

MINUTES OF THE 16th MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON ENVIRONMENTAL IMPACT ASSESSMENT OF THERMAL POWER & COAL MINE PROJECTS

The 16th Meeting of the reconstituted Expert Appraisal Committee (Thermal) was held on **July 01-02, 2014** at Conference Hall, Van Vigyan Bhawan, Sector-V, R.K. Puram, New Delhi-22. The members present were:

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| 1. Dr. C.R. Babu | - | Vice Chairman (Acting Chair) |
| 2. Shri N.K. Verma | - | Member |
| 3. Shri G.S. Dang | - | Member |
| 4. Shri A.K. Bansal | - | Member |
| 5. Dr. S.D. Attri | - | Member |
| 6. Dr. Saroj | - | Member Secretary |

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

Dr. Ratnavel, Dr. C.B.S Dutt, Shri T.K.Dhar, Shri J.L Mehta, Shri P.D. Siwal and Representative of CPCB and WII were absent.

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

The Minutes of the 13th EAC meeting held during March 25-26, 2014 were confirmed. Consequent to the resignation of Shri A.S. Lamba, Chairman, Dr. C.R. Babu who has been discharging the role of Vice-Chairman, has been unanimously elected as the Chairman of the Committee by the members till further orders by the Ministry.

CONSIDERATION OF PROJECTS

1.1 Chhabra Second unit of Supercritical Coal Based Thermal Power Plant Stage – II (1x660 MW - Unit 6) at Village Chowki-Motipura at Chhabra, in Baran Distt., Rajasthan by M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd. – reg. inclusion of Unit 6 in the EC.

1. **Quote** “The proposal for setting up of 2x660 MW (unit 5 & 6) of stage- II was earlier considered and appraised by EAC in its 28th meeting held on July 4-5, 2011 respectively, wherein the Committee noted that no detailed information on forestry and environmental clearance of the coal blocks from where coal is to be sourced was available. It was then informed that the coal blocks were reported to have been agreed for an in-principle clearance in a public announcement by the then Hon’ble Minister of Environment & Forests. The Committee had in the said meeting also noted that the EIA/EMP Report submitted for appraisal had not addressed adequately the contents of the TOR prescribed such as primary survey of flora and fauna; Hydro-geological study; CSR action plan etc. which were required to be formulated while applying for environmental clearance. The Committee therefore decided that the project proponent may address point-wise compliance of the TOR and shall revert with full details. Accordingly the proposal was deferred for re-consideration at a later stage.

On submission of clarification of the earlier observations the proposal was placed again for re-consideration for environmental clearance in 42nd meeting held on February 6-7, 2012. The project proponent made a presentation along with its consultant M/s Bharat Heavy

Electricals Ltd. and Pollution Control Research Institute and provided the following information:

The proposal is for expansion by addition of 2x660 MW Stage-II Units -5 & 6 Coal Based Thermal Power Plant at village Chowki-Motipura, in Chhabra, in Baran Distt., in Rajasthan. Existing capacity is 1000 MW comprising of 2x250 MW Stage-I (Unit-1 & 2) and 2x250 MW Stage-I (Unit – 3&4). Land requirement will be 213 hectares, which has already been acquired. The co-ordinates of the site are located in between Latitude 24⁰37'42.21" N to 24⁰38'40.83" N and Longitude 77⁰01'48.28" E to 77⁰02'39.33"E. Coal requirement will be about 6.5 MTPA, which will be obtained from Parsa East and Kante Basan Coal blocks and both will be domestic and imported. Domestic coal and imported coal will be blended in a ratio of 70:30 respectively. Ash content in domestic coal will be 35% and imported coal will be 16%. The co-ordinates of the ash pond/dyke site are located in between Latitude 24⁰36'58.27"N to 24⁰37'49.09"N and Longitude 77⁰02'48.18"E to 77⁰03'20.75"E. About 1.5236 MTPA of fly ash and 0.3809 MTPA of bottom ash will be generated. Ash will be supplied to Cement manufacturers. Stack height will be 275 m. Water requirement will be 121.824 MLD and will be sourced from the Parwan Dam & Lhasi Dam through a pipeline at a distance of about 65.0 kms and 45.0 kms respectively from the project site. Water linkage has been granted on 11.08.2009 & 22.11.2010 for obtaining water from Lhasi Dam and Parwan dam respectively. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere Reserves etc. within 10 km of the site. Public Hearing was held on 15.02.2010. Cost of the project will be Rs 7920.00 Crores.

The Committee discussed point-wise TOR compliance and the status of compliance of the conditions stipulated in the environmental clearance accorded for the earlier stages. *The Committee observed that the status of compliance for earlier stages shall be submitted to the Ministry for their record.*

The Committee also discussed the Public Hearing issues raised and responses made by the project proponent. The Committee noted that major issues raised were regarding impact on environment due to proposed expansion, employment of locals; green belt development; civic amenities such as road, drinking water, health care facilities, electricity; impact on agricultural crops etc. The project proponent also informed that no litigation was pending / filed pertaining to the power project.

The Committee observed that water levels in bore wells downstream of the source of tapping need to be continuously monitored and shall construct check dams at appropriate locations of the streams / nallahs in the study area.

The Committee also noted that the green belt presently existing in the power station was highly inadequate. The Committee therefore decided that the project proponent shall submit detailed plan of action for development of green belt with time bound implementation schedule and financial commitment to the Ministry as also to Dr. C.R. Babu, Vice-Chairman.

The Committee further noted that there appeared to be a symmetry of information for use of coal from the cited coal blocks and directed the project proponent to furnish to MoEF the approval of the Ministry of Coal.

