposal for re-consideration.*

- (i) *Revised reply for the representations received from Communist Party of India, need to be specific.*
- (ii) *Confirmation regarding non-location of the project site in the command area of the Kelon Dam project and a map in this regard.*
- (iii) *Status of proper embankment with access of all the ponds created in the existing unit and green belt development all around.” **Unquote.***

2. On submission of information by the PP for the above aspects, the matter was again placed before the EAC in the present meeting for its re-consideration, wherein the PP and their environmental consultant, J.M Environet Pvt. Ltd., Gurgaon made a presentation on the above additional information sought.

3. At the outset, the committee inter-alia noted that a copy of the complete representation received from Communist Party of India i.e. annexure was not available with the PP and hence, the reply provided is incomplete. The Ministry has provided the representation received from CPI along with annexure to the PP. *A detailed reply along with supporting documents shall be submitted by the PP.*

4. *In view of above, the proposal was **deferred**. The Committee also sought the following additional information.*

- (i) *Letter from the State Govt. that the PP has not encroached any land.*
- (ii) *Authenticated map showing the distance of the project site from the Wild Life Sanctuary.*

- (iii) *Details of railway corridor proposed by the State Govt. vis-à-vis the railway siding for the project.*

**2.3 2x150 MW Power Plant at Village Sirupulalpettai, Taluk Gummidipoondi, District Thiruvallur, Tamil Nadu by M/s Accord Energy Corporation India Private Ltd.- reg. Amendment of EC for augmentation of capacity from 2x150 to 2x180 MW.**

1. The project proponent made a presentation inter-alia provided the following information. The proposal is for Amendment (for augmentation of capacity from 2x150 to 2x180 MW) in EC accorded by the Ministry for the above project on 18.05.2011. An amendment to the EC in the Specific Condition no. (iii) regarding rail transportation of coal was accorded on 17.02.2012, which permits transportation of coal by road only for a limited period of four years. The application for EC was appraised at the Centre due to location of inter-state boundary within 10 km.

2. Regarding the present status of the project, the entire land acquisition is complete, and is awaiting issue of Consent to Establish from TNPCB, which is in the final stages of issue. Financial closure is also in the final stages, and is expected by December 2014. Construction will commence after obtaining Consent to Establish from TNPCB.

3. Regarding the progress of Railway Siding, "In-Principle" approval was accorded by Southern Railway on 29.09.2011. Revised final feasibility has been submitted to Southern Railway and route survey is in progress, which will be completed before December, 2015. The land acquisition is envisaged to be completed by June, 2017 and the commissioning of the Plant is targeted by December, 2017. The laying and completion of Railway line by Southern Railway including within Plant will be completed within four years of commissioning.

4. A similar proposal for augmentation of capacity from 160 to 180 MW was recommended by the Committee in February, 2014 and accordingly amendment was accorded by the Ministry on 23.09.2014. The 150 MW Unit can generate upto 180 MW if operated under valve wide open condition, the technology for which was recently developed by the Turbine Supplier.

5. The advantages of the proposed augmentation are that, keeping majority of the systems same, there is a possibility of 30 MW more in each, much lower heat rate to generate higher capacity with less coal consumption, time required is the same, better utilization of the investment made on the transmission line and the clearances already obtained, will remain the same except an amendment for augmentation capacity at 2 x 180 MW. There will be no change in land area and project cost as per the EC.

6. The additional coal requirement for 2x180 MW as against 2x150 MW will be 215 TPD of imported coal and an additional ash of 19.35 TPD will be generated. The stack height requirement based on the SO<sub>2</sub> emissions is 166.18 m, whereas the stack height proposed to be constructed is however 220 m. An MoU was signed with M/s India Cements Ltd. for fly ash utilization in the cement manufacture.

