

MINUTES OF THE 13th MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON ENVIRONMENTAL IMPACT ASSESSMENT OF THERMAL POWER & COAL MINE PROJECTS

The 13th Meeting of the reconstituted Expert Appraisal Committee (Thermal) was held on **March 25-26, 2014** at Fazal Hall, Scope Convention Centre, Scope Complex, Lodhi Road, New Delhi. The members present were:

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

In attendance: Dr. M. Ramesh, Deputy Director, MoEF.

Shri A.S. Lamba, Chairman, Dr. Ratnavel, Dr. C.B.S Dutt and Representative of WII were absent.

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

The Minutes of the 11th EAC meeting held during February 13-14, 2014 were confirmed.

Item No. 2: CONSIDERATION OF PROJECTS

2.1 1320 MW (2x660 MW) Super Critical Coal Based Thermal Power Plant at Villages Torniya, Chhippipura and Rampuri, Tehsil New Harsud, District Khandwa, in Madhya Pradesh by M/s Dwarkesh Energy Ltd. – reconsideration for EC.

The proposal was earlier discussed in the 6th Meeting of the EAC (Thermal) held during **December 5-6, 2013**, the minutes of which are as under (with corrections):

Quote “The proposal is for setting up of 1320 MW (2x660 MW) Super Critical Coal based Thermal Power Plant at Villages Torniya, Chhippipura and Rampuri, Tehsil New Harsud, District Khandwa, MP. The project was accorded TOR for preparation of EIA/EMP report on 26.07.2011. The EIA / EMP report after conducting Public Hearing was submitted to the Ministry for consideration of environmental clearance. The project proponent made a presentation along with its consultant M/s. JM EnviroNet Pvt. Ltd., Gurgaon and provided following information:

The land required for the proposed project is 935 acres for Main Plant, Green Belt & Ash Dyke, of which, 33.98 acres is Government Land and the remaining 901.02 acres is Private land. The land required for Township will be 100 acres. About 50% of the total land is under possession. The co-ordinates of the site will be Latitude 21°59'27.58” to 22°1'3.21” N

and Longitude 76°45'35.81" E to 76°46'49.61" E. R&R of PAPs shall be completed in a time bound manner.

There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within 10 km of the project site. Cost of the Project will be Rs. 7354 Crores. An amount of Rs. 450 Crores is allocated as the capital cost of EMP and 18 Crores/Annum as the recurring cost of EMP.

Domestic Coal requirement will be 6.9 MTPA and application has been submitted to MoC. However, imported coal from Indonesia will be used till domestic coal linkage is obtained. Imported coal requirement will be 4.4 MTPA (on ADB). MoU has been signed with M/s. Adani Enterprises Limited for Indonesian Coal. All the predictions were made on the domestic coal for worst case scenario. Ash and Sulphur content in the imported coal will be 8-12 % and 0.5 % respectively. Gross calorific value for the imported coal will be 5200 kcal/kg (minimum on ADB). About 0.42 MTPA of Fly Ash and 0.1 MTPA of bottom ash will be generated. Stack height will be 275 m. The AAI has issued No objection for 275 m stack. Coal from Indonesia will be brought to Dahej/Hazira Port in India, from where it will be transported to the site by Rail. The proposal to import 5 MTPA coal from Dahej/Hazira/Mundra Port on West Coast for the project situated near Barud station in Itarasi-khandwa section of West Central Railway (WCR) was agreed/permitted to by the WCR on 19.09.2013 as per logistic policy of Railways. MoU for Fly Ash utilization is signed with M/s. JK Lakshmi Cement Ltd. to comply with the MoEF norms. Bottom ash will be disposed to ash pond in semi dry form.

Water requirement for the project will be 37.2 MCM per annum, which will be sourced from Indra Sagar Reservoir (on Narmada River) which is 8 km from the proposed site. Permission for drawl of 37.2 MCM of water has been granted by Water Resource Department, Govt. of M.P vide its letter dated 26-09-2013. As directed in the said letter, an agreement for supply of water was signed on 02.12.2013 by the PP with the Executive Engineer, Narmada Development Authority, Division No. 25, Narmada Nagar, Punasa, District Khandwa, M.P. Natural Draft Cooling Tower will be installed. On the issue of sustainable water availability, the PP informed the Committee that the study was conducted by M/s. Design Studio Ltd. They have analyzed that against the water requirement of 37.2 MCM for the project, during the lean season, the lowest level of Indra Sagar Reservoir recorded is 243.67 M (as per 2011 data). The wastewater generated will be treated and near to Zero Effluent discharge will be practiced.

Public Hearing for the project was conducted by Madhya Pradesh pollution Control Board on 31-08-2012. It was noted that the major issues raised were regarding environmental impacts like increase in atmospheric temperature, dispersion of the dust, impact on the water level of the River due to the project, CSR activities and compensation for land acquired. The Committee discussed the issues raised in Public Hearing and the responses made by Project Proponent. In response to the issues of Public Hearing, the PP informed that an amount of Rs. 46 Crores has been earmarked towards the CSR activities. Necessary training and education will be provided to one person of each family. Land acquisition is being done on mutual consent generally higher than circle/market rate.

The committee noted that the R& R plan has not been submitted by the PP and sought the same. The surface drainage pattern of the site shall not be disturbed due to the proposed TPP and the plant layout may be revised accordingly, if required. The Rivers nearby shall be protected, without any dumping and if required, the embankment of the Rivers may also be raised. Considering the location of the ash pond, the committee recommended that the relocation

of ash pond is the preferred option and the feasibility of same shall be submitted. The ash pond shall also be HDPE lined and the ash dyke embankment shall be stone pitched. Further, thick green belt shall be developed around the ash pond.

The committee observed that the toposheet submitted by the PP shows that the distance of RF from the project site is around 7 km whereas the letter of DFO states it to be 700 m. Hence, the same shall be got verified from the DFO. While concluding the Public Hearing proceedings, four conditions were recommended which includes 100% fly ash utilization from Day 1. The committee recommended that all the four conditions shall be complied by the PP and an action plan in this regard shall be submitted.

The committee also recommended that Storm water shall only be discharged through a guard pond and regular analysis shall be done by the PP. During the dry season, zero discharge (including for green belt development) shall be strictly implemented. A plan for treatment of cooling tower blow down shall also be submitted. It was observed that the sulphur balance needs to be verified and impacts predicted accordingly. A firm commitment/approval for the handling of coal in the Port also needs to be submitted.

*In view of the above short comings, the proposal was **deferred** for reconsideration at a later stage.” **Unquote.***

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 and the following information was provided by the PP and their environmental consultant.

1. The R& R plan was prepared as per “The Right To Fair Compensation And Transparency In Land Acquisition, Rehabilitation And Resettlement Bill, 2013” (New Land Bill-2013), Madhya Pradesh R&R Policy-2002, and Social Impact Assessment Report (SIA). It has been submitted to District Collector Khandwa, M.P. vide Letter No. DEL/Power/2013-2014/61 Dated: 18th Jan 2014 for approval. The approved R&R plan will be implemented as per guideline from District Collector Khandwa, M.P.

It was informed by the PP that around 37 acres of tribal land is involved in the project site. The details of same were sought by the Committee. The committee recommended that the training and skill development proposed for PAPs shall be undertaken through a reputed institute like CIDC, New Delhi.

2. Regarding the surface drainage, it was informed that presently the land is fallow/barren land, which shall be modified to build the plant. The PP after consultation with experts, local community and Gram Panchayat met the concerned authorities to discuss the incorporation of surface drainage to develop the project site. After EAC Committee meeting on 6th Dec’2013, PP again met the different concerned authorities during Jan’2014 where PP discussed surface drainage issues and alternate options. The concerned authorities again confirmed that the present drainage plan is suitable and at a reasonable safe distance from natural drainage and not disturbing any local drainage pattern. As a protective action plan all drains emanating from outside/inside and passing through the proposed project site, shall be diverted along the boundary wall within project land and ensure smooth flow without causing any flooding in the adjacent areas because of the diversion. Plant layout is not revised as no major shifting is required.

The committee deliberated on the surface drainage pattern of the site and sought a layout plan depicting the plant site, the ash pond, the existing drainage pattern and the proposed modifications.

3. Regarding the protection of Rivers, it was informed that the project has not considered dumping outside plant of any waste. More over during operation phase also all care will be taken to ensure no waste dumping outside. Ash shall be dumped in the proposed Ash Dyke within project area, with mechanized Ash Handling System. In addition, the nearby rivers are more than 500 m away from the plant site. There is no requirement of any embankment of any River to be raised.

4. Regarding relocation of the pond, it was informed that, based on consultation with experts, State Authority and local community, this scheme was finalized out of many options during feasibility report in November-2010. It was basis of EIA and Public Hearing consultation. However, as per advice of committee, we had reviewed again the other options and discussed with the different concerned authorities during Jan'2014. M.P Power Generation Co. Ltd. & Power Grid: Both favored the current layout from grid connectivity point of view as both the transmission corridor is at south of the plant. Western Central Railway: Railway suggested suitability of current layout for railway siding and optimum for turning radius as per railway recommendation. Gram Panchayat & Local Community: They expressed their concern as least disturbance will occur due to current layout compare to any other alternate layout as it utilized maximum barren/fallow land. DFO, Khandwa, M.P.: During discussion DFO found the current layout was more suitable as ash pond is away from the unclassified forest. As per existing corridor of Roads, Railway and Transmission Lines, the proposed ash dyke location is most optimum. Nevertheless, sincere effort shall be put in Plot plan redesign during detailed engineering stage for any partial lateral shifting of major items as following. (1) Ash Dyke (2) Coal Handling Plant (3) Water Reservoir

Considering the location of project site and ash pond in the upstream of the Reservoir, the committee recommended that zero discharge shall be maintained during dry season and during rainy season, the discharge shall be through a guard pond. The PP shall also explore the maximum utilization of ash from day one. Further, the green belt development shall be initiated at the earliest and well before the start of construction.