The Committee noted that the two coal blocks with its present mining plan could cater to only 3x660 MW, out of which 2x660 MW need to be utilized for Suratgarh project. The Committee therefore decided that even though appraisal is being carried out for both the units of 660 MW in

the instant case, the Ministry shall process environmental clearance for only one unit of 660 MW in view of the non availability of firm coal linkage for the other unit.” Unquote

2. Based on the information and clarifications provided, the Committee *recommended environmental clearance for only one unit i.e. 1x660 MW* (unit 5) of stage –II and accordingly, environmental clearance was accorded on 23rd May, 2012 subject to stipulation of the specific conditions. However, the EIA/EMP and Public Hearing was conducted for both the Units i.e. 5&6.

3. The project proponent requested the Ministry to consider the proposal for Unit 6 (1x660 MW) of Stage-II as they have revised their mining plan capacity from 10 MTPA to 15 MTPA of Parsa East and Kante Basan coal block of Hasdeo Arand coal fields situated in the State of Chhattisgarh. The mining plan has been approved; however, the environmental clearance for the coal block for expansion is under process. Forest clearance has been obtained for 1898.328 ha of forest land involved in the coal block vide MOEF letter No. letter No. 8-31/2010-FC dated 06.07.2011. In view of the firm coal availability for the unit 6, the proposal was considered in the present meeting. Further, the project proponent has also given an undertaking that in case the environmental clearance for enhanced mining capacity of coal block is not accorded, they would shut down the units 2x110 MW (Unit 1&2) and 2x210 MW (Unit 3 & 4) of Kota Thermal Power Station, as they have lived their designed life of 25 years. The coal allotted for these Units in Kota TPS would be diverted for Unit 6 at Chhabra Supercritical TPP. As informed, the coal allotted for Kota Units is 3.5 MTPA, whereas the requirement of Unit 6 is only 3.25 MTPA.

4. As informed by PP, the coal block is about 80 Km from the railway siding and the railway siding is likely to be completed by April 2015. There would be no transportation of coal by road from the coal block. The Unit 6 will be commissioned by 2018.

5. *Based on the information and clarifications provided by the Project Proponent and detailed discussions held on all the issues, the committee recommended the proposal for inclusion of Unit 6 in the EC dated 23.05.2012 subject to the approval of Board of Directors Resolution for closure of four older Kota TPPs and for diversion of coal allotted to Kota Units for the Unit 6 project. The Committee further recommended that additional conditions which were earlier not prescribed in the EC but relevant now be stipulated.*

1.1A 2x660 MW of (2x600 + 2x660) MW Malwa Thermal Power Project at Purni, District Khandwa, Madhya Pradesh by M/s M.P. Power Generating Co. Ltd - reg. inclusion of 2x660 MW in the EC.

1. **Quote** “The proposal was considered by the EAC for environmental clearance for setting up of 4x600 MW TPP at Village Purni, District Khandwa, Madhya Pradesh in its meeting held on 11-13, March 2008. Based on the presentation made by the proponent on the proposal, the land requirement for the project is 1210 ha. Water requirement is 8750 m³/hr, which will be obtained from Indira Sagar Dam on Narmada River. The coal requirement is 13.35 million TPA, however, coal linkage has so far been obtained for 4.62 million TPA. Dry fly ash collection system will be provided and the unutilized ash will be disposed in the form of high concentration slurry. A two twin flue stacks of 275 m height each will be provided. Based on the presentation made and discussions held, the Committee desired information on the following:-

- (i) Land requirement for the project should be optimized and details furnished. The norms prescribed by CEA in this regard should be kept in view.

- (ii) The water requirement should be reworked taking into account COC of at least 5.
- (iii) It is observed that the coal linkage only for 4.62 million TPA while the requirement is estimated as 13.35 million TPA. Confirmed coal linkage for the requisite quantity of coal for the proposed power plant should be provided.
- (iv) The layout plan of the project should be modified so as to ensure that the ash pond is away from the reservoir.
- (v) A written commitment regarding particulate emission to be restricted to 50 mg/Nm³ should be provided.
- (vi) Baseline ambient air quality data in the pre-dominant down wind direction should be provided.
- (vii) Examine the feasibility of zero discharge and details in this regard should be provided.
- (viii) Detailed plan for development of greenbelt including the species to be planted should be given. It should be kept in view that local species are grown.
- (ix) Details of R&R / public compensation.
- (x) Baseline data covering a study area of 10 km should be provided.
- (xi) Detailed plan of ash utilization along with supporting documents.
- (xii) Action plan to address the issues raised during Public Hearing along with time frame and financial allocation.
- (xiii) It may be informed whether there is any litigation pending / orders passed against the project by any court of law. If so, details may be furnished.

Based on the information / clarifications received from the proponent, the proposal was further considered by the Expert Committee in its meeting held on September 9-10, 2008. It was clarified by the proponent that the land requirement has been optimized and the revised land requirement is estimated as 2600 acres. Water requirement is 7410 m³/hr. Coal linkage has been obtained only for 4.62 million TPA, which will meet the requirement only for two units. The ash pond will be lined with LDP lining. 100% utilization of fly ash will be achieved from 5th year. The waste water after treatment will be re-circulated and reused within the plant premises including greenbelt. Zero discharge will be practiced except during monsoon. There will be 530 land oustees. The other issues raised by the Committee were also clarified.

Based on the presentation made and discussions held, the Committee recommended the project only for two units as the confirmed coal linkage is available only for two units. As regards the remaining two units, the matter will be considered after the confirmed coal linkage for the requisite quantity of coal has been obtained and furnished.” **Unquote**

2. EC was accorded for only 2x600 MW out of the 4x600 MW for the above project on 01.10.2008 as firm coal linkage was available only for 2x600 MW. However, the EIA/EMP and PH was conducted for the 4x600 MW. The PP requested for extension of validity of EC. The proposal was placed before EAC in its meeting held during December 5-6, 2013, wherein the committee recommended the extension of validity for period of 5 years i.e. till 30.09.2018 to start the production operations and accordingly extension was accorded vide letter No. J-13011/50/2007-IA. II (T) dated 05.02.2014 subject to certain additional conditions which were earlier not prescribed but relevant now were stipulated.