7. There will only be a marginal increase in ground level concentration of SO<sub>2</sub>, NO<sub>x</sub> and SPM i.e. SO<sub>2</sub> concentration will increase by 1.48 µg/Nm<sup>3</sup> from 13.12 µg/Nm<sup>3</sup> to 14.6 µg/Nm<sup>3</sup>, NO<sub>x</sub> will increase by 0.55 µg/Nm<sup>3</sup> from 4.92 µg/Nm<sup>3</sup> to 5.47 µg/Nm<sup>3</sup> and SPM will increase by only 0.01 µg/Nm<sup>3</sup> from 0.34 µg/Nm<sup>3</sup> to 0.35 µg/Nm<sup>3</sup>. The cumulative incremental GLCs of SO<sub>2</sub>, NO<sub>x</sub> and SPM considering all the proposed industries within 10 km will be 30.67

$\mu\text{g}/\text{Nm}^3$ ,  $20.30 \mu\text{g}/\text{Nm}^3$  and  $0.97 \mu\text{g}/\text{Nm}^3$  respectively. The resultant GLCs will be within the NAAQS.

8. The plant will be based on zero discharge and air cooled condenser for main condensate cooling & finfan coolers for auxiliary cooling. The air Compressors and Air Conditioner Cooling will also be based on air cooled. As such no water will be required for cooling purpose. The fresh water (150 KLD) required will be only for boiler make up and domestic consumption. Clearance from Central Ground Water Authority has already been obtained for drawl of 1300 KLD of Ground Water. Total water available for rain water harvesting (normal rainfall days) is 5,95,072.3 cum/year whereas the total water requirement is 54,750.0 cum/year which is only 9.2 % of the total rain water available for harvesting within proposed project site. Therefore, even during drought years when the rainfall is < 50% of normal rainfall, the water requirement for the project can be met out from the harvested rain water. The wastewater emanating from Boiler blow down, D.M. Plant regeneration waste and domestic consumption will be used within the site for coal dust suppression, and green belt. As such there will not be any discharge of wastewater from the plant.

9. *Based on the information & clarifications provided by the Project Proponent, the detailed discussions held on all the issues and considering the advantages of the proposed augmentation, the Committee recommended the project for Amendment in EC for augmentation of capacity from 2x150 to 2x180 MW subject to stipulation of the following additional specific condition.*

- (i) *Need to expedite land acquisition for transportation of coal by Rail. The progress made in this regard shall be submitted to the R.O. of the Ministry on a regular basis.*
- (ii) *The PP shall advertise in the local newspapers and place on the website, the proposed amendment for public information.*

#### **2.4 2x685 MW Super Critical Imported Coal Based Thermal Power Plant at Village Raikheda, Gaitara and Chicholi in Tidla Block, Raipur District, in Chhattisgarh by M/s GMR Chhattisgarh Energy Ltd. - reg. Amendment of EC for change in source of coal**

1. The PP made a presentation on the above proposal and inter-alia provided the following information. EC for the above proposal was accorded on 09.05.2011 based on imported coal (South Africa) as an interim arrangement till the domestic coal linkage is provided. Presently HEG South Africa is unable to provide coal, hence it is proposed to source coal through Indonesia also. The PP has signed FSA for Indonesian Coal with GMR Energy Ltd. Coal Mines in Indonesia. Further, blended coal (Domestic coal sourced through E-auction/Open Market with Imported Coal) is also proposed to be used. It is envisaged to participate for e-auction from SECL and MCL mines, being nearest. *The Committee did not recommend the sourcing of coal from open market.*

2. The Unit-I has been synchronized with Grid using Fuel Oil on 02.10.2014. It is proposed to achieve COD and fulfill the committed power sale. The Boiler Hydro Test of Unit-II has been successfully completed and Light up is scheduled for December, 2014. Turbine is boxed-up and all BOP packages such as CHP, AHP, WTP, Ash Pond, Switchyard etc. were commissioned. The Power Sale Commitment was received from Tata Discom, Govt. of Uttarakhand, Andhra Pradesh and Telangana.



3. The Inland Transportation route remains same for coal sourced through South Africa or Indonesia. Imported Coal from Indonesia/South Africa will be unloaded in Vizag Port and then entire coal required will be transported by Rail from Vizag port to Plant. Vizag Port had given their consent to handle the project's imported coal. Railways had given "Railway Traffic Clearance" to transport imported coal from Vizag to Plant. Coal Transportation for E-auction coal is proposed through Rail, SECL and MCL coal mines are well connected with Plant.