5. Regarding the distance of RF from the project site, it was informed that, as per the advice of the committee, the matter was discussed with DFO, Khandwa, M.P. on 10th Jan'2014. He has again confirmed in writing vide letter Dated: 15th Jan'2014 that Protected Forest is at 31 km from proposed site. He confirmed that the information provided vide letter Dated: 31st May'2011 is correct which states that unclassified forest U-697 is at 700 m from proposed site.

The committee noted that regarding the distance of PFs and RFs from the project site, there seems to be some confusion. Hence, the committee recommended that the type and extent of the forest area within 10 km of project site shall be obtained by MoEF from the PCCF of the State.

6. Regarding compliance to the recommendations of Public Hearing proceedings, it was informed that, in order to achieve fly ash utilization from the start; Initiation will be

done by installation of brick manufacturing unit using fly ash from the start date of plant operation. PP will try to achieve 100% fly ash utilization (as per The Gazette Notification 2009) at the earliest in Cement Plant, Brick Manufacturing Unit etc. However, mismatch of power project & cement plant commissioning schedule may create a situation for temporary imbalance of ash production Vs ash utilization, so it may not be possible to utilize 100% fly ash from starting. To achieve this, MoU with Cement Company has already been signed and in addition to this, PP will support local community in establishing brick manufacturing units within the project area as one of the alternate employment opportunity.

An effluents management scheme, consisting of collection, treatment, recirculation and disposal of effluents shall be implemented in order to optimize the make-up water requirement as well as liquid effluent generation, as per EIA report (Para 10.3, Page no. 328). The Cooling Tower Blow Down is led into CMB for equalization and Neutralization. In the CMB, pH will be corrected by adding acid or alkali to meet the requirements of CPCB Standards for CMB outlet water quality. This water shall comply to TDS less than 2,000 mg/l (within limit as prescribed by IS-2296-1982 for irrigation purpose & IS-10500-1991 for drinking water).

Preference will be given to the locals for employment. Guidelines of State will be followed in case of project affected People. 50-100 m wide green belt around the project is already planned and plantation will start immediately after land acquisition is over.

7. Regarding sulphur balance, it was informed that, the sulphur balance was verified and corrected on the basis of availability of Domestic Coal with GCV of 3300 Kcal/kg and 0.5% sulphur and Imported Coal with GCV of 5200 Kcal/kg and 0.9% Sulphur, after re-run of the model. Resultant concentration due to incremental GLCs is around 50 $\mu\text{g}/\text{m}^3$ which is well within MoEF's prescribed limit of 80 $\mu\text{g}/\text{m}^3$.
8. Regarding firm commitment/approval for the handling of coal in the Port, it was informed that, the Agreement with Adani Enterprises is for coal supply up to plant site. Hence, all responsibility is with Adani Enterprises for port and railway logistics. As Dahej Port is part of Adani Group, no separate letter is required from Adani Port. However, this is again reconfirmed by Letter from M/s Adani Enterprises Limited for port authorization and Coal Handling Capacity Dated 10th Mar'2014, 3rd Dec'2013 and 10th Oct'2013 respectively.

The committee noted that the said letters are not definitive and hence sought confirmation on the same.

9. *The committee also noted that the PM prediction at Pratapur RF shall be rechecked since it is higher than the maximum predicted within the study area.*

In response to the above, the PP provided the following information/clarifications.

10. The 37 Acres of tribal land in Rampuri Village, consisting of three (Khasra No.-32,105,106) belongs to Sh. Pannalal, S/o Hazarilal. The Form P-II is taken from M.P. Government official site (www.landrecords.mp.gov.in). The location of these khasras in plot plan is also submitted.

11. Three layout plans were submitted i.e. (a) Plant layout with original drainage pattern on Topo sheet (b) Plant layout along with proposed peripheral drainage scheme with modification on Topo sheet after levelling (c) Plant layout along with proposed drainage pattern and major areas of project on Topo sheet.
12. The PP has requested DFO Khandwa again regarding the distance of RFs and PFs from the project site. DFO Khandwa vide letter dated 26.03.2014 had replied that RFs are at a distance of 6 km & 14 km and PFs at a distance of 60 m, 400 m & 8 km respectively from project site. *However, since there is an inconsistency on the subject distances, the committee recommended that the type and extent of the forest area within 10 km of project site shall be certified by the PCCF of the State.*
13. The predicted Max. GLC of PM at Pratapura Reserve Forest is $0.107 \mu\text{g}/\text{m}^3$ and $0.101 \mu\text{g}/\text{m}^3$ with domestic and imported coal respectively as given at Page No. 162 of the EIA report. Due to typographical error, it has been mentioned as $1.07 \mu\text{g}/\text{m}^3$ and $1.01 \mu\text{g}/\text{m}^3$ in the presentation before the EAC.
14. The Agreement with Adani Enterprises is for coal supply up to railway loading point at port. Hence, all responsibility is with Adani Enterprises for shipping and port handling. As Dahej port is part of Adani Group, no separate letter is required from Adani Port. However, as desired by MoEF the PP had again taken a letter from M/s Adani Enterprise on 10th Oct'2013 & 3rd Dec'2013 respectively to reconfirm the capacity of port to handle the cargo. The committee again asked for confirmation from Port authority, which M/s Adani enterprise again reconfirmed in its letter Dated 10th Mar'2014. This was dually endorsed by M/s Adani Ports. In due course after all approvals including EC and CTE, the PP is planning to convert MOU into definite agreement.
15. Based on the information and clarifications provided by the Project Proponent and detailed discussions held on all the issues, the Committee *recommended the project for environmental clearance subject to receipt of the said confirmation from PCCF, Bhopal and stipulation of the following specific conditions:*
 - i) Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.
 - ii) A stack of 275 m height shall be provided with continuous online monitoring equipments for SO_x, NO_x and PM_{2.5} & PM₁₀. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.
 - iii) *Sulphur and ash contents in the imported coal to be used in the project shall not exceed 0.5 % and 12.0 % respectively 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 wherever necessary.*
 - iv) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed $50 \text{ mg}/\text{Nm}^3$. Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.

- v) *The surface drainage pattern of the site shall not be disturbed due to the proposed TPP and the plant layout may be revised accordingly, if required.*
- vi) *The Rivers nearby shall be protected, without any dumping and if required, the embankment of the Rivers may also be raised.*
- vii) *COC of atleast 5.0 shall be adopted.*
- viii) *Zero discharge shall be maintained during dry season and during rainy season, the discharge shall be through a guard pond and regular analysis shall be carried out.*
- ix) *Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.*
- x) *A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.*
- xi) *The PP shall explore the maximum utilization of ash from day one.*
- xii) *Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.*
- xiii) *Ash pond shall be lined with HDPE/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures such as *stone pitching of the ash dyke embankment* shall also be implemented to protect the ash dyke from getting breached.*
- xiv) *A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.*
- xv) *The green belt development shall be initiated at the earliest and well before the start of construction. Further, thick green belt shall be developed around the ash pond.*
- xvi) *CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.*
- xvii) *A minimum amount of Rs 29.42 Crores as one time capital investment shall be earmarked for activities to be taken up under CSR during construction phase of the Project. Recurring expenditure for CSR thereafter shall be Rs 5.9 Crores per annum or as per CSR guidelines of Govt. of India, whichever is more till the life of the plant.*
- xviii) *For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.*
- xix) *The training and skill development proposed for PAPs shall be undertaken through a reputed institute like CIDC, New Delhi.*

- xx) An Environmental Cell comprising of at least one expert in environmental science/ engineering, ecology, occupational health and social science, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.

2.2 Expansion by addition of 1x660 MW Imported Coal Based TPP (Phase-II) of M/s Jhabua Power Co. Ltd. at village Barela and Gorakhapur, Tehsil Ghansore, Distt. Seoni, Madhya Pradesh - reg. reconsideration for Environmental Clearance.

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 (with corrections):

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 proposal is for expansion by addition of 1x660 MW (Phase-II) Imported Coal based TPP at village Barela and Gorakhapur, Tehsil Ghansore, Distt. Seoni, Madhya Pradesh. M/s Jhabua Power Ltd. Stated that the present proposal is only for an interim period until domestic coal is made available for the proposed expansion.

