

MINUTES OF THE 20th MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON ENVIRONMENTAL IMPACT ASSESSMENT OF THERMAL POWER & COAL MINING PROJECTS

The 18th Meeting of the reconstituted Expert Appraisal Committee (Thermal Power) was held on **28th – 29th August, 2014** at Narmada Meeting Hall, Jal wing, Ground floor, Indira Paryavaran Bhawan (new building), Jorbagh, New Delhi-110003. The members present were:

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

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

Shri T.K.Dhar, Shri A.K. Bansal, Dr. S.D. Attri, Dr. C.B.S Dutt and representative of WII could not be present.

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

The Minutes of the 18th EAC meeting held during 31st July -1st August, 2014 were confirmed with minor corrections. Further, the MoM of 13th EAC held during March, 2014 shall be amended in Para 5 (ii) of Item 3.1 of M/s Binani Cement Ltd. i.e. 500 µg/m³ shall be read as 500 mg/m³.

Item No. 2: CONSIDERATION OF PROJECTS

2.1 2X660 MW Coal Based Bilhaur Super TPP at Villages Dorva Jamauli, Madara Rai Guman, Nadeeha Khurd and Uttari in Bilhaur Taluk in Kanpur Nagar Distt., in Uttar Pradesh by M/s. NTPC Ltd. – reg. EC

1. The ToR for preparation of EIA/EMP report for the above proposal was accorded on 26.07.2011 and extension of validity of ToR was accorded on 03.12.2013. The EIA/EMP report after conducting Public Hearing on 18.09.2012 was submitted to the Ministry for consideration of environmental clearance. *The committee noted that the EIA/EMP report was prepared by M/s Vogue Construction and Consultancy Services Private Limited, Delhi, who are accredited only for Category 'B' Thermal Power Plants and recommended that Ministry do the needful in this regard.* The project proponent made a presentation and inter-alia provided the following information.

2. The total land requirement is 1255 acres and the acquisition is under process. The State Govt. vide letter dated 25.01.2011 has accorded in-principle commitment for the availability of land. The coordinates of the Main Plant are 26° 45' 05.00" N to 26° 45' 55.77" N & 80° 04' 02.53" E to 80° 04' 48.48" E and that of Ash Pond are 26° 43' 01.54" N to 26° 43' 33.75" N and 80° 02' 32.01" E to 80° 03' 42.29" E. No forest land and tribal land is involved in the project site. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Heritage Sites and Reserve Forests within 10 km radius of the project site. River Ganga flows at a distance of 5 km East of

the project site and the project site is devoid of Nallahs and Streams. The project cost and the EMP cost will be about Rs. 7,315 Crores and Rs. 700 Crores respectively. There is no litigation pending against the project.

3. The coal requirement is 7.1 MTPA which will be met from Kudanali-Luburi OC Mine in Talcher Coalfields (5.3 MTPA), Chandrabila OC/UG Mines (0.5 MTPA) in Talcher Coalfields and existing Coal Blocks of NTPC (0.8 MTPA). MoC allocated basket of four mines for NTPC Projects vide letter dated 25.07.2013 and further communicating the end-use projects vide letter dated 24.09.2013. *The PP is yet to apply for EC and FC of the coal blocks.* The expected coal characteristics are ash content - 34 %, Sulphur - 0.5% and GCV- 3,400 Kcal/Kg. The water requirement is 4750 m³/hr and Irrigation Dept. of Govt. of Uttar Pradesh vide letters dated 24.01.2011 and 04.03.2014 has accorded in-principle commitment for supply of 55 cusecs of water from Kanpur Branch of Lower Ganga Canal. Closed Cycle cooling system with cooling towers will be installed. The COC of the cooling water system has been optimized at 4 and entire cooling water blow down is proposed to be used for ash handling, service water system, coal handling and fire fighting. Decanted water from the Ash Dyke will be re-circulated / reused in Ash Handling Plant.

4. It is estimated that about 8000 TPD (6400 TPD of fly ash and 1600 TPD of bottom ash) of ash i.e. about 2.6 MTPA would be generated. High Concentration Slurry Disposal (HCSD) System for fly-ash and conventional slurry disposal system with ash water recirculation for bottom ash will be adopted. To assess ash utilization potential in the vicinity of proposed plant, a market survey was undertaken covering cement plants located within 100/ 300/ 500 Km, brick manufacturing plants and major construction activities within the 100 Km radius. Based on survey report, the proposed avenues for ash utilization from Bilhaur STPP will be Cement & Concrete (RMC, Cement units - 1.2 MTPA), Road & embankment (PWD, NHAI, Kanpur Bodies/ Agencies - 0.5 MTPA), Landfill/ Wasteland (Bilhaur STPP - 0.4 MTPA) and Bricks & blocks (0.5 MTPA). *The committee noted that Land/Waste land filling of fly ash is not permitted and hence alternate avenues shall be explored.*

5. A single stack with twin flue of 275 m height shall be provided. NOC was accorded by AAI on 11.07.2012. Air Quality monitoring was done at 04 locations for 12 months i.e. from September 2011 to August 2012, representing all four seasons i.e. Post-monsoon, Winter, Pre-monsoon & Monsoon. The study area is devoid of any major industry, except for small scale industries along the GT Road. Further, there are no major industries proposed in the study area, for which TOR/ EC has been accorded by MOEF. The Resultant GLCs for PM10, SO2 and NOx after implementation of Bilhaur STPP is predicted to be within the National Ambient Air Quality Standards (2009).