4. AAQ Modeling has been carried out for three scenarios i.e 100% imported, 100% domestic and blended coal options. No significant additional air impacts are envisaged with the use of 100% domestic coal in place of 100% imported coal. No additional impact on water resources and water quality is envisaged. Fly ash will be supplied to cement industries. Un-utilized ash will be disposed into ash pond using HCSD Technology. Ash disposal agreements have been made with Ambuja Cement Limited, Century Cement and UltraTech Cement Ltd. for 6500 TPD of ash  $\pm$  2 MTPA @ 85 % PLF.

5. *Based on the information and clarifications provided by the Project Proponent and detailed discussions held on all the issues, the Committee recommended for amendment of EC for **including the source of imported coal from Indonesia in addition to South Africa and blend of maximum 50% domestic e-auction coal** subject to the following additional conditions.*

- (i) *Sulphur and ash contents in the coal to be used in the project shall not exceed 0.7 % and 34% respectively for at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to the Ministry for suitable amendments to environmental clearance condition wherever necessary.*
- (iii) *The PP shall advertise in the local newspapers and place on the website, the proposed amendment for public information.*

## **2.5 To prescribe ToR to M/s. IL&FS, Tamil Nadu Ltd. for cumulative Environment Impact Assessment as a follow up of the Hon'ble NGT Order dated 10.11.2014 in Appeal No. 50/2012.**

The Committee noted that Hon'ble NGT vide the above Order has already specified conditions for fresh Cumulative Impact Assessment Study for the project by the PP. The Committee would appraise only after PP submits the report.

## **2.6 2x800 MW Coal Based Thermal Power Plant, Distt. Jamnagar, Gujarat by M/s Gujarat State Electricity Corporation Ltd. (GSECL) – reg. ToR**

The project proponent and their environmental consultant, Bhagavathi Ana Labs Pvt. Limited, Hyderabad made a presentation on the above proposal. At the outset, the Committee noted that the proposed selected site was not projected on the toposheet. The Committee was not agreeable for the proposed site as it appeared it was within the CRZ zone and was an ecologically sensitive area. The alternative sites proposed by PP were discussed. The PP was not willing for the alternate sites proposed by him.

2. *In view of the discussions, the committee desired that the PP needs to re-look into the sites. Thus, the proposal was **deferred**.*

## **2.7 2x660 MW Coal Based Thermal Power Plant at Karchhana Block, Distt., Allahabad, in Uttar Pradesh by M/s Sangam Power Generation Company Ltd. – reg. extension of validity of EC**

1. The proposal is for extension of validity of EC accorded by the Ministry for the above project on 30.10.2009. The PP made a presentation and inter-alia provided the following information. The cost of the project is Rs. 6,500 Crores and the expenditure incurred till 31.08.2014 is Rs. 887.47Crores

2. Regarding the project implementation status, the project was awarded to PP by Uttar Pradesh Power Corporation Limited (UPPCL) based on competitive bidding process vide Letter of Intent (LOI) dated 20.02.2009. 'Power Purchase Agreement' executed between PP & the Procurers (5 Discoms of UPPCL, namely MVVNL, PaVVNL, PVVNL, DVVNL and KESCO), to provide total required land for the proposed thermal power project. The requisite land admeasuring 555.63 Ha. was allotted by UPPCL. Land deed of conveyance was executed for 273.48 Ha of land on 23.02.2010, and for 239.473 Ha of land on 05.08.2010. To meet the capital investment for the Project, necessary equity and debt have been tied up. The financial closure for the project was achieved by 12.08.2010. Orders for BTG (Boiler & Turbine Generators) equipment were placed with L&T on 23.07.2010. An advance of Rs.313 crores was also released to the contractor (L&T) as per terms & conditions stipulated in the Letter of Award.

3. Regarding the major reasons for delay in implementation of project, efforts were made to commence the work at the project site on various occasions starting 11.12.2010, 1.12.2011 and recently on 7.9.2014. However, the work could not be started, as section of land owners/villagers were opposing the commencement of work and resorted to violent agitation to stop the activities at site. The PP has reported all the law and order problems and its effect on starting construction activities to UPPCL/District Administration at various levels from time to time.