Environmental clearance for 1x600 MW (Phase-I) Domestic Coal Based TPP was accorded on 17.02.2010. That 90% construction for Phase-I is completed. The land required for expansion will be 385.80 acres which includes 169.91 acres of single crop agriculture land; 119.20 acres is waste land; 87.60 acres fallow land; and 9.58 acres of forests land. Forest clearance for diversion of 9.58 acres of forests land has been obtained on 07.02.2012. The co-ordinates of the site will be located within Latitude 22⁰43'40" N to 22⁰44'20" N and Longitude 79⁰54'35" E to 79⁰55'35" E. Imported (Indonesia) coal requirement will be 2.85 MTPA. M/s JPL has signed a MoU with M/s Coal Trade Services International Pte. Ltd. having its registered office at 16-01, 1 Finlayson Green, Singapore – 049246, for supply of imported coal. The supplier i.e M/s Coal Trade Services International Pte. Ltd. who is engaged in sale of coal from coal mines owned and operated by PT Adaro Energy Tbk. Ash and sulphur contents in imported coal will be 8% and 0.5% respectively. Gross Calorific value of the imported coal will be 4000 kcal/kg. The Ash pond area will be 95 acres and co-ordinates of the ash pond site will be located within Latitude 22⁰44'4.83" N and Longitude 79⁰55'15.30" E. Flyash generated will be 0.183 MTPA and bottom ash will be 0.045 MTPA. MoU for FLY Ash supply has been signed with M/s Builtech Building Elements Ltd. and M/s K.P. Cement Mfg. Co. Pvt. Ltd. for 100% Flyash utilization. Bi-flue stack of 275 m proposed for Phase-I unit will be utilised. Water requirement of 15.33 MCM will be sourced from the Bargi Reservoir through a pipeline at a distance of about 10 km from the project site. Permission to draw water has been obtained from the Narmada Valley Development Department, Govt. of Madhya Pradesh vide its letter dated 21.02.2011. Induced draft cooling system will be installed. There are 10 reserved Forests and one protected forest within ten km of the project site i.e. Roto R.F, Barwakchhar R.F, Katori R.F, Dhoma R.F, Diwara R.F, Ghansor R.F, Bhattekhari R.F, Bichhua R.F, Jaitpur R.F, Barela R.F, Partapgarh P.F. and there are five rivers within the 10 km of the project site i.e. Patwara River, Bhagori River, Temur River, Paryat River and Gadheri River. Public Hearing was held on 22.11.2011. Cost of the project will be Rs.3500.0 Crores.

The Committee noted that AAQ Data for the present proposal was collected during October to December, 2010, whereas, TOR was issued (for 1x600 MW) on 08.12.2010 (later reiterated for 1x660 MW on 06.09.2011). The Committee felt that this could be construed as a deviation of the procedure as defined in the EIA Notification, 2006. In response to this, the project proponent stated that during presentation made for the TOR it was requested before the then Committee that they be allowed to use the AAQ and other data which they had started collecting.

The Committee went through the minutes of the meeting wherein TOR was recommended and noted that the same did not indicate the submission now being made and therefore declined to accept the data.

The Committee, therefore, decided that the project proponent shall collect one season AAQ data during October-December, 2013 along with corresponding metrological other relevant data and reassess the impact on AAQ due to the present proposal and other sources of emissions (existing and likely to come up) in the study area and accordingly prepare a comparative analysis of impact based on earlier monitoring data of 2010 and the new data shall be prepared. It was further decided that revised EIA/EMP Report or an Addendum to the same shall thereafter be furnished.

The Committee noted that documents received are silent on the financial viability of the power project based on imported coal from Indonesia. The Committee felt the need for a detailed analysis on the same and decided that it shall be first submitted before the proposal can be placed for re-appraisal. While doing so, the Committee reiterated that the project proponent shall furnish information along with communication from the Port Authority (Dahej/ Magdalla) on port handling capacity in the country for the coal proposed to be imported. Thereafter viability of transportation of imported coal through railways and rolling stock availability needs to be substantiated with information by way of communication from the Ministry of Railways, Govt. of India.

On the issue of water availability, it was stated that firm water allocation from Bargi Reservoir is available. The Committee, however observed that availability of firm water allocation cannot be the final conclusion of firm water availability, especially during lean season. The Committee therefore decided that the project proponent shall furnish details of competing sources of water down stream of the reservoir.

The Committee also discussed the issues raised in the Public Hearing and the responses made by project proponent. It was noted that the major issues raised were regarding measures taken to reduce the effect due to usage of DG Set; effect on farmers due to increase in temperature and flyash; impact on animals, forests, wild animals and environment due to the proposed project activities; ill-effects on fisheries of Bargi Dam which is closed to the project site; pollution caused by transportation of materials to the power plant; proposed power plant falls under earthquake sensitive area due to which industrial disaster may occur; greenbelt development work is not done; pollution due to pressure; no proper utilization of bottom ash; distance of nala and pond from plant boundary; water conservation plan; impact of flyash and bottom ash on land; impact on Bargi Dam, Narmada River and agriculture; impact on human health; effect on Kanha & Pench National Park due to proposed power plant; ground water is used by the power plant which affects the ground water; the information mention by M/s. JPL in the EIA Report seems not actual; social responsibility work being performed under the CSR by power plant is only for show; road are damaged due to movement of Dumpers & other vehicles; facilities for education /school, veterinary, health

centre, employment and drinking water facility for the land losers; local population and tribal population; arrangements for irrigation; electricity shall be provided; compliance of earlier condition by power plant; villagers of Barela needs development instead of detriment etc.

The Committee noted the responses made to various issues raised in the Public Hearing and observed that while some has been acceptably dealt with, there are still many issues of relevance for which appropriate action plan with budgetary provisions need to be formulated for immediate implementation. As an example: on the issue raised regarding employment of locals, the project proponent stated that preference in employment will be given to project affected families (PAFs) based on qualification and necessity, whereas, the TOR point (xix) states that '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'.

The Committee therefore decided that the project proponent shall submit a detailed Action Plan for implementation of issues of relevance raised in the Public Hearing and others and resubmit along with financial commitments activity wise.

It was also noted that scheme for tribal welfare and tribal rights identification were not spelt out even though it was prescribed in the TOR.

It was further observed that the project proponent shall submit compliance report on conditions of final clearance under FCA 1980, including status of declaration of equivalent Non Forest Land (CA) under Indian Forest Act as RF.

In view of the missing gaps of information, the Committee decided that the proposal is premature for recommendation of environmental clearance. The Committee accordingly decided that the proposal be deferred and shall be taken up once information/study noted in the preceding paras above are submitted." Unquote.

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 and the following information was provided by the PP and their environmental consultant.

1. Regarding collection of one season AAQ data during October – December 2013 along with corresponding meteorological and other relevant data, it was informed that, an addendum report to EIA/EMP has been prepared based on the AAQ monitoring data collected during the period from October to December 2013 and the same has been submitted. No major industries are existing/coming up within 25 km of the plant radius. Reassessment of impact on AAQ due to use of Domestic and Imported Coal by present proposal within the study area was carried out. The comparative analysis of impact based on monitoring data of Oct-Dec 2010 and Oct-Dec 2013 show that there is no significant difference in the base line data.
2. Regarding the financial viability of the power project based on imported coal from Indonesia, it was informed that, the project is estimated to be financially viable with Project Internal Rate of Return (IRR) of 17.06% and Average Debt Service Coverage Ratio (DSCR) at 1.58 times. Projected financials for first 10 years of operations have been summarized.
3. Regarding the port handling capacity, it was informed that, Kandla Port Trust vide letter no. TF/SH/PORTCSER/570, dated 09.10.2013, agreed that, Kandla Port Trust is

ready to handle the 3.0 MTPA coal from the year 2016-17, “T” shaped deep draft jetty of 14.0 Million Metric Tons capacity is also being at Tune under BOT mode where four deep draft vessels of 16.0 m draft can be handled including coal vessels and Adequate rail/road facility for evacuation of cargo is also being put up by Kandla Port Trust. The facilities available to handle the imported coal at Kandla Port Trust are Infrastructure facilities-Dry cargo, Dry Cargo Handling equipment, Road and Railway network and Dry Cargo Capacity. The details of same were presented.

4. Regarding viability of transportation of imported coal through Railway, DTT (G), Railway Board, New Delhi, has agreed to service the demand for transportation of 3.0 MTPA of imported coal from Kandla Port to the proposed power plant, vide Letter No. 2013/ TT (V)/58/Import Coal Pt-1, dated 31.01.2014. A copy of the same is submitted.
5. Regarding the details of competing demands of water downstream of the reservoir, it was informed that, the sustainability of source and availability of water for the Jhabua Power Project have been ascertained by considering all the downstream competitive demands from the Bargi Reservoir. The design demand from the Bargi Reservoir for domestic supply, irrigation, hydropower generation & downstream environmental flow has been considered for reservoir operation and details were presented. The present water utilization at dam site for irrigation is much less than the design demand due to partial development of proposed canal system. Priority has been given to all other committed requirements, which has been planned prior to the allocation of the Jhabua Power Project.

Since the volume of JPL’s demand (annual 39.88 MCM) is quite marginal in comparison to irrigation demands (annual 2938 MCM), JPL’s demand has been categorized as higher priority than irrigation demands. The inflow to the reservoir have been considered based on the real time month wise inflow data of 25 years (1988-2013, page No 65 -66 of NIH report) and all the competing demands including evaporation from the Bargi reservoir has been taken as per field condition (Page No 67-92 and 93-118 of NIH report). The comparison of competing demands of water from the Bargi reservoir was presented. The total annual demand of all the users is 4666.88 MCM and the average annual flow of River is 7130.5 MCM. By and large, it can be stated that JPL’s demands would not cause any appreciable effect on the reservoir for meeting its various other intended demands.