6. Public Hearing (PH) for the project was held on 18.09.2012. The issues raised during the PH include compensation for land, effect of ash on the surrounding area, ash utilization, employment, greenbelt development, CSR activities. The committee discussed the reply given by the PP and the proposed action plan for various issues.

7. Based on the Socio-economic Survey conducted by G. B. Pant Social Science Institute, Allahabad (UP) a detailed plan to undertake various CSR activities in the area of drinking water, sanitation, drains, education, health, community centre, Kissan Bhawan play ground, Solar Street Light, restoration of acquired Common Property Resources (CPR) have been prepared in the R&R Plan for Bilhaur project. The budget for Community Development and Welfare Activities would be about Rs. 36 crores.

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

(i) Status of EC and FC of the coal blocks.

(ii) Details of land use.

(iii) The drainage map of the area along with the details.

(iv) Plan for channeling the entire surface drainage of the project site into the reservoir without disturbing the natural drainage pattern of the area.

(v) Permission from the Competent Authority for drawl of ground water during construction.

(vi) Water and wastewater balance shall be revised and submitted considering the fly ash utilization within and beyond 4 years. Accordingly the COC shall be revised.

(vii) Revised fly ash utilization plan excluding Land/Waste land filling

2.1A Continuation of permission for disposal of fly ash generated from 460 MW TPP of Talcher TPP of M/s NTPC Ltd. into mine void of South Balonda OPC of M/s Mahanadi Coalfields Ltd., in Talcher Coalfields, Distt. Angul, Orissa.

1. Permission for the above pilot project proposal was accorded by the Ministry on 05.09.2013 for a period of one year, subject to various studies on the impacts of ash disposal in mine voids.

2. NTPC presented the work done by NEERI and BARC on the characteristics of ground and surface waters and soils, fly ash characterization, transportation of solutes with ground water using transport model, bioaccumulation and biomagnifications of trace elements in trees growing at TTPS and other mines, radioactivity of fly ash and trace metals in ground water. All the above studies, except for radioactivity and trace metal content in ground water, were carried out by NEERI. The BARC carried out studies on radioactivity of fly ash and not from the dump and trace element analysis in void water and adjacent ground water.

3. The Committee noted that basic information regarding the mine and piezometric data of the ground water beneath the mine seems to be missing. The experimental design did not include the voids filled with fly ash without lining in any of the above mentioned studies. Therefore, all studies carried out were meaningless, as these studies did not include the characterization of the source i.e. mine void filled with fly ash. What is required for making a policy decision are the following:

- i) Chemical constituents of fly ash dumped in the mine void at different depths.
- ii) The water quality at the bottom of the fly ash dumped void and also at different depths if, available from the depths of the fly ash dump corresponding to the levels of the unconfined, semi confined and confined aquifer levels in the area.

- iii) The bioaccumulation and biomagnifications of trace elements in plants (herbs, shrubs and trees) and the invertebrates and also aquatic fauna from the mine void filled with fly ash should be investigated.
- iv) The biota (herbs, shrubs and trees of plants and soil invertebrates and other animals) inhabiting the areas located at 500 m, 1000m , 2000 m, 5000 m and 10, 000 m from the mine void filled with fly ash should also be studied.
- v) Ground water samples at different depths using piezometers should be analyzed from all the areas mentioned under item iv
- vi) The distribution pattern of unconfined, semi confined and confined aquifers in the areas located within 10 km radius of the mine void filled with fly ash should be mapped and their connectivity with mine void filled with fly ash shall be investigated,
- vii) The direction of the movement of the ground water in all the three aquifers should be investigated.
- viii) The model of solute transportation should be based on the results obtained from the above mentioned studies.
- ix) Appropriate controls (reference studies) should be used.
- x) Radioactivity of fly ash sampled at different depths from the mine void fly ash dump should be analyzed.
- xi) In all the above studies, the concentration of trace metals should be assessed.

In view of above, the committee recommended that on a temporary basis for further six months/one year, the disposal may continue, by which time the studies may be continued/redone and appraised by the committee.

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

1. The proposal was earlier discussed in the 72nd Meeting of the EAC (Thermal) held during **April 22-23, 2013**, the minutes of which are as under:

Quote “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 21⁰43’54.57” N to 21⁰44’53.37” N and Longitude 83⁰15’55.52” E to 83⁰16’45.37” 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 21⁰44'01.24" N to 21⁰44'22.94" N and Longitude 83⁰16'02.88" E to 83⁰16'19.24" 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.” **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 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 from 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 in 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.*

2.3 Expansion of Talcher Thermal Power Project (2X660 MW-Stage-III) at Angul Distt., in Orissa by M/s. NTPC Ltd. – reg. ToRs

1. The project proponent made a presentation and provided the following information. ToR for the above proposal was accorded on 24.08.2009 and an amendment on 31.03.2011. The ToR

validity has lapsed on 23.08.2013. Public Hearing was conducted on 29.06.2011 based on draft EIA report. However, application for EC could not be submitted due to non-availability of firm coal linkage. The present proposal is for fresh approval of ToR and exemption of Public Hearing is also requested.