4. A section of land owners approached to Hon'ble High Court of Allahabad, opposing the land acquisition for establishment of Thermal Power Plant. Hon'ble High Court of Allahabad vide its Order dated 13.04.2012, quashed the land acquisition done vide land acquisition notification dated 23.11.2007 under Section 4 read with Section 17(1) and 17(4) of the Act as well as the declaration under Section 6 of the Act dated 3.3.2008 subject to refund of compensation, if any, received by the petitioners. A Notification in this regard was published in two local newspapers Hindustan and Dainik Jagran on 25.9.2012 to refund the compensation within 30 days. However, none of the land owners turned up to refund the compensation. The Hon'ble High Court of Allahabad, also, ordered to State Government to proceed afresh for acquisition of land relating to relevant villages of Tehsil Karchhana, District Allahabad in accordance with law.

5. Regarding the actions taken by District Administration & UPPCL to sort out issues regarding land acquisition, Principal Secretary (Energy), GOUP, vide its letter, dated 23.10.2013 to District Magistrate, Allahabad, wherein, it has been mentioned that, to comply with Hon'ble High Court's decision, a Notification in this regard was published in two local newspapers, to refund the compensation within 30 days. However, as none of the land owners turned up to refund the compensation, construction work can be started on that land. District Magistrate and Developers can negotiate with land owners, not accepted compensation and their compensation has been deposited in RD with State Govt., for relocation on mutual consent basis, within the acquired land, so that project activities won't get affected.

6. Out of 1,942 affected land owners/farmers owning 512.592 Ha of land under acquisition, 1,850 land owners owning 490.673 Ha of land had given consent and accepted the compensation as per communication dated 12.11.2013 received from District Magistrate, Allahabad. With persistent persuasion thereafter, the number of these distraught landowners/farmers has been reduced from 92 to only 33. More so, out of these 33 land owners, 17 have given consent for relocation of their land outside the plant boundary. UPPCL has tried land acquisition through negotiations with the land owners vide letter dated 28.11.2013. As a follow up, UPPCL vide its letter to PP dated 22.7.2014 has issued minutes of meeting dated 11.7.2014 chaired by Principal Secretary (Energy), GOUP wherein, it has been mentioned that, the remaining land owners be persuaded to take compensation with interest or get their land relocated outside plant boundary. Principal Secretary (Energy), in pursuance to the above, issued directions to DM to proceed with the formalities for exchange of land under section 161.

7. *The Committee noted that the land issue is not yet completely resolved. The Judgment of Hon'ble High Court needs to be submitted along with its compliance. The latest operational LoA/FSA for coal was also sought. The proposal was accordingly **deferred**.*

## **2.8 1600 (2x800) MW Coal Based Power Project at Village Dherand & Shahpur, Taluka Alibaug, District Raigarh, in Maharashtra by M/s The Tata Power Co. Ltd. – reg. extension of validity of EC**

1. The proposal is for extension of validity of EC accorded by the Ministry for the above project on 09.12.2009. The PP made a presentation and inter-alia provided the following information.

2. Regarding current status of the project, Land (total land 418 Hectares): Pass-through acquisition by Maharashtra Industrial Development Corp. (MIDC) / Govt. of Maharashtra. Private Land (387.75 Hectares): Acquisition of entire private land for the project is peacefully completed by MIDC/ GoM. Possession of land transferred to Tata Power on 24.11.2014. Govt. Land (29.19 Hectares): Transfer of Govt. Land to MIDC is at final stage of approval with Govt. of Maharashtra and transfer of land to Tata Power is expected by December, 2014. The lease agreement for the entire land is expected to be completed by December, 2014. It is envisaged that Unit I will achieve Full load operation & COD in 48 months from Zero date and Full load operation & COD for 2<sup>nd</sup> unit will be achieved in 4 months after 1<sup>st</sup> Unit COD.