6. A detailed action plan for implementation of issues of relevance raised in the Public Hearing along with financial commitment activity wise was presented and discussed.
7. Regarding the scheme for tribal welfare and tribal rights identification, it was informed that, the scheme for Tribal Welfare & Development includes the broad areas of Health & Education, Women empowerment, Livelihood, Agriculture & agro based livelihood, Rural Civil infrastructure development. The proposed budget allotted for next five years is Rs. 228.75 lacs. The detailed year-wise programmes along with budget is submitted.
8. Regarding compliance report on conditions of final clearance under Forest Conservation Act (FCA) 1980, it was informed that, the compliance report of conditions mentioned in final clearance granted on 07.02.2012 for use of 3.88 hectare Forest land by the PP under FCA, 1980 is submitted to DFO, North Seoni, M.P. on 20.03.2012. The same has been forwarded by DFO, North Seoni to CCF, Seoni and APCCF on 28.03.2012. The forwarding letter of DFO, North Seoni dated 18.06.2013 regarding

notification for declaration of 4.18 hectare non-Forest land as Reserved Forest (RF) is submitted.

9. In response to the committee's query regarding the involvement of forest land for water pipe line and transmission line, it was informed that there is no requirement of separate pipe line for water drawl for the proposed expansion and the existing pipe line shall be used. The FC for diversion of 3.54 ha of PF and RF land for laying pipe line and transmission line was accorded by MoEF, R.O., Bhopal on 01.05.2013. The letter for said forest land transfer to the PP was issued by the Office of the Circle Forest Officer, Shikara on 24.09.2013.

The committee noted that as per condition no. 2 of the said FC, over 4.15 ha of non-forest land shall be taken up by the forest department for compensatory afforestation at the cost of the PP. The same shall also be notified as RF within six months from the date of handing over of the said forest land to the PP. However, it seems that the notification of said non forest land as RF is yet to be complied and the same shall be expedited.

10. The committee noted that the green development of the existing unit is not satisfactory as also confirmed by the R.O of MoEF in its monitoring report. *The committee recommended that the green belt development of the existing unit shall be expedited with the native species and for the proposed expansion, shall be initiated at the earliest and well before the start of construction.*

11. Based on the information and clarifications provided by the Project Proponent and detailed discussions held on all the issues, the Committee *recommended the project for environmental clearance* subject to stipulation of the following specific conditions:

- i) Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.
- ii) A stack of 275 m height shall be provided with continuous online monitoring equipments for SO_x, NO_x and PM_{2.5} & PM₁₀. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.
- iii) *Sulphur and ash contents in the imported coal to be used in the project shall not exceed 0.5 % and 8.0 % respectively 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 wherever necessary.*
- iv) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³. Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.
- v) COC of atleast 5.0 shall be adopted.
- vi) Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.

- vii) A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.
- viii) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.
- ix) Ash pond shall be lined with HDPE/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.
- x) A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.
- xi) *The green belt development of the existing unit shall be expedited with the native species and for the proposed expansion, shall be initiated at the earliest and well before the start of construction.*
- xii) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.
- xiii) *A minimum amount of Rs 14.0 Crores as one time capital investment shall be earmarked for activities to be taken up under CSR during construction phase of the Project. Recurring expenditure for CSR thereafter shall be Rs 2.8 Crores per annum or as per CSR guidelines of Govt. of India, whichever is more till the life of the plant.*
- xiv) For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.
- xv) An Environmental Cell comprising of at least one expert in environmental science/ engineering, ecology, occupational health and social science, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.

2.3 2x660 MW Super critical coal based Thermal Power Project of M/s Welspun Energy UP Pvt. Ltd. at village Dadri Khurd, Tehsil Mirzapur Sadar, District Mirzapur, in Uttar Pradesh- reg. reconsideration for Environmental Clearance

The proposal was earlier discussed in the 4th and 70th Meetings of the EAC (Thermal) held during **November 18-19, 2013 and March 26, 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. Enviro Net Pvt. Ltd., Gurgaon and provided following information:

The proposal is for setting up of 2x660 MW Super critical Coal Based Thermal Power Project at village Dadri Khurd, in Tehsil Mirzapur Sadar, in District Mirzapur, in Uttar Pradesh. The proposal was earlier proposed to be set up based on domestic coal but due to non-availability of the domestic coal, it has been decided to go ahead with imported coal from Indonesia for an interim period until domestic coal is available. The land required will be 875 acres, out of which 15.63 acres will be single crop agriculture land; 853.74 acres will be barren Land; 5.44 acres will be water body; and 0.19 comprises of human settlements. The co-ordinates of the site are located within Latitude 24°58'41.645" N to 25°00'16.887" N and Longitude 82°39'50.425" E to 82°41'03.728" E. Imported Coal requirement will be 5.27 MTPA. Coal will be obtained from Indonesia. Coal supply agreement had been signed with M/s Sirdi Sai Goodearth International PTE Ltd. Ash and sulphur contents in imported coal will be 14% and 0.34% respectively. Gross Calorific value of the coal will be 4400 kcal/kg. About 0.59 MTPA of fly ash and 0.15 MTPA of bottom ash will be generated. Ash will be supplied for manufacturing of Cement and MoU have been signed with M/s ABG Cement Ltd. Ash pond area will be 180 acres and co-ordinates of the ash pond site will be within Latitude 24°59'46.8" N to 25°00'14.5" N and Longitude 82°40'8.2" E to 82°40'57.8" E. Lean concentration slurry fly ash disposal system will be adopted. Bi-flue Stack of 275m will be provided. Water requirement of 36 MCM will be sourced from the Ganga river through a pipeline at a distance of about 17 km from the project site. Irrigation Department Govt. of U.P has accorded water allocation vide its letter dated 09.09.2011. CWC has also approved the water allocation of 36 MCM from River Ganga vide its letter dated 12.10.2011. R.O System will be installed and zero discharge will be adopted as far as practically possible. Induced draft cooling system will be installed. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within ten km of the project site. Public Hearing was held on 07.04.2012. Cost of the project will be Rs.7500 Crores.

M/s Welspun Energy UP Pvt. Ltd. also made point-wise TOR compliance. It was observed that TOR for the power project was issued on 15.06.2011, whereas AAQ Data has been collected for the period March to May, 2011. The project proponent clarified that while TOR was recommended, they had requested the Committee for allowing using AAQ Data they have started collecting data, which the Committee had duly conceded. The Committee perused through the minutes of the meeting wherein recommendation for TOR was made and noted consent had been given to use data collected already. It was noted that proposal for TOR was considered twice i.e in April, 2011 and in May, 2011 and recommendation for TOR was made during the meeting held in May, 2011.

It was also informed by the project proponent that the power project has 100% PPA with UP Power Corpn. Ltd.

It was observed that the imported coal document furnished is from a trading company and does not appear to be from the project proponent's own mine in Indonesia as reported to be sourced from for the power project. The Committee desired that clarification of the same be submitted.

Deliberating the issue of uncertainty in coal (including imported coal from Indonesia), the Committee observed that in order to avoid dis-service to financial institutes by creating stranded assets, the issue of firm fuel and water availability need to be deliberated at length and need to be confirmed to its satisfaction. It was therefore decided that the project proponent shall submit

documents to submit viable fuel source for running the power project (2x660 MW) clearly indicating source of fuel and impact of low grade imported coal on the boiler efficiency.

The issue of coal transportation from the country of origin to the TPP site and the bottle necks of Port and Railways was also observed to have been inadequately dealt with and details on the same has been sought.

The Committee therefore decided over and above financial viability of using imported coal from Indonesia, the project proponent shall submit and explain tripartite agreement entered with the U.P Govt. The Committee also desired further information from the project proponent the legal tenability of the PPA entered into with UPPCL.

Regarding water availability the Committee noted that the CWC clearance has many conditions and clearly indicates that between January to May no water can be drawn. The project proponent informed that a storage reservoir is being planned to cater for six months requirement at a site of about 4.5 Km from the TPP site. That the existing Dam (Upper Khajuri Dam) which is highly un-utilized will be utilized to by way of pumping and storage excess monsoon water for use of the power plant using lean season period.

The Committee recommended that the project proponent shall ensure that the power project is self-sufficient in its water requirement for which necessary water conservation practices shall be done.

It was therefore decided that the project proponent shall submit a well-planned water harvesting scheme, development of small check dams in the area, flood water storage schemes (as may be feasible).

The Committee expressed that the Dam must have been built long ago for irrigation and drinking water needs. It was therefore decided that the project proponent shall submit details of existing conflict of interest of the same water source between drinking, agricultural and industrial in the region.

Regarding water availability study the project proponent informed and submitted a study report prepared by M/s WAPCOS, which inter-alia includes area drainage study. It was also informed that Geo-Hydrology study was carried out by M/s Minmec Consultant; seismic study by IIT, Chennai; Need Based Assessment Study by M/s XIDAS, Jabalpur; Feasibility Study for Railway Siding by M/s Aarvee Consultants and take off stations finalized in consultation with Railways. That Biodiversity Assessment has been carried out by Dr. Justus Joshua of M/s Green Future Foundation and Conservation Management Plan accordingly prepared. That till date expenditure to the tune of Rs 126.48 Crores has already been incurred.

The Committee was informed that a complaint against setting up of the proposed power project by one Shri Baliram Singh, President, Van Upvan Conservation of Nature Environment Society, Shamsherpur, in Chandoli Distt., in U.P has been forwarded by the Prime Minister's Office. The Committee perused through the contents of the complaint and decided that the project proponent shall submit detailed point-wise clarification (both in Hindi and in English) on the issues raised.