3. The project proponent requested the Ministry to consider the proposal for the other two units i.e. 2x600 MW proposed earlier and now proposed to be changed to 2x660 MW which are more environment friendly. The Ministry of Coal vide letter No. 13016/26/2004-CA-I (Pt) dated 05.08.2013 has allocated 532 Million Tonnes of estimated geological coal reserve Gondbahera- Ujheni, Singrauli, to MPPGCL for Shree Singaji TPP Stage- II. The EC and FC for

the coal block is awaited. FC application has been submitted in November 2013 and EC application is yet to be made for the Gondbahera Ujheni coal block allotted. FSA has been signed in 2009 for 20 years. The transportation of coal shall be only by rail from WCL and from Gondbahera Ujheni coal block also. In view of the firm coal availability for the two units (2x660 MW), the proposal was considered in the present meeting. Further, the project proponent has also given an undertaking that in case the environmental & forest clearance for the coal block is not accorded, they would shut down the older units i.e. 5x62.5 MW, 1x200 MW and 3x210 MW, a total of 1142.5 MW units at Satpura T.P.S. Sarni Distt. Betul (M.P), as they have lived their designed life of more than 30 years. The coal allotted for these units in Satpura TPS would be diverted for 2x660 MW units of SSTPP at district Khandwa, M.P. As informed, the coal allotted for Satpura units is 6.6 MTPA, whereas the coal requirement for 2x660 MW SSTPP is 5.3 MTPA. There would be transportation of coal by rail only.

4. As desired by the Committee, the PP submitted the Resolution passed in the 74th meeting of the Board of Directors of M.P. power Generating Co. Ltd. held on 25.06.2014 at Bhopal. The said resolution states that "Following undertaking be provided to MoEF, Govt. of India in the issue regarding grant of Environmental Clearance to Shree Singaji TPP Stage II (2x660 MW). Annual Contracted Quantity (ACQ) of 6.6 MTPA coal is allocated to MPPGCL for units of capacity 5x62.5 MW + 1x200 MW + 3x210 MW (total 1142.5 MW) located at Satpura Thermal Power Station, Sarni, Distt. Betul. As per clause No. 3.2 of FSA executed with WCL, coal meant for purchaser's one power plant can be transferred to any other power plant fully owned by the purchaser.

The coal requirement of 2x660 MW supercritical units at Shree Singaji Thermal Power Project (Stage-II), Distt. Khandwa is 5.3 MTPA at 85 % PLF. In case of non availability of coal to (2x660 MW) Shree Singaji Thermal Power Project (Stage-II) from the linked Gondbahera-Ujheni coal block, before commissioning of the unit/ project, MPPGCL will divert the required quantity of coal from the 6.6 MTPA coal allocated for above units at Satpura Thermal Power Station, Sarni, Distt Betul by shutting down/phasing out these old units."

5. *Based on the information and clarifications provided by the Project Proponent and detailed discussions held on all the issues, the committee recommended the proposal for inclusion of 2x660 MW in the EC dated 01.10.2008 and its extension of validity dated 05.02.2014. The Committee further recommended that additional conditions which were earlier not prescribed in the EC and its extension but relevant now be stipulated.*

1.2 Captive Thermal Power Plant of 2x30 MW at Budni Industrial Area, Distt. Sehore, Madhya Pradesh by M/s Trident Ltd. - reg. EC

1. The above proposal for environmental clearance was considered by the EAC for TOR in its 8th Meeting held during 9-10, January, 2014, the minutes of which are extracted as under:

Quote "The PP has made a presentation and provided the following information:

The PP has submitted the proposal for EC to Captive Thermal Power Plant of 2x30 MW at Budni industrial Area, Distt. Sehore, Madhya Pradesh to SEIAA, M.P on 23.05.2011 and subsequent presentation was made to the SEAC on 02.09.2011. The SEAC had issued TOR on 19.11.2011 for the 2*30 MW project having approx. coal consumption of 820 MT per day with fly ash generation of 205 MT per day. The total water requirement of 6600 KLD will be

sourced from Narmada River. The permission for water drawl is already obtained. The EIA/EMP report was submitted to SEIAA, M.P and subsequent presentation was made to the SEAC in its 99th meeting held on 25.07.2012. Request was made for exemption of Public Hearing. The SEAC again discussed the proposal in its 116th meeting held on 15.01.2013 about the requirement of Public Hearing and instructed the PP for conducting Public Hearing.

Public Hearing was conducted on 30.04.2013 and the Public Hearing issues were considered at the 138th meeting of SEAC held on 25.07.2013. The proposal was appraised by the SEAC and recommended for environment clearance under project Category "B". This decision was based on the letter No. 990 dated 01.10.2012 of SDO Forest (Budhni) stating that the nearest Ratapani wild life sanctuary is more than 10 km from the project site. However, before the consideration of recommendation of SEAC by SEIAA, M.P, the PCCF office informed vide Letter no. 5069 dated 26.08.2013 that the said project falls within 10 km radius of the wild life sanctuary. The SEAC and SEIAA were requested by the PP for forwarding the case to MOEF as the project site comes within 10 km radius of Ratapani Sanctuary and technically project falls into Category "A". Anticipating a delay in forwarding the case from SEIAA to MOEF, the PP has filed a fresh application for consideration of EC for 2 X 30 MW Captive Power Plant to MoEF.

In view of above, the PP has requested the committee to consider the proposal as forwarded by the SEIAA, M.P rather than as a new proposal. In the proposal submitted to MoEF Pet-coke was added as an additional fuel. However, this proposal for mixed fuel will be withdrawn since the studies already conducted were only based on 100% imported coal.