2. The corner coordinates of main plant and township are from Latitude 20°54'02" N to 20° 55' 05" N and Longitude 85°12'10" E to 85°13'00" E. No additional land is envisaged for proposed expansion (Stage-III) of plant & township and the proposed plant facilities would be accommodated within the land available in the existing TPP [Stage-I (4 x 60 MW) and Stage-II (2 x 110 MW)] and township of Talcher TPS, Stage-I & II. Total required land for proposed expansion project is 340 acres (out of 997 acres land of existing project) already available with NTPC. However, about 6 acres of (preferably govt. land) land near upstream of Samal Barrage for make-up water pump house will be required/acquired. About 223 acres of land would be required for Right of Way (ROW) of about 30 m wide corridor and about 30 Km long pipeline. There is no ecologically sensitive area such as Biosphere Reserve, National Park and Wildlife Sanctuary within a radius of 10 Km. from the site. Archeological Sites i.e. Anantashayana Vishnu (sleeping Vishnu) carved on the rocky bed of Brahmani River at Sarang and Kankesvara Mahadev temple & a group of temples at Astasmhbu Complex at Kualo are located at a distance of about 7.5 km and 10 km (aerial) respectively from plant boundary.

3. The proposed TPP will be based on super-critical technology. The coal requirement is about 7.5 MTPA corresponding to 90% PLF considering GCV of 3500 kcal/kg and will be sourced from Basket of Coal Mines of NTPC. The water requirement is around 4700 m³/h with Ash Water Recirculation System and will be sourced from Samal Barrage on River Brahmani, which is about 30 km. In principle commitment of 52.8 cusecs water was accorded by Water Resource Department, Govt. of Orissa vide letter dated 16.03.2010. It is proposed to dispose the ash in abandoned mine voids.

4. *Based on the information provided and the presentation made, the Committee recommended the standard TORs (as applicable) at **Annexure-A1** for undertaking detailed EIA study and preparation of EMP in addition to the specific TOR as under.*

- *Compliance to the Action Plan for the CPA prepared by SPCB/CPCB.*
- *NoC from the Archaeological Survey of India, if the Archeological Sites within 10 km are notified Archeological Sites.*

2.4 1600 MW (2x800 MW) coal based Super Critical Bansagar Thermal Power Project in Sakhi Village, Tehsil Beohari, District Shahdol in Madhya Pradesh by M/s. Bansagar Thermal Power Company Ltd. – reg. ToRs

1. The project proponent and their environmental consultant, Greencindia Consulting Private Limited, Ghaziabad made a presentation and provided the following information.

2. The total land requirement is 1107 acres (448 ha) of which the ash disposal area is 300 acres and township area is 70 acres. There is no forest land involved in the project site. The corner coordinates of the project site are from Latitude 24°01'53.2" N to 24° 03' 7.1" N and Longitude 81°25'4.1" E to 81° 26' 37" E. Three probable locations for the project sites were assessed within Shahdol District and the site at Village Sakhi was finalized considering the displacement of families, involvement of agriculture land and forest land etc. First order streams run right through the middle of the proposed site, which will be diverted. There are no National

Parks, Wildlife Sanctuaries, Biosphere Reserves and Heritage sites within a radius of 10 Km from the site. River Jhanpar and Banas flow at a distance of 4 km and 5 km respectively from the project site and Ten Reserve Forests are located within 10 km radius. The project cost is about Rs. 9,546 crores.

3. The proposed TPP will be based on super-critical technology. The coal requirement is about 6.9 MTPA considering 100% coal having GCV of 4000 kcal/kg at a PLF of 85%. Application for allocation of Brahmanbil Coal Block, Talcher Coal Field, District Angul, Odisha has been submitted to Ministry of Coal through Govt. of M.P. on 20.01.2014. The water requirement is around 4742 m³/h (47 cusecs) and will be sourced through pipeline from Bansagar Reservoir which is about 30 km. The water allocation is also present. A reservoir at site with capacity of 5 days storage will be made. It is proposed to install a closed cycle re-circulating cooling water system using natural draft cooling tower, considering 9⁰C temperature rise across the condenser.

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

(i) Need to relook for an alternative site as the site – 3 is in command area.

(ii) Plan for preserving the surface drainage pattern of the area.

(iii) Reply to the representation received from ERC.

2.5 2x660 MW Super critical TPP at Village Jamuchakada, Dist. Dhenkanal, Orissa by M/s. Chambal Infrastructure Ventures Ltd. – reg. ToRs

At the outset, the committee noted that out of the three alternate sites proposed, none of them is suitable for siting of a TPP. One site was within Wildlife Sanctuary, the second site has already been allocated to NTPC, the third site is majorly double crop agricultural land. Therefore, only one site cannot be the criteria for appraising the project. In view of this, the committee **deferred** the proposal and could be reexamined only after exploring atleast two proper alternate sites.

2.6 Construction of New ash pond on 111 ha. Land for Satpura TPS in Sarni, Dist. Betul, Madhya Pradesh by M/s M.P Power Generation Co. Ltd. – Re-consideration.

1. The proposal was earlier discussed in the 8th Meeting of the EAC (Thermal) held during **January 9-10, 2014**, the minutes of which are as under:

Quote “The proposal is for construction of new ash pond on 111 ha. Land for Satpura TPS in Sarni, Dist. Betul, Madhya Pradesh by M/s M.P Power Generation Co. Ltd. (MPPGCL). The PP has made a presentation and provided the following information:

MPPGCL has a generating capacity of 1392.5 (1X62.5, 1X200, 3X210 and 2X250) MW at Satpura TPS in Sarni, M.P. MPPGCL, STPS has started functioning way back in the year 1967-70 with five units of 62.5 MW capacity and later on during 1979-83, 1X200, 3X210 MW units were commissioned. EC was accorded by MoEF for 2X250 MW extension units on 27.02.2009 which inter-alia stipulates that the existing units no. 1-5 shall be decommissioned within one year of the commissioning of the proposed units. In compliance to the same, Units 2-5 have been decommissioned in 2013.