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

opportunities to stop percentage of migration; wildlife conservation; jobs for poor and unemployed land losers; plan for the women empowerment; pollution control instruments to be installed; conventional and beneficial plants to be planted while development of green belt; education and medical facilities for villagers etc. The project proponent also informed that there are no litigations in any courts w.r.t the proposed power project.

The project proponent in the Public Hearing responded that preference for job opportunities will be given to land losers. That the company will set up a separate CSR team for development activities in the area which shall include health care facilities, infrastructure improvement and refurbishing of schools. That Rs. 10 Crores has already been projected for various women empowerment activities.

The Committee noted that while presenting their case on issues raised and responses made during Public Hearing the project proponent have mixed up the responses made and the action plan for implementation. That perusal of the presentation itself indicates that no concrete action plan seems to have been formulated. *The Committee therefore decided that the project proponent shall clearly indicate the issues raised in the Public Hearing and the actual response made and followed by specific action plan for implementation and submit the same. The Committee also advised the project proponent that they shall integrate locals as part of the development process of the power project and accordingly formulate an action plan. As part of health care venture it was observed that the project proponent may tie up with local community health care centers. It was also advised that long term preventive health care measures need to be the focus and the project proponent need to obtain medical records of endemic diseases in the region in case anything worthwhile scheme is proposed to be formulated in consultation with the local Public Health Department.*

On being narrated the health care services already being conducted in the area, the Committee noted the good services purportedly being carried out by the project proponent in health sector in three villages in the area.

On the issue of wildlife, the Committee noted that the secondary data of wildlife of the area seem to indicate a fairly good population of Schedule-I species and decided that a conservation action plan vetted by the office of the concerned Chief Wildlife Warden shall be submitted.

On the issue of details of land of the thermal power project site, the Committee observed that details as per Revenue records shall be submitted.

In view of the shortcomings noted above the Committee decided that the proposal be deferred for re-consideration at a later stage on submission of the clarifications/ study reports sought."

On submission of the information sought, the matter was again placed before the EAC for its re-consideration.

The committee noted that a representation has been received from Banaras Hindu University requesting to review of siting of the project as it may have adverse impact on the residents of the University and particularly in Rajiv Gandhi South Campus. The committee also noted that the PP in the presentation now made is silent on the clarifications sought on the representations forwarded by the Prime Minister's Office to the Ministry. The committee therefore sought the response of the PP on the above representations.

It was also noted that relevant documents from the Port and Railway Authorities in support of the imported coal handling capacity and MoU/agreement as may be necessary are not available. The committee was not satisfied with the firm water availability especially during the lean season for the power project and therefore sought detailed water source availability for the entire year. It was also decided that the wild life conservation plan prepared shall be reviewed by the expert member from WII.

In view of above, the committee decided that a site visit may be undertaken by a sub-group comprising of Prof. C.R. Babu, Shri T.K. Dhar, Shri N.K. Verma and a representative of MoEF after the submission of all relevant documents as sought above. Accordingly, the proposal was deferred. ” Unquote.

1. 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. Since the above sub-group couldn't visit the site due to other important commitments, it was decided to invite the State Govt. officials of Irrigation Deptt., so that they can suitably reply to the queries reg. firm water availability for the project. The following information was provided by the PP and their environmental consultant. Shri Om Verma, S.E. and Shri Harshendera Gupta, Ex. E., Irrigation Deptt., Mirzapur have provided detailed clarifications to the committee on water availability.
2. The Dhamra Port had been identified for handling of imported coal and a MoU was signed with the Dhamra Port for handling of 5.5 MTPA of imported Coal from Indonesia. The Port has two dedicated berths with mechanized handling facilities and rail link from Dhamra to Bhadrak. The present handling capacity of 25 MTPA with two dry berths will be expanded up to 100 MTPA in Phase II, whereas the present utilization of port handling is 10 MTPA.
3. The PP has approached the Ministry of Railways for Rail Transport Clearance (RTC) Clearance. However, as per Railway Board Circular dated 23rd July, 2012, “.....there will be no requirement of RTC for power plants (IPP/CPP). Zonal Railways may examine the siding proposal incorporating the traffic flow & approve the same under intimation to Railway Board. In case of imported Coal, the siding proposals may be approved subject to their confirming to the logistic policy of Railways regarding transportation of imported coal”. The Zonal Railway (North Central Railway) has approved Sarsongram Railway station as take off for constructing Private Railway Siding.

The Committee noted that a firm commitment/approval from Railway Board vide letter dated 31.01.2014 for transportation of imported coal was submitted by another project proponent. A copy of the said letter was provided to the PP for submission of a similar commitment/approval from Railway Authorities.

4. A detailed scheme of water abstraction and transportation along with the data of Upper Khajuri Dam reg. its storage and usage was presented. No water will be drawn from River Ganga during lean period. The water (21 MCM de-silted water) shall be pumped directly to the Plant from June to December @ 3 MCM per month as per the approval of Irrigation Deptt. and Central Water Commission w.e.f. 1st June to 31st December. The water requirement for lean season shall be stored in Upper Khajuri Dam and the same will be used during lean season for the plant. Additional pumps shall run in November & December to store 15 MCM water in Upper Khajuri Dam to meet lean season requirement of the plant. Pumps and piping shall be designed to cater additional water

requirement for irrigation use. The Water Use Agreement between U.P Irrigation Dept. and the PP is under process. As per the proposed Water Use Agreement, PP will pump additional 9.5 MCM of water per year for irrigation purposes. Further, restoration of Upper Khajuri dam is also proposed to be undertaken by U.P Irrigation department on deposit work basis at an estimated cost of Rs 9.6 crores and to be paid by the PP. Due to the availability of additional water of 9.5 MCM per year, the irrigation/farmers of the nearby region will be benefitted.

5. Regarding the biodiversity & conservation plan, it was prepared by reputed consultant M/s Green future foundation and submitted to MoEF. The same has been forwarded by MoEF to the expert member from WII, Dehradun for comments. The said Report/Plan has been forwarded by DFO wildlife, Mirzapur and DFO Wild Life, Kamur to PCF wildlife, Lucknow. PCF is processing the Wildlife conservation & management plan. Budget allocated for implementation of Wildlife conservation plan is approx 184.15 Lakhs. *The committee noted that the expert member from WII commented that the said Report/Plan is in order.*
6. The PP has submitted point wise response to BHU vide their letter dated 29th January, 2014 reg. the adverse impacts on the residents of Rajiv Gandhi South Campus due to the project. The same were presented before the Committee. The PP held meetings with BHU on 08.03.2014 and 10.03.2014 and detailed discussions were held on all the issues and provided satisfactory replies. The issues raised by the NGO, Vindhya Environmental Society in their letter to BHU were also discussed in the said meetings in detail. The Minutes of the said Meeting were also submitted before the Committee. As desired by BHU, the commitments regarding installation and operation of ESP (with 99.9 % efficiency) and ETP, complying with all conditions stipulated by CWC on water withdrawal and complying with proposed ash utilization plan shall be submitted to BHU. *The committee recommended that the environmental cell of the PP shall also work in close coordination with BHU.*
7. Regarding the representation forwarded by PMO, Shri Balram Singh, President, Van Upvan Conservation of Nature & Environment made a representation on forest issue inside the project area and starting of construction before EC. MOEF asked the PP to submit reply to the issues and also forwarded the same letter to MoEF Regional office, Lucknow for their comments. Site inspection was carried out by Regional office MoEF headed by CCF on 19/11/2012 with a team of eight members comprising of Deputy CF, DFO, NTPC representative & local Village representative. Shri Balram Singh was also a part of the inspection team. Regional office, MoEF submitted the inspection report to MoEF, New Delhi on 11.10.13. It is concluded that the site plan includes No Notified Reserve Forest/Protected Forest, the Land is Ownership of Forest Department & Forest like area recognized by State Govt. in compliance of Hon'ble Supreme Court order. It was found that construction of power plant was not started, as found during the inspection. The company and the concerned DFO is directed that construction should be started after getting EC. Further, the PP submitted reply (both English & Hindi) to MoEF and EAC on 24.04.2013 and 11.02.2014.
8. A copy of the reply provided by the PP vide letter dated 06.02.2014 to Vindhya Bachao Manch, Vindhya Ecology and Natural History Foundation is also submitted. The committee discussed the issues and noted that most of them were already deliberated in depth.

9. Based on the information and clarifications provided by the Project Proponent and detailed discussions held on all the issues, the Committee *recommended the project for environmental clearance subject to receipt of firm commitment/approval from Railway Authorities for transportation of imported coal* and stipulation of the following specific conditions:

- i) Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.
- ii) A stack of 275 m height shall be provided with continuous online monitoring equipments for SO_x, NO_x and PM_{2.5} & PM₁₀. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.
- iii) *Sulphur and ash contents in the imported coal to be used in the project shall not exceed 0.34 % and 14.0 % respectively 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 wherever necessary.*
- iv) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³. Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.
- v) COC of atleast 5.0 shall be adopted.
- vi) Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.
- vii) A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.
- viii) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.
- ix) Ash pond shall be lined with HDPE/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.
- x) A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.
- xi) *The Wildlife conservation plan formulated in consultation with the Wildlife Department of the State and duly vetted by the concerned Chief Wildlife Warden shall be duly implemented. An in-built monitoring mechanism shall also be put in place.*

- xii) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.
- xiii) *A minimum amount of Rs 30.0 Crores as one time capital investment shall be earmarked for activities to be taken up under CSR during construction phase of the Project. Recurring expenditure for CSR thereafter shall be Rs 6.0 Crores per annum or as per CSR guidelines of Govt. of India, whichever is more till the life of the plant.*
- xiv) For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.
- xv) An Environmental Cell comprising of at least one expert in environmental science/ engineering, ecology, occupational health and social science, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures. *The environmental cell shall also work in close coordination with BHU.*

2.4 5x800 MW Pudimadaka Super Thermal Power Project by M/s NTPC Limited at Lalamkoduru, Rambilli, Veduruvdda & Pudimadaka, Distt. Visakhapatnam, Andhra Pradesh – reg. ToR.