*The committee prima-facie opined that the PP should not be penalized for the above issue of distance of project site from the wild life sanctuary especially after the appraisal and recommendation of the proposal by the SEAC. However, considering the environmental issues, the committee recommended that the PP shall submit an addendum EIA/EMP report as per the ToRs (as applicable) at **Annexure-A1** with minimum one month base line data of the same season as that of the EIA submitted. The committee also noted that the existing EIA/EMP report was prepared by a consultant accredited only for Category 'B' TPPs and hence recommended that the addendum EIA/EMP report shall be prepared by a consultant accredited for Category 'A' TPPs. The requirement of conducting Public Hearing again shall be ascertained by the committee based on the findings of the addendum EIA/EMP report vis-à-vis the original EIA/EMP report.*

The following ToR are prescribed in addition to the standard ToRs at Annexure-A1.

- 1. The status of the application submitted to NBWL for its clearance.*
- 2. One AAQ station shall be located in the vicinity of the Ratapani wild life sanctuary so as to study the impact of the proposed CPP.*
- 3. Comparison of the data and predictions of the original EIA/EMP report and the addendum EIA/EMP report." **Unquote***

2. On submission of the addendum EIA/EMP report, the proposal was placed before the EAC, wherein the project proponent made a presentation along with its consultant M/s Cholamandlam MS Risk Services Ltd. and provided following information:

3. The proposed CPP will be located within the existing Trident complex at Budhni, District Sehore, M.P. The land requirement for the CPP will be 95 acres, out of the total area of 600 acres of Trident complex. Ratapani Wildlife Sanctuary is located at about 7.75 km from

the project. Budni and Chakla Reserve Forests are at the distance of 3.5 km and 3 km respectively. The project cost and budget for EMP are Rs. 377.85 crores and Rs. 16.03 crores respectively.

4. Blended coal (Indian and Indonesian coal) will be used for the proposed CPP. MoU is signed with M/s. Swastik Corporation for the supply of Indian and imported coal. The sulphur content, ash content and GCV of domestic coal will be 0.3%-0.5%, 34% (max) and 3800 to 4500 Kcal/Kg respectively. The sulphur content, ash content and GCV of imported coal will be 0.3%-0.7%, 7%-12% and 5000 to 5800 Kcal/Kg respectively. The water requirement for the CPP is 6600 KLD out of the water allocation of 14,325 KLD for the Trident complex. The source of water will be Narmada River. No ash pond is proposed and fly ash silos will be constructed. 100 % fly ash utilisation is planned from the date of commercial operation. MoU was signed with M/s. Sri Satguru Associates, who intern supplies to cement plants and bricks manufactures for the utilisation of maximum ash quantity of 425 TPD as against the ash generation of 205 TPD during the normal operating conditions.

5. Regarding the status of the application submitted to NBWL for its clearance, the application was submitted to State CCF, M.P and was forwarded by CCF to PCCF, Bhopal on 28.02.2014 for appraisal. The appraisal by M.P State Wildlife Board was scheduled on 08.07.2014.

6. As suggested by EAC, fresh base line studies of air quality, water quality, soil quality, ecological, biological and socio economic studies for a month were undertaken by the above said environment consultant during 1st March to 31st March 2014. One AAQ station was located at Berkada i.e. near the sanctuary to study the impact of the proposed CPP and the existing and incremental AAQ data was found to be well within the standards. Regarding comparison of the data and predictions of the original EIA/EMP report and the addendum EIA/EMP report, although there is some variation in the GLCs, the resultant concentrations were found to be within the standards. The baseline PM₁₀ at Sultanpur Chowk was exceeding the threshold value and is attributed to the vehicular pollution. *The committee desired that the Windrose and Isopleths needs to be checked and submitted. The same were re-submitted by the PP and found to be in order.*

7. Public Hearing was conducted by Madhya Pradesh pollution Control Board on 30.04.2013. It was noted that the issues raised in the Public Hearing include adverse impact on the environment and River Narmada, negative impact on crops, effect on the health of people and animals, employment to the locals etc. The Committee discussed the issues raised in Public Hearing and the responses made by Project Proponent.

8. It was also informed that Trident Corporation Ltd. has been amalgamated with Trident Ltd. and the scheme of amalgamation has been sanctioned by the Hon'ble Punjab & Haryana High Court at Chandigarh vide its order dated 14.03.2014. The appointed date of the scheme of amalgamation is 01.04.2014. The proposed CPP project shall be implemented by Trident Ltd. there is no change in the project, means of finance, schedule of implementation, and control or promoter group pursuant to the merger.

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 stipulation of the following specific conditions:

- i) *The EC is subject to the clearance from the Standing Committee of the NBWL. Further, the grant of EC does not necessarily imply that wildlife clearance shall be granted to the project. The proposal of wildlife clearance will be considered by the respective authorities on its merits and decision taken. The investment made in the project, if any based on EC, in anticipation of the clearance from wildlife angle shall be entirely at the cost and risk of the project proponent and MoEF shall not be responsible in this regard in any manner.*
- ii) 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.
- iii) A stack of 100 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.
- iv) *Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % for Indian coal and 0.7 % and 12% for imported coal 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 condition wherever necessary.*
- v) 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.
- vi) COC of atleast 5.0 shall be adopted.
- vii) *Storm water from the Plant areas shall be collected through a garland drain in a guard pond and settling tank before discharge into River.*
- viii) 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.
- ix) 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.
- x) *Fly ash shall be collected in dry form and storage facility (silos) shall be provided. No ash shall be disposed in ash pond and in low lying areas. Utilisation of 100% Fly Ash generated shall be made from **day one** of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.*
- xi) 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.
- 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) 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.
- xiv) 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.

1.3 Expansion from 2.5 MW to 20.5 MW Cogeneration Power Plant at Nhruvare, Tal-Shirur, District Pune, Maharashtra by M/s Raosahebdada Pawar Ghodganga Sahakari Sakhar Karkhana Ltd. – reg. ToR.