The capacity of existing ash bund is almost full and likely to be exhausted by March 2014. The fly ash utilization was 25.866% in 2012-13. MoEF has granted approval for diversion of 111.00 ha of forest land for construction of new ash bund on 13.10.2009. The construction of ash bund is nearing completion except some finishing work. NEERI, Nagpur has carried out studies for ground water contamination and its remedial measures due to construction of ash bund and allied works of ash disposal at STPS, Sarni and found no contamination of ground water. The 111 hectare land is just adjacent to the existing ash bund (to be reclaimed and rehabilitated).

The Committee noted that the Fly ash utilization achieved in the power plant is only about 26%. That since the existing units are not able to comply with the fly ash utilization notification, other avenues/options shall need to be explored for fly ash utilization before the request can be agreed to. The Committee therefore declined to agree to the present request.” Unquote

2. The PP vide letter dated 10.06.2014 inter-alia has submitted that all efforts are being made to achieve maximum fly ash utilization. For the new unit, it is committed to achieve 100 % fly ash utilization as per the Fly Ash Utilization Notification, 2009. The PP also made a presentation and inter-alia informed that MoU was executed on 25.08.2014 for a period of 30 years with M/s. RSD Trans Connect Ltd., Satna for supply of fly ash (5 lakh MT in the first year and more in the subsequent years) for cement grinding / blending and packaging units. An order was placed to M/s. Sanprifly, Indore Ash Supply Company on 20.08.2014 for supply of 5 lakh MT of pond ash from ash dam within 2 years period. Efforts are being made to increase ash utilization with the help of PWD, Municipal Corporation, Road Construction Authorities, Brick Manufactures etc. The ash utilization in the year 2013-14 is 39.01 % and from January – March 2014 is 56.96%. M/s. WCL has been requested to utilize ash for stowing of mines and the matter is sub-judice before Hon’ble, NGT, Bhopal.

3. *After perusal of the presentation made and detailed discussion, the committee recommended that the 130 ha ash bund meant for Unit 10 and 11 (2X250 MW) may be utilized, by which time the PP shall achieve 100% fly ash utilization. Hence, the proposal for new ash pond of 111 ha is not agreed to.*

2.7 2340 MW Mejia Thermal Power Station at Durlovpur, Bankura, West Bengal by M/s. Damodar Valley Corporation Ltd - reg. permission to acquire additional land for construction of new ash pond - re-consideration

1. The proposal was earlier discussed in the 1st Meeting of the EAC (Thermal) held during **September 19-20, 2013**, the minutes of which are as under:

Quote “The matter was earlier considered in the 54th Meeting of the Committee held during August 6-7, 2012, wherein it was informed that M/s Damodar Valley Corpn.Ltd. was accorded environmental clearance for its 2x250 MW Mejia Thermal Power Station (Unit-5&6) at village Durlavpur, in Bankura Distt., in West Bengal on 10.02.2004. M/s DVC had also informed that no additional land was acquired during the capacity addition comprising of 1x210 MW (Unit-4); 2x250 MW (Unit-5&6); 2x500 MW (Unit-7&8). That Unit-1,2&3 comprising of 3x210 MW came into operation in the year 1996, 1998 and 1999 respectively.

M/s DVC further stated that during conception of the power project the existing ash pond was designed with no concept to enhance the holding capacity and raising of dyke cannot be undertaken. M/s DVC therefore sought permission for acquisition of 300 acres additional land for ash disposal.

The Committee in the said meeting noted that the ash utilization of the power station seem to be very poor resulting in acute mismanagement. That in accordance with the norms the total ash disposal area available (about 600 acres) seem to be enough.

M/s DVC stated that out of total ash pond available, only about 470 acres is effective ash pond area and balance is green belt and dykes. M/s DVC requested that consideration on merit for the addl. ash pond can be made as they are in a precarious situation since the design of old ash pond for safety considerations cannot be redone / refurbished by raising height of dyke.

The Committee considered the request of M's DVC and desired that full facts along with other details justification on merit shall be submitted by M/s DVC for further consideration. Accordingly the matter was deferred.

The matter was again taken up subsequent to request of M/s DVC vide its letter dated June 04, 2013.

The Committee noted that the additional land sought for new ash pond site entails diversion of forests land which is not an acceptable proposition. The Committee noted that application for diversion of forests land also is in its nascent stage and the project proponent is yet to apply for the same. That Committee further noted against 202.54 acres of additional land sought, only about 94 acres is non-forests land.

The Committee also noted that M/s DVC is in a stage where the power plant will soon required to be shut down due to non availability of mechanism of fly ash disposal. That the location of TPP in itself is such that there are no takers for Cement Plant consumption. That presently against 250 Lakh Million Tonne (LMT) of Fly ash generated, only about 68.5 LMT of fly ash is utilized.

The Committee decided that considering the location of the TPP and the consequent compelling reason for inability of better fly ash utilisation, as a special consideration and not as precedence, additional ash pond limited to the non-forests area of 94 acres can be permitted subject to submission firm action plan along with an undertaking for 100% fly ash utilization along with schedule."

2. On submission of action plan for 100% fly ash utilization, the matter was again placed before the EAC in the present meeting, wherein the PP made a presentation and inter-alia provided the following information.