At the outset, the Committee noted that only one alternate site has been proposed by the PP and hence recommended that minimum two proper alternate sites shall be proposed on a topo sheet. The proposal was accordingly **deferred**.

2.5 3x300 MW Coal based Power Project at village Parsodi, Taluka-Selu and Distt. Wardha by M/s Vidarbha Industries Power Limited – reg. ToR.

Upon the request of the PP, the proposal was **deferred**.

2.6 2X 800 MW Thermal Power Project in Sundargarh Distt. of Odisha by M/s Mahanadi Basin Power Ltd. - reg. Environmental Clearance

At the outset, the Committee noted that the proposed TPP does not have firm coal linkage although the PP informed that the Standing Committee for coal linkage has recommended their case. As firm coal linkage is a pre-requisite for consideration of EC, the proposal was **deferred**.

2.7 5x270 MW Thermal Power Project at Additional Amravati Indl. Area, Nandgaonpeth, Distt Amravati, Maharashtra by M/s Indiabulls Power Limited – reg. extension of validity of EC.

1. The proposal is for extension of validity of EC accorded by MoEF for the above project on 27.02.2009 and subsequent amendment dated 15.07.2010 for change in project configuration. The project proponent made a presentation before the committee requesting for the extension and provided the following information.

2. Regarding the current status/progress, it was informed that, the progress of project including compliance of Environmental Stipulations is being communicated to Regional Office of MoEF, Bhopal and MPCB from time to time. The civil foundation works for all 5 Units was completed, supply of BTG Material for all 5 Units is nearing completion, Unit 1 achieved COD and Unit 2 achieved commissioning & full load. BTG Erection: Unit 3 to 5 BTG structure erection completed, Equipment/Installation & Final Box up in process. The CHP Stacker Reclaimer, Coal Bunker Erection, Chimney 1 & 2 of height 275 meter, Induced Draft Cooling Towers, CW Pipe line laying, DM Plant and PT plant are completed. The 400 KV Switchyard Erection is completed & electrically charged. The Raw Water Reservoir is completed and water filled.

Cross Country Pipe Line Laying work is nearing completion and approx 31.2 km out of 32 km piping has been laid so far. The work for 400 KV LILO line has also been completed & charged. 400 KV main Transmission Line, 277/279 foundations cast, 263 towers erected and stringing work (66.3/103.3 km) completed. Erection of Generator Transformers (GT)-1 to 5, Station Transformers (ST)-1 to 3 has been completed. 1 Field Hostel and 3 Buildings (84 Flats) are ready and in use and 3 Buildings are in advanced stage of completion. The photographs of various units/facilities of the project including green belt and compliance to the EC were also presented.

3. Regarding the reasons for delay, it was informed that, initially the plant was conceptualized for 1320 MW Capacity and EC was granted in Feb, 2009. The project was awarded to Chinese Contractor, M/s Sepco. Due to new visa restrictions issued by Govt. of India in September, 2009 order on M/s Sepco was cancelled. Configuration changed to 5x270 MW, revised configuration/capacity amended on 15th July, 2010, delaying start of project construction by about 18 months. Due to unprecedented monsoon in Vidarbha region of Maharashtra for last two years (Amravati in particular had 171% above normal), most of the plant area got flooded causing delay in civil construction work, commissioning of equipment etc. Further, there was delay in Civil Work due to restrictions on sand mining.
4. An amount of Rs. 14.6 crores (approx.) was incurred for CSR expenses till date which include the areas of infrastructure, education, health, environment, water, job oriented training programmes etc. *The committee recommended that an Action Plan for the balance capital cost (around 13 crores) of CSR activities that need to be undertaken by the PP shall be submitted within a month. As a part of CSR activity, the PP shall setup model brick manufacturing units and provide regular training to the locals for manufacturing of fly ash bricks.*
5. During the deliberations, the committee noted that transportation of coal was proposed by rail at the time of EC. *The PP informed that railway siding will be completed latest by 31.3.2015 and no transportation of coal shall be made by road, thereafter.*

6. Based on the information and clarifications provided, the Committee noted that the project is in an advance stage of implementation and no public interest will be served by denying the extension sought. The Committee therefore decided that 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, in addition to the following specific conditions:

- i. The coal transportation by road through mechanically covered trucks shall be explored and till such time the transportation may be carried out through tarpaulin covered trucks. Periodic maintenance of the road may be carried out by the project proponent at its cost and smooth traffic flow on the road may also be facilitated by the project proponent in consultation with the State Government Authorities. In any case, no transportation of coal shall be made by road after 31.03.2015.
- ii. Avenue plantation of 2/3 rows all along the road shall be carried out by the project proponent at its own cost in consultation with the State Government Authorities.

2.8 Kakatiya Thermal Power Project, Stage-II (600 MW) near Chelpur Village, Ghanpur Mandal, Warangal Distt., Andhra Pradesh by M/s Andhra Pradesh Power Generation Corporation Limited (APGENCO) – reg. extension of validity of EC.

1. The proposal is for extension of validity of EC accorded by MoEF for the above project on 05.02.2009. The project proponent made a presentation before the committee requesting for the extension and provided the following information.
2. Regarding the current status/progress, it was informed that, orders for main plant and equipment was placed on M/s BHEL with a contract period of 42 months and orders for balance of plant was placed on M/s Techpro with a contract period of 30 months. The BTG supply and erection progress is 83% and 54 % respectively. The BOP works supply and erection and civil works is 64%. The expenditure incurred on main plant works is Rs. 2720 crores. The photographs of various units/facilities of the project including green belt and the status of environmental safeguards were also presented. The main plant and BOP works will require another 20 months for synchronization. Other works will require additional 4 months for COD.
3. Regarding the reasons for delay, it was informed that, there was delay in placement of order for balance of plant due to legal and administrative issues and exchange of inputs for engineering of both BOP and BTG got delayed by nearly 10 months. There was delay in completion of BOP works by contractor due to insufficient supply of manpower and materials because of their financial problems. APGENCO is exploring ways and means to overcome this problem. Ban by Hon'ble High Court on quarrying of sand in A.P and separate statehood agitations in the State which disrupted the progress of work were also the reasons for delay.
4. The details of CSR activities undertaken during 2010-13 aggregating to an amount of Rs. 13.71 crores (approx.) were submitted. *The committee noted that the updated Form-I was not submitted by the PP and recommended that the same shall be submitted to MoEF immediately.*

5. Based on the information and clarifications provided, the Committee noted that the project has made substantial progress in implementation and no public interest will be served by denying the extension sought. The Committee therefore decided that 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.

2.9 3x350 MW of 4x350 MW Coal based Thermal Power Project in Kandarei Athagarh Tehsil, Distt. Cuttack, Orissa by M/s KVK Nilachal Power Pvt. Ltd. - reg. extension of validity of EC.

1. The proposal is for extension of validity of EC accorded by MoEF for the above project on 18.02.2009. The project proponent made a presentation before the committee requesting for the extension and provided the following information.
2. Regarding the current status/progress, it was informed that, the project is being implemented in two phases. The Financial Closure was achieved for Phase – I (1 x 350 MW) on 13th May, 2008. 95% of engineering pertaining to BTG has been completed and 50% of engineering pertaining to BOP has been completed. The Financial Closure was achieved for Phase -II (2 x 350 MW) on 11th July, 2011. BTG order was placed & engineering 75 % completed. BOP design is common for Phase # I & II and 30 % of engineering was completed for Phase #II.

400 KV line for power evacuation route survey was completed. Tower type test reports received. Railway Siding DPR and ESP was approved by East Coast Railways, Bhubaneswar. Raw water pipeline cum Pump house route survey & basic engineering was completed. Raw water pipeline detail engineering is 75 % completed. Intake Pump House drawings submitted for approval in Irrigation Department. Construction power and construction water are available and will meet the requirement. Construction of storage shed for BTG Equipment was completed.

3. Regarding the reasons for delay, it was informed that, construction works were upheld due to stay order issued by the Hon'ble High Court of Orissa on 18-05-2012 due to a PIL filed by an NGO, Sri. Charidesa Krusak Surakhya Sangha, alleging that the project site is in the vicinity of the Notified Kapilash Wildlife Sanctuary. However, the said wildlife sanctuary has been notified by Govt. of Orissa on 02-04-2011 & Gazette published on 29-04-2011 (E.C. issued for the Project on 18-02-2009).

Govt. of Orissa has issued a Gazette order on 29-04-2011 notifying Kapilash Wild life Sanctuary which is situated at a distance of 3.5 Kms from the plant site. The proposed ESZ Boundary at the closest point is at a distance of 1.4 Kms. from the Plant Boundary. State Wildlife Board of Orissa has recommended the proposal and permission from NBWL is awaited.