1. The proposal is for prescribing ToR for preparation of EIA/EMP report for expansion from 2.5 MW to 20.5 MW Cogeneration Power Plant at Nhruvare, Tal- Shirur, District Pune, Maharashtra by M/s Raosahebdada Pawar Ghodganga Sahakari Sakhar Karkhana Ltd. The PP along with their environmental consultant, M/s ULTRA-TECH Environmental Consultancy and Laboratory, Thane has made a presentation and provided the following information:

2. The project area is 12.5 acres and no forest land is involved. There are no National Parks, Wildlife Sanctuaries, Biosphere/Elephant/Tiger Reserves, Heritage sites within 10 km of the project site. There is no litigation pending against the project and the site. Bagasse and cane crash will be used as raw materials and no coal is proposed to be used. The water requirement is 545 KLD and will be sourced from Chinchani Dam. The permission for water drawl is available. The project cost is Rs. 61.92 crores.

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

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

1.4 Proposed 16 MW Coal/solid fuel based Co-generation Power Plant at Existing Bulk Drug and Formulation Manufacturing site at Village Sejavta, Tehsil & Distt. Ratlam, Madhya Pradesh by M/s Ipca Laboratories Ltd. – reg. ToR.

1. The proposal is for 16 MW Coal/solid fuel based Co-generation Power Plant at existing Bulk Drug and Formulation Manufacturing site at Village Sejavta, Tehsil & Distt. Ratlam, Madhya Pradesh by M/s Ipca Laboratories Ltd. Although the proposal is a 'B' category project, since the CPP is for an 'A' category, industrial project, the proposal is considered at the Centre. The PP along with their environmental consultant, M/s Kadam Environmental Consultants, Thane has made a presentation. The committee noted that the consultant has

accreditation only for 'B' category TPPs. However, they have accreditation for 'A' category bulk drugs manufacture etc. *Thus the PP need to make a presentation only through 'A' category consultant.*

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

1.5 4X660 MW, Stage-I, Barethi Super Thermal Power Project in Chhatarpur District, Madhya Pradesh by M/s NTPC Limited – reg. ToR.

1. The project proponent made a presentation and provided the following information. ToR for carrying out EIA study for Barethi STPP (6X660 MW) was accorded by MoEF on 09.09.2010, which was valid till 08.09.2013. Public Hearing was conducted on 17.06.2011 based on draft EIA report. The final EIA report was submitted to MoEF on 18.10.2011. However, the same was not considered by MoEF due to non-availability of firm coal linkage. The present proposal is for fresh approval of ToR for revised capacity of 4X660 MW, Stage-I and exemption of Public Hearing is also requested.

2. An ultimate capacity of 3960 MW is envisaged. However, the instant proposal is only for 4X660 MW based on super-critical technology. The land requirement is 2900 acres. About 2343 acres of private land, 431 acres of Govt. land and 126 acres for railway siding have already been acquired. There are no National Parks, Wildlife Sanctuaries, Biosphere/Elephant/Tiger Reserves, Heritage sites within 10 km of the project site. A letter dated 05.07.2014 from Dy. Convener, Panna Tiger Reserve stating that the Ken Gharial Crocodile Sanctuary, Khajuraho is located at a distance of 30 km from the project site was submitted. Chhatarpur- Panna NH-75 is about 3 Km from the site and the nearest railway station is Khajuraho which is at a distance of 25 Km. There are no major industries within the 10 Km from the proposed site. The water requirement is 80 MCM which will be sourced from Ken River. The permission from State Govt. for water drawl is available. The coal requirement is 12 MTPA which will be sourced from Banai Coal Block of Mand Raigarh, Chhattisgarh.

3. Regarding the exemption of Public Hearing, it was submitted that no TPP / any other industry is located within 10 Km radius from Village Sandni and Barethi. The same was confirmed by District Trade and Industries Centre, Chhatarpur, Govt. of Madhya Pradesh via letter dated 02.07.2014. A letter dated 12.09.2012 from Rehabilitation Department of Madhya Pradesh Govt. regarding the Rehabilitation plan to be implemented for Barethi STPP and the R&R activities / details were submitted. The details of initial community development and the proceedings of Public Hearing held on 17.06.2011 were also submitted.

4. *The committee noted that there is no change in the location of project site and no TPP / any other industry is located within 10 Km radius from the project site. The committee also discussed the issues raised in the Public Hearing, the response of the PP, R&R issues etc. and recommended for the exemption of Public Hearing. However, the issues of Public Hearing held on 17.06.2011 shall be the basis for the action plan etc.*

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 in addition to the specific TOR as under.

- *Land requirement shall be optimized.*
- *The surface drainage pattern of the area shall be preserved.*
- *Feasibility of relocation of ash pond away from the River/Nalah shall be explored and submitted.*

1.6 2x660 MW Coal Based Super Critical TPP at near Village Selda and Dalchi, in Khargone District., in Madhya Pradesh by M/s NTPC Limited – reg. ToR.

1. The project proponent made a presentation and provided the following information. ToR for carrying out EIA study for Khargone STPP (2X660 MW) was accorded by MoEF on 09.12.2010, which was valid till 08.12.2013. Public Hearing was conducted on 24.01.2012 based on draft EIA report. However, the final EIA report could not be submitted to MoEF same due to non-availability of firm coal linkage. The present proposal is for fresh approval of ToR and exemption of Public Hearing is also requested.

2. The land requirement is 1597.2 acres of which about 1059.5 acres have already been acquired. There are no National Parks, Wildlife Sanctuaries, Biosphere/Elephant/Tiger Reserves, Heritage sites within 10 km of the project site. Indore- Khandwa SH-27 is about 30 Km from the site and 40 MCM which will be sourced from Narmada River. The permission from State Govt. for water drawl is available. The coal requirement is 6.51 MTPA, the source of which is yet to be firmed up. Tentative coal source is taken as SECL coal fields.