3. CEA inspected the existing Ash Ponds of MTPS and advised DVC to review the proposal of land requirement. The revised proposal of additional land requirement to the tune of 202.54 acres (98.46 acres – non forest land & 104.08 acres - forest land) was accepted by CEA and recommended to MoEF for consideration. As desired by EAC, the detailed action plan for 100% fly ash utilization was submitted to MoEF on 17.04.2014 & DVC further requested MoEF for consideration of 104.08 acres of forest land to combat the present critical situation. DVC submitted the application for forest land, filled in Form – A, Part – I along with requisite documents to the Addl. PCCF & Nodal officer, Govt. of West Bengal on 17.07.2014 & Addl. PCCF has already taken up the issue with other officials including DM, Bankura, West Bengal.

4. The proposed additional pond is located in Mouzas Bankdaha and Latiaboni at Eastern part of the existing ash ponds of MTPS with Lat: 23⁰-26'-07" (N) and Long: 87⁰-08'-6" (E). The total land required is 213.39 acres (10.85 acres DVC own land + 98.46 acres non-forest land +

104.08 acres forest land), which is about 100 – 115 m above MSL. No forest exists except scattered trees over 104.08 acre forest land and there is no homestead land.

5. Regarding action plan for fly ash utilization, the Lafarge cement grinding unit located within MTPS premises having expansion program, demanded additional Fly Ash requirement of approx. 1000 MT/ day i.e. 3.5 Lac MT/year. Proposed construction of cement grinding unit by M/s Emami cement & M/s JK Lakshmi Cements near MTPS, require approx. 1500 MT/day i.e. 5 Lac MT/year. Cement Industries of North-Eastern States, through 2nd railway system – under construction, require approx. 25,000 MT/month i.e. 3 Lac MT/ year. After completion of the above activities, may be completed in 2018-19, total dry fly ash utilization would be to the tune of 19 to 20 Lac MT. After construction of new ash pond, holding capacity of it would be approx. 64 Lac MT. The holding capacity further increased by around 25 Lac MT after raising of existing ash dyke. These activities would be completed within 2020 & thus, creation of additional space would be approx. 80 Lac MT. Total utilization of dry fly ash & pond ash from the year 2018 & onwards would be 48 to 49 Lac MT against total ash generation of around 51 Lac MT. Thus, loading of ash in ash ponds would be minimized, around 2 to 3 Lac MT/year. In addition to above, further utilization of ash would be made in the expansion project of NHAI. Further utilization through Expression of Interest (EoI - in process). By all these activities, DVC MTPS could achieve efficient & effective ash management from the year 2020 & onwards.

6. *Based on the information and clarifications provided by the Project Proponent and detailed discussions held on all the issues, the Committee recommended permission for additional ash pond of 213.39 acres subject to the following conditions.*

(i) Forest Clearance shall be obtained for the forest land.

(ii) Thick green belt shall be developed all around the ash pond.

2.8 3x21 MW (OC) Natural Gas Based Thermal Power Plant of at Village Rokhia, District: Sepahijala, Tripura by M/s. Tripura State Electricity Corporation Ltd. (TSECL) – reg. ToR

1. The PP and their environmental consultant, SENES Consultants India Pvt. Ltd. made a presentation and provided the following information. Though capacity wise, the project falls under category 'B', due to attraction of general condition i.e. location of the project site within 10 km of the international boundary, the proposal is considered as category 'A' project.
2. EC was accorded by the Ministry to TSECL for 75 MW on 08.02.1988. Further, EC was accorded for extension of project i.e. Phase II & III (2x8 MW each) on 20.09.1991 in-lieu of the earlier capacity of 75 (10X7.5) MW.
3. TSECL submitted proposals for expansion by 2x21 MW and 1x21 MW on 06.01.1998 and 10.12.2003 (**However, no ECs were accorded to these units by the Ministry**). TSECL had installed a total of 9 units (6x8 MW and 3x21 MW) at different points of time. Four units of 8 MW each were de-commissioned in the Years 2002, 2006, 2007 and 2013. Another two units of 8 MW each are kept as standby and expected to be de-commissioned in 2015-16. Even though the installed capacity is 111 MW, at no point of time, the generation had exceeded the EC granted capacity and only 3x21 MW i.e. 63 MW would be operated.

4. *The EAC noted that the 3x21 MW units are operational. Perusal of the EC letters as detailed at Para 2 above it appears that the EC granted capacity is only for 32 MW against the installed capacity of 111 MW. As on date the installed capacity is 79 MW (2X8 + 3X21) and only 3x21 MW i.e. 63 MW would be operated.*
5. TSECL vide letter of its CMD dated 29.08.2014 informed that they have EC for 91 MW (75 MW as on 08.02.1988+16 MW as on 20.09.1991). It was also admitted that they are in violation of EC as pointed out by the EAC and understands that the proposal for 3x21 MW is not an expansion of the existing project. TSECL thus seeks amendment of EC and shall follow the guidelines of the Ministry in future.
6. *Based on the information provided and the presentation made, the Committee was of the view that PP needs to provide clarification regarding the installed capacity vis-à-vis EC granted capacity by the Ministry. The proposal was **deferred** and would be re-considered only after the said clarification is submitted by the PP.*

2.9 Addition of 6 MW Turbine to existing 2x18 MW Captive Power Plant (CPP) of Alathiyur Cement Plant at Alathiyur Village, Sendurai Taluk, Ariyalur Distt. Tamil Nadu by M/s. The Ramco Cements Ltd. – reg. ToR