3. Consent to Establish was received from Maharashtra Pollution Control Board (MPCB) and Environment & CRZ clearance was received from MoEF. Water front Permission was accorded by Maharashtra Maritime Board (MMB) and Raw Water allotment done by MIDC for 14 MLD of raw water. R&R Agreement was signed with GoM and NoC for the project was received from Gram panchayat. Chimney & NDCT height clearance was accorded by Airport Authority of India & Ministry of Defence. An expenditure of about Rs. 260 crores was incurred towards project till date which includes Rs. 2.34 crores for CSR activities in the area of Enhancing Employability and Livelihood, Inclusive Growth and Sustainable Development, Education and Health.

4. Regarding environmental status of the area, no new large project has taken up in the area till date. 4000 MW TPP was proposed by Maharashtra Energy Generation Ltd. (MEGL) adjacent to the project. Cumulative impact assessment for the same was done & submitted for grant of EC. However, MEGL project has been shelved.

5. Regarding reasons for delay in implementation of the project, Land Acquisition for the project is being done under Maharashtra Industrial Development Act, 1961 (MID act) by Maharashtra Industrial Development Corporation (MIDC)/GoM. Land acquisition adhering to MID Act provisions, all relevant legal provisions and in achieving a peaceful process took longer time. A Writ Petition was filed in Hon'ble Bombay High Court (HC) by 5 out of 2132 PAPs in 2010. The same was dismissed by High Court in favour of the project in 2012. The Order of High Court was challenged by the Petitioners in Hon'ble Supreme Court in 2012 and the Petition is still not admitted. Next hearing in the Supreme Court is on 2.12.2014.

6. *The Committee noted that the Ministry has received a representation from Mr. Debi Goenka, from an organization called 'Conservation Action Trust', Mumbai against the project. The reply of PP in this regard was sought. The reply from PP on all the issues raised in the representation has been received in the Ministry vide letter dated 11.12.2014, however, this needs to be discussed in the next EAC meeting.*

7. *Further, the Committee had sought information regarding the Latest operational LoA/FSA for coal and Details of CSR activities undertaken & proposed along with budgetary break up. This information has also been submitted by PP vide letter dated 11.12.2014.*

8. *In view of the above information submitted, the same would be discussed in the next EAC meeting for making a recommendation.*

**2.9 Expansion of existing Coal Based Thermal Power Plant by addition of 2x660 MW (Unit 3 & 4 ) at Village Banaharpali, District Jharsuguda in Odisha by M/s Odisha Power Generation Corp. Ltd. (OPGC) – reg. extension of validity of EC**

1. The proposal is for extension of validity of EC accorded by the Ministry for the above project on 04.02.2010. An amendment in the EC conditions was accorded on 22.01.2014. The PP made a presentation and inter-alia provided the following information.

2. Regarding current status of the project, land is in physical possession except land for ash disposal which is at an advanced stage of acquisition. Consent to Establish was received from SPCB on 28.08.2010 and Forest Clearance in place. Stack Height Clearance was received on 15.03.2010. EPC contracts were executed with BHEL & BGRE and Engineering & Construction works were commenced from July, 2013. PPA for selling 50% power was signed with GRIDCO and approved by OERC. Agreement for Long Term Open Access was executed with PGCIL. The debt financing for the project was secured from PFC and REC and debt draw down started. An amount of around Rs. 703 Crores has been spent as on 21.10.2014 with a further committed investment over Rs. 5000 Crores. The details of construction activities of Unit 3 and 4 along with photographs were presented.

3. Green belt has been developed in 34.2% of the total plant and colony area. Percentage of survival of trees is 72.4%. Further, OPGC will developed green belt consisting of three tier plantation of native species around the plant and maintain the density not less than 2500 per Ha with survival rate not less than 70%. A common Green Endowment Fund shall also be created and interest earned out of it shall be used for development and maintenance of green belt. The photographs of green belt development undertaken were also submitted. An amount of Rs. 47.74 lakhs was incurred for CSR activities for the expansion project during 2012-14. The budget earmarked for one time capital cost within next five years for CSR activities in the area of education, health, drinking water etc. for the expansion project is Rs. 24.36 crores and the recurring expenditure per annum will be Rs. 4.87 crores.