3. Regarding the exemption of Public Hearing, it was submitted that no small, medium and big industries are located within 10 Km radius of Village Selda and Dalchi. The same was confirmed by District Trade and Industries Centre, Khargone, Govt. of Madhya Pradesh via letter dated 26.06.2014. A letter dated 12.09.2012 from Rehabilitation Department of Madhya Pradesh Govt regarding the Rehabilitation plan to be implemented for Khargone STPP and the R&R activities / details were submitted. The details of initial community development and the proceedings of Public Hearing held on 24.01.2012 were also submitted.

4. *The committee noted that there is no change in the location of project site and no small, medium and big industries are located within 10 Km radius from the project site. The committee also discussed the issues raised in the Public Hearing, the response of the PP, R&R issues etc. and recommended for the exemption of Public Hearing. However, the issues of Public Hearing held on 24.01.2012 shall be the basis for the action plan etc.*

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 in addition to the specific TOR as under.

- *Land requirement shall be optimized.*
- *The surface drainage pattern of the area shall be preserved.*

- *Feasibility of relocation of ash pond away from the River/Nalah shall be explored and submitted*

1.7 Ennore Thermal Power Station (ETPS) Replacement Thermal Power Project (1x660 MW) at Ernavur Village, Madhavaram Taluk, Thiruvallur Distt., Tamil Nadu by M/s Tamil Nadu Generation and Distribution Corporation Ltd. (TANGEDCO) – reg. ToR.

1. The project proponent made a presentation and provided the following information. The existing ETPS has 5 units (2x60 MW and 3x110 MW) which were commissioned during 1970-1975. Unit V of 110 MW has been already de-commissioned on 06.03.2012 and other units will be de-commissioned in a phased manner by 2015-16.

2. The proposed TPP will be located within TANGEDCO's ETPS Complex in an area of 90 acres and is away from CRZ area. The CRZ map of ETPS and ash dyke, including the cooling water intake and outfall routes and pipe conveyor route was submitted and perused by the committee. 110 acres of land will be available after dismantling the existing 5 units of ETPS. There is no fresh land acquisition and hence no R&R issues are involved. The nearest railway station is Kathivakkam at about 1 Km. the site is approachable by road from Ennore Express Highway at 600 m. The nearest sea port is Ennore, which is about 8 Km from the site. The project cost is Rs. 4800 crores.

3. The coal requirement (100 % Indian Coal) for proposed TPP is 3 MTPA considering 85 % PLF and designed GCV of 3500 Kcal/Kg. The ash and sulphur contents of coal would be 34% and 0.4% respectively. Domestic coal allocation from Ministry of Coal was obtained on 06.09.2013 for captive coal mine Deocha-Pachami, Dewanganj-Harinshingha in West Bengal. The coal transport will be through pipe conveyor. The existing once through cooling system for cooling water of 80,000 m³/hr will be replaced with closed cycle cooling system for cooling water of 7,113 m³/hr for the proposed TPP. The raw water from desalination plant will be used for the proposed TPP thereby surrendering the existing 1 MGD water allotment back to CMWSSB for drinking purpose. The existing ash dyke is sufficient for the proposed TPP. The bottom ash will be disposed off in the ash pond in emergency. 100% fly ash utilization by supply to cement and brick industries is envisaged.

4. Based on the information provided and the presentation made, the Committee recommended the standard TORs (as applicable) at **Annexure-A1** and **A2** for undertaking detailed EIA study and preparation of EMP in addition to the specific TOR as under.

- *The no activity development zone stipulated by MoEF earlier for another unit within the same boundary shall be developed into green belt.*
- *100% Fly Ash Utilisation shall be made from day one of operation of the plant and only bottom ash may be disposed in ash dyke in emergency.*
- *Details and status of decommissioning the older units in-lieu of which the TPP is proposed.*
- *Detailed marine EIA shall be carried out.*

1.8 1x660 MW Ennore Thermal Power Station at Village Ernavur, Taluk Ambathur, Distt. Thiruvallur, in Tamil Nadu by M/s TANGEDCO (earlier M/s TNEB) – reg. Extension of Validity of EC.

1. The proposal is for extension of validity of EC accorded by MoEF for the above project on 03.06.2009 and subsequent amendment dated 24.01.2013 for change in project configuration from 600 MW Subcritical to 660 MW Supercritical. The project proponent made a presentation before the committee requesting for the extension and provided the following information.
2. The above EC was accorded based on 30% imported and 70% domestic coal as fuel. Subsequent to the issue of EC, as there was uncertainty in getting domestic coal, it was decided to go in for 100% imported coal and TANGEDCO signed MoU with M/s. MMTC for supply of imported coal on 23.07.2012. Further, the unit size of the project was revised from 600 MW Subcritical to 660 MW Supercritical based on CEA guidelines. Accordingly, amendment in EC was accorded by MoEF on 24.01.2013. CRZ clearance was issued by MoEF for foreshore facilities on 23.12.2008 and its validity was extended for further 5 years by MoEF on 31.03.2014.
3. The site grading work is completed and construction of office buildings is under progress. EPC contract for main plant work was awarded to M/s Lanco on 22.02.2014 and the work is being taken up. The photographs of various units/facilities of the project were also presented.
4. *Based on the information and clarifications provided, the Committee noted that 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.*