1. The project proponent and their environmental consultant, Environmental System Consultants & Ambiente Lab Solutions Private Limited, Chennai made a presentation and inter-alia provided the following information. The Alathiyur Cement Plant (with both Lines I & II) is being operated with cement production of 8200 TPD or 3.0 MTPA. In January 2004, the PP has established 2 x 18 MW CPP (coal based; water cooled condensers) within the Cement Plant campus. Since the CPP's Project Cost was Rs.95.00 crores (<100 crores), EC was not required at that time.
2. The power demand of existing Plant operations and Township is 32 MW and the Auxiliary consumption of CPP is 4.2 MW. The activities on the expanded Cement Plant viz. Limestone Beneficiation Plant, Wagon Tippler, Stacker & Reclaimer, Bulk Loading, etc. need another 4 MW additionally. In recent days, RCL is forced to operate only one Line of Cement Plant based on the demand. However, power demand for operation of any one Line needs operation of both the Boilers/Units. To overcome this operational constraint, augmentation by 6 MW Turbine is proposed which will meet the additional 4 MW power demand and also enhance sustainable operation of one Cement Line with one Boiler/ Unit of CPP.
3. Total steam generation capacity of existing two Boilers (of 76 TPH each) is 152 TPH. Presently, steam requirement for 36 MW is only 148 TPH and there is a surplus steam capacity of 4 TPH unutilized now. Also, the Boilers can be overloaded @ 13% so as to generate steam @ 10 TPH per Boiler and total 20 TPH additionally. Thus, the existing Boilers can produce 176 TPH steam which can be used for the power generation of 42 MW from the existing 2 x 18 MW CPP. Accordingly, it is proposed to augment the power generation capacity by adding only 6 MW Turbine and the total power generation of 2 x 18 MW CPP will be 42 MW. Air Cooled Condensers will be installed for the proposed 6 MW Turbine.
4. No additional land is required for the proposed augmentation and will be within the existing premises. Presently 490 TPD of imported coal is being used and an additional 80 TPD is required for the proposed augmentation. The ash generation would increase by 12 TPD and would

be 100% utilized without any requirement of ash pond. The additional water requirement of 16.3 cum/day will be met from the consented quantity of 3,843 cum/day for the exiting unit.

5. The PP requested for Public Hearing (PH) exemption under Clause 7 (ii) of the EIA Notification, 2006 and provided the following justification.

- Proposal is to augment the CPP power generation from existing 36 MW to 42 MW by additional 6 MW Turbine only; no boiler and its other associated machineries.
- Proposed within the existing Industrial Premises and no additional land is required.
- Other than coal handling (additional 80 TPD to existing 490TPD), no additional infrastructure facilities are required or proposed.
- Entire Ash generated in the CPP (12 TPD addition to the existing 73.5 TPD) is pneumatically transported and fully utilized in the Cement Plant for Cement manufacture. Thus, no Ash disposal or no Ash Pond/Dyke due to the proposal.
- Existing ESP with 90 m stack will be adequate to control SPM emission <50 mg/Nm³.
- There is no man power increase and Air cooled condensers are proposed for 6 MW Turbine. Thus no additional water demand to the existing consented quantity of 3843 cum/day.
- On augmentation of CPP, only 0.5 cum/day boiler blow down will be adding to existing 875 cum/day effluent which will also be within the consented quantity of 880 cum/day. As the entire effluent from CPP, after proper treatment in a neutralization pit, is fully utilized in the Cement Plant for equipment cooling.
- No additional sewage generation due to the augmentation (existing 2 cum/day sewage) and its disposal (treated in the common STP of 300 cum/day capacity). Thus, the Zero Effluent Discharge is ensured.
- Prediction Modeling with ISCST3 has been carried out for PM, SO₂ & NO₂ parameters for the proposed augmentation of CPP. Difference in the Predicted GLCs with all Cement Plant & CPP 36 MW Stacks (Cumulative) and all Cement Plant & CPP 42 MW Stacks (Cumulative) is found to be only 0.25 µg/m³ increase in SPM level, 0.04 µg/m³ in SO₂ level and 0.07 µg/m³ in NO_x level which are insignificant impacts.
- Two Public Hearings were conducted for Alathiyur Mines and one for the Plant (Beneficiation Plant in the Complex) under EIA Notification 2006. All are smooth public hearings and are welcomed by the Public in total. The recent Public Hearing proceedings dated 02.05.2012 conducted for the Beneficiation Plant were submitted.

7. *The Committee deliberated on the above justification and opined that PH could be exempted for the proposed augmentation. However, after carrying out baseline data and preparing EIA/EMP report, the PP shall bring out a public notice in the leading newspapers involving local language informing the public about the proposed project and the findings of the EIA/EMP. The comments from the public should be obtained giving a time period of one month after the public notice is published. EIA/EMP report should be placed on the website for public information.*

8. *Based on the information provided and the presentation made, the Committee recommended the standard TORs (as applicable) at **Annexure-A1** for undertaking detailed EIA study and preparation of EMP and exemption of public hearing.*

2.10 250 MW Coal based Captive Thermal Power Plant at Villages Madpal and Markel, Taluka Jagdalpur, Distt. Bastar, in Chhattisgarh by M/s. NMDC Ltd. – reg. ToR