4. Regarding the reasons for delay, Manoharpur & Dip-side Manoharpur coal blocks were allocated by MoC through Govt. Dispensation basis. The coal blocks were put under “No-Go” category for almost three years which was withdrawn in August, 2012 by MoEF. Considering the huge investment and risk involved, the start of construction of the Power Plant got delayed.

5. *Based on the information and clarifications provided, the Committee noted that the project is in an advance stage of implementation and decided that, in public interest, the request for extension can be agreed to in accordance with the provisions of EIA Notification, 2006. The Committee further recommended that additional conditions which were earlier not prescribed but relevant now be stipulated while issuing the extension of validity.*

**2.10 2x350 MW Coal Based Thermal Power Plant of IBEUL at Sahajbahal Distt. Jharsuguda, Odisha by M/s Ind-Barath Energy (UTKAL) Ltd. - reg. extension of validity of EC**

1. The proposal is for extension of validity of EC accorded by the Ministry for the above project on 30.11.2009. The PP made a presentation and inter-alia provided the following information.

2. Regarding current status of the project, the Unit-I was 100% completed since July, 2014 but have obtained start-up power from PGCIL on 13.11.2014. Subsequent to the trial run, Unit-I is scheduled to be synchronized by 30.01.2015 and declare COD by April, 2015. The Unit-II synchronization is scheduled for 30.04.2015 and declare COD by July, 2015. The PP has signed PPA with Tamilnadu Electricity Board for fifteen years in Case-I bidding. The progress of various units/facilities along with photographs was presented. The photographs of green belt development and CSR activities undertaken were also submitted. An amount of about Rs. 4.63 crores was incurred during 2009-14 for CSR activities in the area of infrastructure, education, health, drinking water etc. Further, it is proposed to undertake CSR activities with a budget of Rs. 1.6 crores during 2015.

3. Regarding the reasons for delay, the Consent for Establishment was accorded by OSPCB on 13.08.2010 whereas the EC was accorded by MoEF on 13.11.2009. Hence, the PP lost nearly an year to start any project related work. Unpredicted monsoon, heavy rainfall and natural calamity namely “PHAILIN” also affected the project work for a period of six to seven months.

4. *Based on the information and clarifications provided, the Committee noted that the project is in an advance stage of implementation and decided that, in public interest, the request for extension can be agreed to in accordance with the provisions of EIA Notification, 2006. The Committee further recommended that additional conditions which were earlier not prescribed but relevant now be stipulated while issuing the extension of validity.*

**2.11 1X700 MW (UNIT-3) Super critical Coal Based Thermal Power at Village Kudatini, in Bellary Taluk & Distt. in Karnataka by M/s Karnataka Power Corporation Ltd. (KPCL) - reg. extension of validity of EC**

1. The PP and their environmental consultant, Bhagavathi Ana Labs Pvt. Limited, Hyderabad made a presentation on the above proposal and inter-alia provided the following information. EC was accorded by MoEF for BTPS Unit-3 on 17.11.2009 for 1x600 MW coal based sub critical technology TPP. An amendment in EC for change in configuration from 600 MW to 700 MW supercritical technology was accorded on 18.05.2010. The conditions

pertaining to pre-construction phase have been complied and the conditions that are to be complied during engineering & construction are being meticulously complied.

2. Regarding current status of the project, the construction work is awarded to M/s BHEL on 09.04.2010 on EPC basis at the negotiated price of INR 3700 Crores and the work is in progress. The total cost of the project is INR 4686 Crores and financial progress achieved up to 30.10.2014 is INR 3567.00 Crores. It is proposed to commission the Unit-3 during March 2015. The progress of various units/facilities along with photographs was presented.