4. *The committee noted that the presentation did not reflect the CSR activities undertaken and proposed. Hence, it was recommended to stipulate the standard condition of CSR.*

5. Based on the information and clarifications provided, the Committee noted that the project has made substantial progress in implementation and no public interest will be served by denying the extension sought. The Committee therefore decided that 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, in addition to the following specific condition:

- i) The extension of validity of EC is subject to the clearance from the NBWL, if applicable and the Judgment of High Court of Odisha in the said PIL.

2.10 2x600 MW Coal based Thermal Power Project at Melamaruthur, Ottapidaram Taluk, Tuticorin District, Tamil Nadu by M/s Coastal Energen Pvt. Ltd. - reg. extension of validity of EC.

1. The proposal is for extension of validity of EC accorded by MoEF for the above project on 10.12.2008 and subsequent amendment dated 05.05.2009 for change in project configuration. The project proponent made a presentation before the committee requesting for the extension and provided the following information.
2. It was submitted that, although the original EC was accorded on 10.12.2008, due to the subsequent change in project configuration and the amendment in EC dated 05.05.2009, the PP is of the view that the effective date for considering the five years period for commencement of the production operation is 05.05.2009. Further, it was planned to commence the operations of both the units within the validity period, but as it seems to be delayed by few months, an extension is sought.
3. *The committee noted that the validity period of EC starts from the date of the original EC and the PP should have applied for extension prior to its expiry i.e. 09.12.2013. Further, the committee noted that the updated Form-I was not submitted by the PP and sought the same. Subsequently, the PP has submitted the updated Form-I.*
4. Regarding the current status/progress, it was informed that, the boiler drum lifting, generator stator lifting & positioning, boiler hydro test, transformers back charging and availing start up power for both Unit-I and II were completed. The common facilities for Unit-I and II such as gas insulated switchyard, intake/outfall system, chimney, coal handling section, ash handling & pond, circulating water system and cooling towers, water treatment plant, HVAC system, fire fighting system etc. were completed. The Unit-I boiler light up was completed on 25.03.2014 and that for Unit-II is scheduled for August 2014. The synchronization of Unit-I and Unit-II with Grid are scheduled for May 2014 and August 2014 respectively. The photographs of various units/facilities of the project including green belt and compliance to the EC were also presented.

Financial progress of Rs. 5,430 crores was achieved as on date. Long term Power Purchase Agreement made with TNEB/TANGEDCO for supply of power from 1st June 2014. MoU for Fly Ash utilization made with Cement Manufacturers, Fly Ash brick manufacturers, etc.

5. Regarding the reasons for delay, it was informed that, consequent to the change in unit configuration, action was taken for procurement of equipment/material after November, 2009. There was a delay in sanction of additional term loan by bankers due to non-availability of Mega Power Status. Reappraisal of revised project cost with banks took time and the project progress impacted during the period September 2011 and December, 2013. Due to exchange rate fluctuation, banks took time to release funds.

6. *The committee noted that the green belt development seems to be lagging and recommended that green belt of 50-100 m width shall be developed including around the conveyor and shall also be expedited. Since the presentation was silent on the CSR activities, the details of the CSR activities undertaken and a proposed action plan was sought.*
7. *The PP has submitted a detailed report on the CSR activities undertaken (along with photographs) and a proposed action plan. The PP has carried out need based study on "Socio-Economic status and the needs of Rural Community" through Department of Social Work, Sacred Heart College, Tirupattur during December 2009. Based on the finding of the study and in consultation with the local people several initiatives are being taken. There are five villages adjacent to the Project, which are the target villages for CSR activities. The number of families and total Population in the target villages are 3,885 and 13,729 respectively.*

An amount of Rs. 19.15 crores (approx.) was spent till March 2014 on CSR activities of education, health, socio economic development, infrastructural development etc. and an amount of Rs. 3.3 crores (approx.) is proposed to be spent during 2014-16. *The committee observed that the said report is found to be in order.*

8. *The committee also took note of the MoEF letter dated 12.02.2004 regarding obtaining of NBWL clearance for the project and the reply dated 12.03.2014 of the PP stating that vide letter dated 11.03.2004, they have requested PCCF and Chief WLW, Tamilnadu to forward their proposal to NBWL for their clearance.*

9. *Based on the information and clarifications provided, the Committee noted that the project is in an advance stage of implementation and no public interest will be served by denying the extension sought. The Committee therefore decided that 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, in addition to the following specific conditions:*

- ii) *The extension of validity of EC is subject to the clearance from the NBWL.*
- iii) *Green belt of 50-100 m width shall be developed including around the conveyor and shall also be expedited.*

2.11 Proposed 2000 MW Combined Cycle Power Plant at Guhagar in Ratnagiri Distt. of Maharashtra by M/s Synergy Li Power Resources India Pvt. Ltd. – reg. TOR

1. *At the outset, the Committee noted that the alternate sites proposed have land acquisition issues, are falling within the HFL of the River etc. Hence, the committee opined that minimum two proper alternate sites may be proposed by the PP on a topo sheet other than those currently proposed. The requirement of CRZ clearance for the proposed site (s) also needs to be confirmed by the PP through an organization/institute of repute.*

2. *The PP submitted that the three sites that have been proposed have been technically valid sites for the project. The site near Dabhol meets the entire requirement for setting up the project. As expressed during the meeting, the site has been extensively studied for other power projects and in fact is adjoining an existing operating power project (Ratnagiri Gas and Power erstwhile Enron Power) and also another proposed but now withdrawn coal based*

power project (proposed by Mahagenco: Dhopave power project) for which TOR had been issued earlier. The Dhopave coal based power project has been withdrawn since the issuance of the TOR due to various reasons.

3. The other two sites proposed had been technically valid. Due to the passage of time based on the moratorium, we have been informed that there could be possible legal difficulties in acquiring suitable land at Navhare village. The land would also be much more expensive than the preferred site and would require R and R for some of the nearby village infrastructure that would add to the cost and delay of the project.

4. The other site near Nimgaon village is about 1.5 kms from the river and at a height of over 50 meters above the high flood line. Although the Maharashtra state Pollution Control Board have an unclear regulation for siting industries that are for thermal power project as are classified under Red category (generally meant for coal based power plans and may or may not be applicable for gas based power plants) we have been advised that although the State can relook at the site for their regulatory requirement in giving an exception especially since the project shall not cause any river pollution and since it is gas based. But we have been strongly advised to pursue the preferred site near Dabhol and the State has also given a letter of support for that site near Dabhol.

5. Developing newer options for land especially under the cloud of the proposed Land Acquisition Bill would be quite frustrating and economically unviable especially when good options have already been presented. It is also proposed that if the recommended site is found unsuitable, then a new site shall be looked for and presented for a review.

6. *After detailed deliberations, the committee recommended that a sub-group of EAC shall visit the proposed site (s) for a decision on further course of action. The proposal was accordingly **deferred**.*

2.12 Proposed 1320 MW (2x660) Coal Based TPP at near village Char Bhabanipur, in Balagarh Taluk, in District Hooghly, in West Bengal by M/s CESC Ltd. – reg. TOR

Upon the request of the PP, the proposal was **deferred**.

2.13 2.7 MW Coal/Biomass Briquettes based Captive Power Plant at Village Nare and Vadvalli, Post Uchat, Distt. Wada, Thane, Maharashtra by M/s Saint Gobain Gyproc India Ltd. - reg. TOR.

1. The proposal is for prescribing ToR for preparation of EIA/EMP report for the 2.7 MW Coal/Biomass Briquettes based Captive Power Plant at Village Nare and Vadvalli, Post Uchat, Distt. Wada, Thane, Maharashtra. Although the project activity is listed under Category 'B' of the schedule of EIA Notification, 2006, due to its location within 10 km of the Tansa WL sanctuary and applicability of General Condition, the proposal is treated as Category 'A' and appraised at Centre. The PP along with their environmental consultant, M/s Aditya Environmental Services Pvt. Ltd., Mumbai has made a presentation and provided the following information.

2. The existing company manufactures Gypsum Universal Plasters, Gypsum Board and Jointing Compounds/ Finishing Plaster. Consent to Operate accorded by MPCB is valid till 31-03-2017. Due to the poor and interrupted power supply etc., the Plant is unable to achieve full capacity. Hence, it is proposed to establish 2.7 MW Coal/ Biomass Briquette based

Cogeneration plant within the existing premises to generate Captive Power & shifting thermal load to steam instead of Furnace Oil.

3. The coal and biomass briquettes requirement will be around 132 TPD and 50 TPD respectively. The coal will be imported from Indonesia and biomass briquettes from domestic source i.e. Akola, Amravati & Jalna. The water requirement will be 230 CMD and will be sourced from ground water. Zero discharge will be maintained. The fly ash generated (15 TPD) will be disposed for use as an additive for Concrete & Cement Mortar through Sister Company, St Gobain Weber India Ltd. and to brick manufacturers.

4. The PP informed that considering the onset of monsoon, they have started collection of base line monitoring from March, 2014 and requested for utilizing the same in EIA/EMP report. The Committee has agreed for the same.

5. 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 along with the specific TOR as under:

1. Authenticated map from PCCF, WL showing the project site and the boundary of the Tansa WL Sanctuary shall be submitted.
2. Copy of application made to NBWL and the status of NBWL clearance shall be submitted.

2.14 2x300 MW (600 MW) coal based TPP at Murka, Distt. Chhitrakoot, UP by M/s Creative Thermal Power Ltd. – amendment in ToR for Change of coordinates.