1. The PP and their environmental consultant, Greencindia Consulting Private Limited, Ghaziabad made a presentation and provided the following information. Though capacity wise, the project falls under category 'B', due to attraction of general condition i.e. location of the project site within 10 km of the inter-state boundary, the proposal is considered as category 'A' project. Further, the boundary of the project site is about 17.5 km from Kanger Valley National Park and about 7.5 km away from its eco-sensitive zone.
2. NMDC is setting up a 3 MTPA Integrated Steel Plant at Nagarnar in Jagdalpur Tehsil. The proposed CPP site would be adjacent to the proposed Steel Plant on the western side and therefore, is the ideal site. The total land requirement is 315 acres of which the ash disposal area is 60 acres and township area is 20 acres. The project site lies between latitude 19⁰04'42.6" N – 19⁰05'11.2" N and longitude 82⁰08'03.5" E – 82⁰09'04.1" E. There is no forest land involved in the project site. There are no home oustees, whereas there would be 222 land oustees. Application for land acquisition along with R&R plan was submitted to DC, Bastar and is under active consideration. The project cost is approx. Rs. 1600 crores.
3. The proposed CPP will be based on Pulverized Fuel Technology. The coal requirement is about 1.31 MTPA indigenous coal (90% PLF and GCV of 3600 kcal/kg). It is proposed to source coal through long term linkage from SECL and is under consideration of Ministry of Coal. In addition NMDC would also explore option to use coal from its allocated coal blocks. The water requirement of 800 m³/h (7.0 MCM) will be met from the water allocated to the proposed Steel Plant of NMDC. Total water allocated to the Steel Plant is 53.69 MCM. The tentative ash generation with 40% ash coal would be 0.42 MTA of fly ash and 0.1 MTPA of bottom ash. Dry collection of fly ash and wet collection of bottom ash is proposed. Five cement plants of M/s. ACC Ltd., CCI Ltd., L&T Ltd. etc with a total capacity of 10 MTPA are considered for signing of MoU for utilization of fly ash.
4. *Based on the information provided and the presentation made, the Committee recommended the standard TORs (as applicable) at **Annexure-A1** for undertaking detailed EIA study and preparation of EMP.*

2.11 Extension project of 1x40 MW Thermal Power Plant by addition of 20 MW at Village Sarishatali, Tehsil Barabani, District Bardhaman, in West Bengal by M/s. Crescent Power Ltd. – reg. ToR

1. The PP and their environmental consultant, Greencindia Consulting Private Limited, Ghaziabad made a presentation and provided the following information. Though capacity wise, the project falls under category 'B', due to attraction of general condition i.e. location of the project site within 10 km of the inter-state boundary, the proposal is considered as category 'A' project. Asansol, a CPA is at a distance of 11.5 km from the project.
2. The total land under possession is 39 ha (96.4 acres), of which 28 ha is utilized for the existing unit and 4.2 ha will be utilized for the proposed unit. The project site lies between latitude 23⁰46'50.0" N – 23⁰47'22.3" N and longitude 87⁰02'27.9" E – 87⁰03'11.2" E. The project cost is approx. Rs. 100 crores. River Ajay flows at a distance of 3.5 km from the project site. One seasonal drain is passing within the project area and need not be diverted because of villagers use of its water for cultivation. The natural drainage is maintained and no disturbance will be done even with proposed expansion.

3. The proposed CPP will be based on FBC Technology. The fuel proposed to be used is Shale (0.07 MTPA) and coal washery rejects (0.12-0.15 MTPA) from the ICML mine at Sarishatali. The PP has permission for withdrawal of water of 200 kl/hr out of which 185 kl/hr will be used for both the units (160 kl/hr-Unit I + 25 kl/hr-Unit II). Considering an ash content of about 65%, the estimated maximum ash generation would be approx. 39 TPH, which shall be used in the cement and brick manufacture.

4. *Based on the information provided and the presentation made, the Committee recommended the standard TORs (as applicable) at **Annexure-A1** for undertaking detailed EIA study and preparation of EMP in addition to the specific TOR as under.*

(i) Existing and proposed maintenance of the natural drainage of the area.

(ii) The drainage map of the area and its details.

(iii) To explore alternative avenues of fly ash utilization.

2.12 2000 MW Gas Based Combined Cycle Power Plant (CCPP) at Village Godhra, in Kutch Distt. in Gujarat by M/s. Nana Layja Power Co. Ltd – reg. Extension of validity of ToR

1. The proposal is for extension of validity of ToR accorded by MoEF on 24.09.2012 for the preparation of EIA/EMP report for the above project. The project proponent made a presentation requesting for the extension and provided the following information.

2. The TPP will be located in the proposed multi product SEZ/FTWZ and the ToR for SEZ was accorded on 05.03.2013. The EIA studies and the additional studies as per the approved ToRs are underway and preparation of draft EIA report is under progress. In order to complete the additional studies as per the ToRs, to conduct public hearing and to submit the final EIA report post public hearing, extension of validity of ToR by one year is requested.

3. *Based on the information and clarifications provided, the committee recommended the extension of validity of ToR by one year as per the policy of MoEF.*

2.13 3x660 MW Coal Based Ichagarh Thermal Power Project at Villages Kukru, Sapada, Heremuli, Dere and Latemda, Tehsil/Block Ichagarh, District Saraikela- Kharswan in Jharkhand by M/s. Hindustan Thermalprojects Ltd. (formerly M/s Moser Baer Power and Infrastructures Ltd.) – reg. Extension of validity of ToR

1. The proposal is for extension of validity of ToR accorded by MoEF on 20.09.2012 for the preparation of EIA/EMP report for the above project. The project proponent along with their environmental consultant, M/s. Vimta Labs Ltd, Hyderabad made a presentation requesting for the extension and provided the following information.