1.9 1x600 MW (Unit-I) of 1800 MW Imported Coal Based TPP near Chandwa, in Latehar Distt., in Jharkhand by M/s Essar Power (Jharkhand) 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 08.05.2009 and subsequent amendment dated 14.11.2013 for change in source of coal from domestic to imported. The project proponent made a presentation before the committee requesting for the extension and provided the following information.
2. The PPA was signed with State Discoms, (BSEB & JSEB). The overall progress of the project is 43.24%, whereas the engineering, procurement and construction progress is 77.3% , 65.41% and 20.68 % respectively. Total investment till date is Rs. 3,586 crores and project material worth Rs. 2,800 crores is available for erection and commissioning. Contracts were all the major equipment and construction have been awarded and mobilize. Orders for balance of plant (BoP) have been placed and are under dispatch. The construction of chimney (275 m) is complete. Labor colony, R&R colony and infrastructure including living accommodation for employees and contractors have been developed. The photographs of various units/facilities of the project were also presented.
3. Regarding the reasons for delay in project execution it was informed that there was delay in grant of stage-I FC the captive coal blocks due to enforcement of Go/No-Go

policy and introduction of new regulations, delay in grant of tapering linkage, EC for unit 2 & 3 was accorded on 14.11.2013 on imported coal, delay in according final mega power status etc. The committee noted that the *green belt development is not up to the mark and hence needs to be expedited immediately and the progress shall be submitted to MoEF and its R.O.*

4. The PP informed that they propose to install Air Cooled Condensers (ACC) in lieu of Water Cooled Condensers (WCC) for all the three 600 MW units. With the installation of ACC, the water consumption will be reduced from 72 MCM annually to 15 MCM for the entire plant. It was requested to incorporate ACC in lieu of WCC for the entire project. The committee discussed the detailed comparison between ACC and WCC.
5. *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:*
 - *Air Cooled Condensers (ACC) shall be provided in lieu of Water Cooled Condensers (WCC) for all the three 600 MW units.*
 - *The green belt development shall be expedited immediately and the progress shall be specifically submitted to MoEF and its R.O.*

1.10 1200 MW Imported Coal Based Thermal Power Plant at Villages Kattupalli & Kalanji, Taluk Ponneri, District Thiruvallur, Tamil Nadu by M/s. North Chennai Power Co. 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 31.08.2009. The project proponent was present before the committee requesting for the extension and provided the following information.
2. Due to legal issues in purchase of land, the project is delayed. The WPs have been disposed by the Hon'ble High Court of Madras and no court case is pending at present. Further, the price volatility in the imported coal and many subsequently enacted laws in Indonesia and Australia have substantially affected the progress of all IPPs in India and finalisation of long term contracts for the import of coal and EPC also got delayed considerably. *The committee desired that letter of State Govt. reg. land acquisition/allotment of balance land shall be submitted.*
3. In response to above, the PP has submitted a copy of the letter issued by Tahsildar of Ponneri Taluk for confirmation that 265.57 acres land at Kattupalli and Kalanji Villages of Ponneri Taluk, Thiruvallur District was purchased and registered by the company for the TPP. The PP is making all efforts to purchase the balance 97 acres land from the private owners and 49 acres of promboke land. The communications made by the PP to the State Govt. officials requesting to lease 49 acres of land for the TPP and the communication of the State Govt. were submitted.

4. *Based on the information and clarifications provided, the Committee noted that 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.*

1.11 28 MW Co-generation Power Plant at Post Hingangaon, Tehsil Kandegaon, District Sangli, Maharashtra by M/s Cane Agro Energy (India) Ltd. - reg. Amendment of ToR for augmentation of capacity from 28 MW to 36 MW.

1. The proposal of 28 MW Co-generation Power Plant at Post Hingangaon, Tehsil Kandegaon, District Sangli, Maharashtra by M/s Cane Agro Energy (India) Ltd. was accorded ToR for preparation of the EIA/EMP report on 05.03.2013. The project proponent made a presentation before the committee requesting for the amendment of ToR for augmentation of capacity from 28 MW to 36 MW and provided the following information.

2. Subsequent to the issuance of the ToR, baseline data was collected during the summer season March – May 2013 and draft EIA report was submitted to MPCB on 18.02.2014 for conducting Public Hearing. However, in the meanwhile, the PP decided for expansion of sugar unit from 2500 TCD to 9000 TCD. Accordingly, the co-gen capacity is revised from 28 MW to 36 MW. The Public Hearing application was withdrawn from MPCB on 18.03.2014.

3. Bagasse (3,41,760 TPD) will be used as raw material and no coal will be used for the proposed 36 MW co-gen PP. The project area for co-gen will be 4.11 ha within the total area of 46.88 ha of the sugar industry. The water requirement of 3.22 MLD will be sourced from Lake through a pipeline at a distance of 3 km from the project site and the permission for water drawl is available. The project cost is 165.32 crores.

4. Based on the information provided and the presentation made, the Committee recommended the amendment in ToR for augmentation of capacity from 28 MW to 36 MW along with the additional TOR as under:

(i) No coal shall be used as fuel.

1.12 1620 MW (2x660 MW + 1x300 MW) Coal Based TPP at Villages Muttur & Samudram, Ilayangudi Tehsil, in Sivaganga Distt., in Tamil Nadu by M/s Sai Jyothi Industries & Ventures Pvt. Ltd. - reg. Extension of Validity of ToR

1. The proposal is for extension of validity of ToR accorded by MoEF on 28.05.2012 for the preparation of EIA/EMP report for the above project. The project proponent along with their environmental consultant, M/s. Vimta Labs Ltd, Hyderabad made a presentation requesting for the extension and provided the following information.

2. Subsequent to the issuance of the ToR, environmental baseline studies were carried out in winter season of December 2012-February 2013. Hydrogeological studies and transportation of Saline Water & Water management system were carried out by M/s. Geosoft Systems, Hyderabad and M/s. NGN Composites, Chennai respectively. DPR has been prepared by M/s. Development Consultants Pvt. Ltd. Southern Railways has granted preliminary approval for railways racks for coal movement. Harnessing of solar power has been identified in the lay out for installation of 500 KWp. MoU was signed with M/s. Invicon Fly Ash Pvt. Ltd., Vishakhapatnam for lifting of flyash generated.