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 of 2x300 MW (600 MW) CB TPP by M/s Creative Thermolite Power Pvt. Ltd. at Murka, Distt. Chhitrakoot in Uttar Pradesh was accorded ToR for preparation of the EIA/EMP report on 28.12.2011 and was considered for extension of the validity of ToR by the EAC in its 4th meeting held in November, 2013.

The PP vide letter dated 12.12.2013 has requested MoEF for the change in Co-ordinates of the project site. The matter was placed before the EAC, wherein the PP made a presentation along with its consultant, M/s Vimta labs and provided the following information:

As suggested by the EAC in its 4th meeting, the Co-ordinates of the project site were revised by avoiding the surveyed wooded areas. The land requirement has been optimized from 500 acres to 450 acres. The area shown under Co-ordinates is only 400 acres, out of which 360 acres will be taken for the main plant. The remaining 90 acres will be taken separately for railway corridor, water corridor and township.

*The committee noted that the coordinates for the entire proposed project area of 450 acres was not submitted. Further, the Govt. land of 40 acres is proposed to be excluded. Hence, the coordinates shall be revised and submitted. Accordingly, the proposal was **deferred.**” Unquote.*

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. The following information was provided by the PP and their environmental consultant.

The Co-ordinates covering all 450 acres has been identified reducing Govt. land to the extent feasible. The Co-ordinates of the main plant area cover only 360 acres as against 400 acres earlier and is proposed to acquire as shown in co-ordinates. The 360 acres includes 19 acres of Govt. Land and 05 acres of UPSIDC land. The Co-ordinates of balance 90 acres proposed for township (38 acres - UPSIDC) and Railway siding (52 acres) have been identified. The 52 acres includes 2.5 acres of Govt. Land. The PP confirmed that no forest land is involved in the project site.

Based on the information provided and the presentation made, the Committee recommended the amendment in ToR for Change of coordinates along with the additional TOR as under:

1. The impact of the proposed TPP on the nearby forest shall be assessed.

2.15 2x660 MW Super Critical Coal Based Thermal Power Plant at villages imirimunda, Samsingha & Mahulamunada, in Rairakhol Taluk, in Sambalpur Distt., in Odisha by M/s Visaka Thermal Power Private Ltd. – reg. Extension of validity of ToR.

The Committee noted that a policy decision has been taken by the Ministry vide its Office Memorandum dated 22.03.2010 for dealing with the above matter. The Committee therefore recommended that the above item may be considered purely in consonance with the applicability as contained in the aforesaid Office Memorandum.

3.0 Any other items with the permission of the Chair.

3.1 70 MW Captive Power Plant of M/s Binani Cement Ltd. at Village Amli, Tehsil Pindwara, District Sirohi in Rajasthan- reg. Amendment of EC for change in fuel mix.

The proposal was earlier discussed in the 4th Meeting of the EAC (Thermal) held during **November 18-19, 2013**, the minutes of which are as under:

Quote “Environmental clearance for the above project was accorded by MoEF on 07.06.2007. The amendment in EC is requested for change in fuel mix i.e. from the existing imported coal: lignite ratio of 65:35 to proposed petcoke: imported coal/domestic coal/lignite ratio of 70:30. The justification given by the PP for the proposal is that petcoke has higher calorific value than coal leading to an approx. 42% fuel saving, the quantity of ash generation decreases by approx. 65% and since petcoke is a waste product from the petroleum refineries, its use as a fuel avoids the expensive cost of its safe disposal/treatment.

The committee noted that the information in Form-I needs to be revised and submitted. It was also noted that the SO₂ emissions are very high when petcoke is used as a fuel and sought the AAQ data of the TPPs running on Pet Coke. The details of solid waste utilization are also required. The Committee opined that use of petcoke as fuel in TPPs is very rare and wants to ascertain their environmental performance.

In view of above, the committee decided that a site visit may be undertaken by a sub-group comprising of Shri N.K. Verma, Shri G.S. Dang and a representative of MoEF

after the submission of all relevant documents as sought above. The sub-group will also study some other TPP located nearby, which is already using pet-coke to some extent, for effect of using pet-coke on emission of SO₂ and other environmental issues. Accordingly, the proposal was deferred. ” Unquote.

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. The site visit to a TPP operating on pet-coke could not be organized. The following information was provided by the PP.

1. The Form-I was revised and submitted. The AAQ data and stack emission data of two pet coke based TPPs was obtained. The data was studied and analyzed/interpreted. It can be inferred that the air quality of petcoke based TPPs which employ adequate control measures remains within the stipulated norms of CPCB. In order to control the SO₂ emissions, it is proposed to install 20 TPH limestone feeding system which will scrub the SO₂ emissions by approx. 90%.
2. Regarding the solid waste utilization, 120-140 TPD (approx.) of fly ash will be generated and completely utilized in the group cement plant for PPC production. Bed ash of 40-50 TPD (approx.) will be generated and entirely consumed as raw mix in cement production which shall replace an equivalent quantity of gypsum. Besides above, solid waste (dust) generated from the PCDs will be re-circulated back in the system. Thus, there will be 100 % utilization of solid waste.
3. Pet coke is being widely used as a fuel in Indian Industries as well as worldwide. There are several numbers of TPP projects based on pet coke that have been granted EC. The details of same were already submitted.
4. *As desired by the EAC, the SO₂ emissions and ash quantity for different combinations of fuel i.e. pet coke, lignite, imported coal, domestic coal proposed were presented. A maximum of 70% pet coke is proposed to be used. There will not be any additional SO₂ load with the proposed limestone feeding and the capacity of limestone feeding system of 20 TPH is adequate. The existing GLCs of SO₂ at three different locations and typical characteristics of the different fuels proposed to be used in the CPP were also desired by the committee and were duly submitted.*
5. Based on the information and clarifications provided by the Project Proponent and detailed discussions held, the Committee *recommended the project for amendment of EC for change in fuel mix of only pet coke, lignite and imported coal* subject to stipulation of the following specific conditions:
 - i) The fuel mix may be restricted only to pet coke and lignite, if feasible. Else, a combination of pet coke, lignite and imported coal may be used.
 - ii) SO₂ emissions from the stack shall be < 500 µg/m³ and continuous online monitoring of stack emissions shall be done.

3.2 5x270 MW coal based TPP at Sinnar Industrial Area, District Nashik, Maharashtra by M/s Indiabulls Realtech Ltd. - reg. Amendment of EC for temporary road transportation of coal.

1. The proposal is for amendment of EC accorded by MoEF for the above project on 28.07.2010 for temporary road transportation of coal. The project proponent along with their environmental consultant, M/s EQMS India Pvt. Ltd., Delhi made a presentation before the committee requesting for the said amendment and provided the following information.
2. The Unit-1 is being made ready for reliability run and Unit-2 is undergoing various commissioning activities. Rest of the units are under advance stage of construction/commissioning. MPCB has granted Consent to Operate for Unit-1 and 2. The photographs of various units/facilities of the project were also presented.
3. The EC was based on transportation of coal through railway. However, the construction of Railway Siding is still in progress. Land Acquisition Notification has been released by Government of Maharashtra. Initial payment has been done & land acquisition is under progress. Joint Site Studies were completed and Detailed Engineering Scale Plan (ESP) was approved by Railways. Existing Railway Bridge on Godavari and about 2.90 Km of railway line of MAHAGENCO is proposed to be shared, in principal approval granted by MAHAGENCO. Total track length is 25.27 km. A 'Y' Connection will be provided at the take-off point from main railway line at Odha Railway station which is on the Mumbai – Howrah electrified line towards Power Plant Site.

The Construction/Operation of Railway line is likely to take 4 years. Since the units are getting ready for commissioning, it is requested to permit the transportation of coal by road from the existing rail head (s) to the power plant till the railway siding for the project is constructed.

4. The coal requirement for the project is 1 rake per Unit/day i.e. 5 rakes/day for all five units. To manage the traffic on the roads, it is proposed to transport the coal to the site from four notified railway sidings in four different directions from Plant Site viz.: (i) Rahuri – Approx. 90 km from site (ii) Igatpuri – Approx. 70 km from site (iii) Kasbe Sukene – Approx. 30 km from site and (iv) Eklahare – Approx. 35 km from site.
5. *Based on the information and clarifications provided, detailed discussions held and present implementation status of the project, the committee recommended for temporary road transportation of coal till the completion of railway siding. Since the detailed traffic study of proposed transport route (s) is not available, the committee recommended interim permission for road transport of coal for **one year**. In the mean time, the PP shall submit (i) an action plan for expediting the implementation of railway siding and (ii) detailed traffic study of proposed transport route (s) for review.*
6. The committee also recommended the stipulation of the following specific conditions:
 - i. The coal transportation by road through mechanically covered trucks shall be explored and till such time the transportation may be carried out through tarpaulin covered trucks. Periodic maintenance of the road may be carried out by the project proponent at its cost and smooth traffic flow on the road may also be facilitated by the project proponent in consultation with the State Government Authorities.

- ii. Avenue plantation of 2/3 rows all along the road shall be carried out by the project proponent at its own cost in consultation with the State Government Authorities.

There being no agenda item left, the meeting ended with a vote of thanks to the Chair. It was decided that the next EAC (Thermal) meeting will be held on 24th – 25th April, 2014.

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, PM_{2.5}), 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.
- xl ii) 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.
- xl iii) 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.
- xl iv) 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.
- xl v) 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.
- xl vi) 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.
- xl vii) 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.
- xl viii) 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.
- xl ix) 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.

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.