2. Subsequent to the issuance of the ToR, baseline monitoring studies were carried out in winter season of December 2012-February 2013. The draft EIA report was prepared by June, 2013. A presentation was made to Chief Secretary, Govt. of Jharkhand for allocation of coal / linkage for the project. The various auctions for sourcing coal are allocation of the captive coal blocks through auction route by MoC, coal linkage by MoC and allocation/ linkage by Govt. of Jharkhand. No new/fresh linkage has been granted to IPPs by MoC after February, 2010 SLC Meeting. The PP is tracking the progress in development of coal blocks in Jharkhand and is

hopeful of getting coal linkage from some of these coal blocks in next five months. Public hearing shall be conducted after firm coal linkage. With renewed focus of new Government on 'Auction of coal blocks' and recent developments in the sector, the PP believe that they should soon be able to secure coal.

3. *Based on the information and clarifications provided, the committee recommended the extension of validity of ToR by one year as per the policy of MoEF.*

2.14 Proposed 16 MW (2x8 MW) Coal based Co-generation Power Plant at Existing Bulk Drug and Formulation Manufacturing site at Village Sejavta, Tehsil & Distt. Ratlam, Madhya Pradesh by M/s Ipca Laboratories Ltd. – reg. re-consideration for ToR.

1. The proposal was earlier discussed in the 16th Meeting of the EAC (Thermal) held during **July 01-02, 2014**, the minutes of which are as under:

Quote "1. The proposal is for 16 MW Coal/solid fuel based Co-generation Power Plant at existing Bulk Drug and Formulation Manufacturing site at Village Sejavta, Tehsil & Distt. Ratlam, Madhya Pradesh by M/s Ipca Laboratories Ltd. Although the proposal is a 'B' category project, since the CPP is for an 'A' category, industrial project, the proposal is considered at the Centre. The PP along with their environmental consultant, M/s Kadam Environmental Consultants, Thane has made a presentation. The committee noted that the consultant has accreditation only for 'B' category TPPs. However, they have accreditation for 'A' category bulk drugs manufacture etc. *Thus the PP need to make a presentation only through 'A' category consultant.*

2. At the outset, the committee noted that the fuel proposed to be used is imported coal, pet coke and biomass in the ratio of 50:25:25. *The Committee opined that use of pet coke in the CPP is not recommended especially in the same location of pharmaceutical industry and hence suggested to look into various options to exclude pet coke and resubmit the fuel combination. The proposal was accordingly deferred.* **Unquote.**

3. The PP vide letter dated 18.07.2014 has confirmed that coal will be used as fuel (100 % Indonesian / Indian Coal and no petcoke & biomass will be used. The air cooled condensers will be used instead of water cooled condensers to conserve and reduce fresh water demand. The PP made a presentation before the EAC and provided the following information.
4. The project area for proposed TPP is 5.47 ha which lies between latitude 23⁰23'12.02" N – 23⁰23'22.84" N and longitude 75⁰03'36.49" E – 75⁰03'51.27" E. The project cost is Rs. 70 crores. The land has been allotted by the Govt. of Madhya Pradesh. There is no forest land involved. The proposed CPP will be based on AFBC Technology. The fuel proposed to be used is 100% Indian coal (400 TPD) or 50 % Imported + 50% Indian Coal (340 TPD). The water requirement is 575 KLD of which 319 KLD will be sourced from the RO permeate & MEE condensate 256 KLD will be from existing boiler RO of API Plant. Hence, no fresh water will be required from any other source. The ash generated would be sold / supplied to nearby cement plants/ brick manufactures.
5. The PP requested for Public Hearing (PH) exemption under Clause 7 (ii) of the EIA Notification, 2006 considering that EC was accorded for expansion of bulk drugs manufacturing in May 2008 and PHs were conducted on 24.10.2007 and 20.02.2014 for the expansion of bulk drugs manufacturing under the EIA Notification, 2006. The existing ambient air quality is well within NAAQS limits. The existing boiler using petcoke and coal

will be replaced by single state of the art air-cooled boiler using only coal. Even though the fuel consumption will increase by five times, net PM and sulphur emissions will reduce. Stack height will be increased from the current 30.5 m to 75 m, which will lead to better dispersion of lesser pollutants. Due to switch over to air cooled condensers there will be no change in water consumption.

6. *Based on the information provided and the presentation made, the Committee recommended the standard TORs (as applicable) at **Annexure-A1** for undertaking detailed EIA study and preparation of EMP, in addition to the specific TOR as under.*

(i) Action plan for 100% utilization of Ash from day one and commitment for no ash pond.

7. *Regarding the exemption of PH, the committee recommended that detailed comparison of existing pollution load vis-a-vis the proposed installation of TPP shall be submitted.*

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

ANNEXURE- A1

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.
- 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), SO₂, NO_x, Hg and O₃ (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 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.
- 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 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.

- 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 desalination 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 J.L Mehta)
Member

(Shri G.S. Dang)
Member

(Shri N.K. Verma)
Member

(Dr. Ratnavel)
Member

(Shri N.S. Mondal)
Representative of CEA

(Dr. S.S. Bala)
Representative of CPCB

(Dr. Saroj)
Member Secretary