3. Ministry of Coal vide Notification dated 06.09.2013 has allocated 382 million tonnes of coal to KPCL from Deocha-Pachami Dewanganj-Harinsingha coal block in the State of West Bengal. MoC has been requested vide letter dated 07.10.2013 for allocation of tapered linkage till the coal from the allotted coal block is materialized. M/s. Mahanadi Coal Fields Ltd. vide letter dated 18.09.2014 has requested KPCL to deposit an amount of Rs. 19,24,44,000/- either in the form of DD or in the form of BG as a security deposit valid up to Sept. 2015 for entering in to MoU for supply coal from Kudla/Basundhara Mines to Bellary TPS Unit- 3. KPCL has furnished a BG for the above said amount valid up to 30.09.2015 and MoU has been signed with M/s. MCL on 3.11.2014 for supply of coal to BTPS Unit- 3.

4. About 190 hectares of afforestation/ green belt has already been developed and it is proposed to take up afforestation in 30 hectares during 2015-16. The committee had sought *the pictures of green belt development undertaken, which has not been submitted by PP till date. Hence, it is desired that the factual status of the existing green belt vis-à-vis the project area and a detailed action plan for the green belt development shall be submitted to the Ministry on a regular basis.*

5. An amount of about Rs. 2.34 crores was incurred till November 2014 for CSR activities. Further, it is proposed to undertake CSR activities with a budget of Rs. 3.5 crores and Rs. 5.16 cores during 2014-15 & 2015- 16 respectively. A committee consisting of KPCL officers and village panchayat officials is formed under the chairmanship of Deputy Commissioner, Bellary District to finalize the major CSR works to be taken up during 2014-16 and the list of works will be furnished to the Ministry as soon as the same is finalized.

6. *Based on the information and clarifications provided, the Committee noted that the project is in an advance stage of implementation and decided that, in public interest, the request for extension can be agreed to in accordance with the provisions of EIA Notification, 2006. The Committee further recommended that additional conditions which were earlier not prescribed but relevant now be stipulated in addition to the following specific condition while issuing the extension of validity.*

- i) Green Belt consisting of three tiers of plantations of native species around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 80 %. *Only native species shall be planted and the green belt development shall be expedited. The factual status of the existing green belt vis-à-vis the project area and a detailed action plan for the green belt development shall be submitted to the Ministry's Regional Office on a regular basis.*

**2.12 2X800 MW Coal Based Thermal Power at Village Yermarus near Vadloor, in Distt. Raichur, in Karnataka by M/s Karnataka Power Corporation Ltd. - reg. extension of validity of EC**

1. The PP and their environmental consultant, Bhagavathi Ana Labs Pvt. Limited, Hyderabad made a presentation on the above proposal and inter-alia provided the following information. EC was accorded for the above project on 17.11.2009. The conditions pertaining to pre-construction phase have been complied and the conditions that are to be complied during engineering & construction are being meticulously complied.

2. Regarding current status of the project, 870 acres of land acquired by Karnataka Industrial Area Development Board (KIADB) was allotted to KPCL for the Power Project. 2.34 TMC of water has been allotted by Karnataka Govt. to be drawn from River Krishna which is 12 km from the project site. The construction work is awarded to M/s BHEL on 09.04.2010 and the work is in progress. The total cost of the project is INR 9015 Crores. Financial progress achieved up to 30.10.2014 is INR 7604.00 Crores. It is proposed to commission the Unit-1 in March 2015 and Unit-2 June 2015. The progress of various units/facilities along with photographs was presented.

3. Ministry of Coal vide Notification dated 06.09.2013 has allocated 382 million tonnes of coal to KPCL from Deocha-Pachami Dewanganj-Harinsingha coal block in the State of West Bengal. MoC has been requested vide letter dated 07.10.2013 for allocation of tapered linkage till the coal from the allotted coal block is materialized. Ministry of Power vide O.M. dated 24.02.2014 has conveyed the decision of CCEA dated 21.06.2013 to MoC and has requested to advice CIL that coal may accordingly be supplied in order to implement the CCEA decision. Coal supplies may be made to the extent of PPAs. Without coal supplies, these projects would become non-performing assets. MoC is being persuaded to provide coal linkage to the project on MoU basis.

4. Afforestation works are being taken up in consultation with State Forest Department. An amount of Rs. 2.0 crores is earmarked for afforestation/ green belt development during 2014-16 and 90,000 plantations are proposed to be raised by trench mound and pit planting method. *The committee had sought the pictures of green belt development undertaken, which has not been submitted by PP till date. Hence, it is desired that the factual status of the existing green belt vis-à-vis the project area and a detailed action plan for the green belt development shall be submitted to the Ministry on a regular basis.*

5. An amount of about Rs. 2.34 crores was incurred till November 2014 for CSR activities. Further, it is proposed to undertake CSR activities with a budget of Rs. 8.0 crores and Rs. 14.66 cores during 2014-15 & 2015- 16 respectively. A committee consisting of KPCL officers and village panchayat officials is formed under the chairmanship of Deputy Commissioner, Raichur District to finalize the major CSR works to be taken up during 2014-16 and the list of works will be furnished to the Ministry as soon as the same is finalized.

6. *Based on the information and clarifications provided, the Committee noted that the project is in an advance stage of implementation and decided that, in public interest, the request for extension can be agreed to in accordance with the provisions of EIA Notification, 2006. The Committee further recommended that additional conditions which were earlier not prescribed but relevant now be stipulated in addition to the following specific condition while issuing the extension of validity.*

- i) Green Belt consisting of three tiers of plantations of native species around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 80 %. *Only*

*native species shall be planted and the green belt development shall be expedited. The factual status of the existing green belt vis-à-vis the project area and a detailed action plan for the green belt development shall be submitted to the Ministry's Regional Office on a regular basis.*

**2.13 2x300 MW Murka Thermal Power Project at near Village Murka, in Mau Taluk, Chitrakoot Distt, in Uttar Pradesh by M/s. Creative Thermolite Power Project Ltd. – reg. extension of validity of ToR**

1. The PP and their environmental consultant, Vimta Labs Ltd., Hyderabad made a presentation on the above proposal and inter-alia provided the following information. ToR for preparation of EIA/EMP for the above project was accorded on 28.12.2011. Extension of TOR and change of co-ordinates was accorded by MOEF&CC vide letter dated 22-05-2014. TOR is extended upto 27-12-2014.

2. Environmental Baseline studies were carried out in pre-monsoon 2014 (March-May 2014). Socio-economic studies, detailed hydro-geological studies have been completed. Land acquisition is in process by M/s CTPPL and is being carried out on willing buyer & willing seller basis. Public Hearing was completed on 26-09-2014 near Murka Village. RITES had submitted Feasibility Report to North Central Railway, Allahabad (UP) and North Central Railway has accorded "In Principle" approval for railway siding.

3. Regarding the reasons for extension sought, Firm Fuel linkage applied vide letter dt. 30.3.2011 is not yet available from Ministry of Coal for indigenous coal. Alternatively, the PP is exploring use of imported coal till availability of indigenous coal for Environmental Clearance.

4. *Based on the information and clarifications provided, the committee recommended the extension of validity of ToR by one year as per the recent policy of Ministry dated 08.10.2014, wherein an outer limit of **four years** was prescribed.*

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

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**Terms of Reference (TOR):**

- i) Vision document specifying prospective long term plan of the site, if any, shall be formulated and submitted.
- ii) Certified compliance report from the Regional Office of MoEF for the conditions stipulated in the 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, along with 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/ organization 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 along with 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 utilization 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.
- xxxii) 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.
- xxxiii) 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.
- xxxiiii) Assessment of occupational health as endemic diseases of environmental origin shall be carried out and Action Plan to mitigate the same shall be prepared.
- xxxv) 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.
- xxxvi) 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.
- xxxvii) A list of industries existing and proposed in the study area shall be furnished.
- xxxviii) 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 modeling 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.
- xxxix) 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 auxiliary 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.
- xliv) 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.

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

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**Additional TOR for Coastal Based TPPs:**

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

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

(Dr. C.R. Babu)  
Vice Chairman (Acting Chair)

(Shri T.K.Dhar)  
Member

(Shri A.K. Bansal)  
Member

(Shri J.L Mehta)  
Member

(Shri N.K. Verma)  
Member

(Dr. Ratnavel)  
Member

(Shri G.S. Dang)  
Member

(Shri S.S Bala)  
Member

(Dr. Saroj)  
Member Secretary