3. Regarding the reasons for delay, it was informed that coal allocation is awaited from Ministry of Coal, land acquisition is under progress and Public Hearing was also delayed.

4. *Based on the information and clarifications provided, the committee recommended the extension of validity of ToR by one year as per the policy of MoEF. The Committee further recommended that additional ToR which were earlier not prescribed but relevant now, if any, may be prescribed while issuing the extension of validity.*

1.13 1x800 MW (Stage-III), North Chennai TPP at Villages Ennore & Puzhuvakkam, in Ponneri Taluk, in Thiruvallur Distt., in Tamil Nadu by M/s Tamil Nadu Generation & Distribution Corporation Ltd. (TANGEDCO) - reg. Extension of Validity of ToR

1. The proposal is for extension of validity of ToR accorded by MoEF on 28.05.2012 for the preparation of EIA/EMP report for the above project. The project proponent made a presentation requesting for the extension and provided the following information.

2. Subsequent to the issuance of the ToR, the EIA report has been prepared based on the ToR issued. M/s. Ramky Enviro Engineers Ltd., Hyderabad, accredited by NABET was engaged for conducting Terrestrial Environmental Impact Assessment Study for the project. The demarcation of the site under CRZ has been conducted through Institute of Remote Sensing, Anna University. The project site is away from CRZ area. Airports Authority of India has issued NOC for construction of Chimney on 15.05.2013. M/s. Chethar Consulting Engineers Ltd., Chennai was engaged for preparation of Detailed Project Report and the report is under finalization.

3. The Marine Environmental Impact Assessment Study and Mathematical Model Study for Thermal and Salinity Dispersion of cooling water outfall had been awarded to M/s. IIT Madras/M/s. WAPCOS/GOI/Centre for Advanced Studies in Marine Biology, Annamalai University. Both the modeling studies and Rapid Marine EIA Study Reports are ready. The comprehensive marine study is under finalization. As the site is within NCTPS complex, there is a pucca drainage arrangement at present. The Socio Economic Study has been carried out by M/s. Madras School of Social Work, Chennai. Based on the Need Based Assessment carried out in the field by the Consultant, the Budget for Corporate Social Responsibility has been fixed.

4. Regarding the reasons for delay, it was informed that finalization of comprehensive marine study report took time and on finalization of the same, Tamil Nadu Pollution Control Board will be approached for conducting Public Hearing Meeting. Further, due to the model code of conduct for Lok Sabha Elections, the Public Hearing can be conducted only after the Elections.

5. *Based on the information and clarifications provided, the committee recommended the extension of validity of ToR by one year as per the policy of MoEF. The Committee further recommended that additional ToR which were earlier not prescribed but relevant now, if any, may be prescribed while issuing the extension of validity.*

1.14 2x800 MW Super Critical Coal Based TPP at Villages Uppur, valamavoor and Thiruppalaikudi, in Thiruvadanai Taluk, in Ramanathapuram Distt., in Tamil Nadu by M/s TANGEDCO (A subsidiary of TNEB Ltd.) - reg. Extension of Validity of ToR

1. The proposal is for extension of validity of ToR accorded by MoEF on 28.05.2012 for the preparation of EIA/EMP report for the above project. The project proponent made a presentation requesting for the extension and provided the following information.

2. Subsequent to the issuance of the ToR, the EIA report has been prepared based on the ToR issued. M/s. Bhagavathi Ana Labs Ltd., Hyderabad, accredited by NABET was engaged for conducting Terrestrial Environmental Impact Assessment Study for the project. The Govt. of Tamil Nadu has accorded approval for setting up the project under Tariff based Competitive Bidding Route on 24.10.2011. The demarcation of the site under CRZ has been conducted through Institute of Remote Sensing, Anna University. Airports Authority of India has issued NOC for construction of Chimney on 22.11.2012. M/s. Development Consultants Pvt. Ltd., Chennai was engaged for preparation of Detailed Project Report and the report is ready.

3. The Marine Environmental Impact Assessment Study and Mathematical Model Study for Thermal and Salinity Dispersion of cooling water outfall had been awarded to M/s. IIT Madras/M/s.WAPCOS and Centre for Advanced Studies in Marine Biology, Annamalai University, and both the modelling studies and Marine EIA Study Reports are ready. The Geo-hydrological study for the site has been carried out by Anna University, Chennai. The Socio Economic Study has been carried out by M/s. Madras School of Social Work, Chennai. Based on the Need Based Assessment carried out in the field by the Consultant, the Budget for Corporate Social Responsibility has been fixed.

4. The Feasibility Study for transportation of coal for the project has been carried out through M/s. RITES, a GoI Organisation and the report is ready. Based on the study, it is now proposed to transport the coal from Tuticorin Port Trust, through the existing Railway Line, via Milavittan-Vanchi Maniyachi- Manamadurai- Ramanathapuram and then a private siding from Ramanathapuram to Thiruppalaikudi and then to the site. Administrative sanction for acquisition of the land has been issued by GOTN on 21.01.2014.

5. Regarding the reasons for delay, it was informed that finalisation of various studies took time. Further, due to the model code of conduct for Lok Sabha Elections, the Public Hearing can be conducted only after the Elections.

6. *Based on the information and clarifications provided, the committee recommended the extension of validity of ToR by one year as per the policy of MoEF. The Committee further recommended that additional ToR which were earlier not prescribed but relevant now, if any, may be prescribed while issuing the extension of validity.*

1.15 2x660 MW coal based TPP at Villages Gbantbahal, Mohda, Bhalegaon, Tehsil Titlagarh, in Bolangir Distt. Orissa by M/s Sahara India Power Corporation Ltd. - reg. Re-consideration for EC

1. 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:

Quote "The proposal is for setting up of 2x660 MW coal based TPP at Villages Gbantbahal, Mohda, Bhalegaon, Tehsil Titlagarh, District Bolangir, Orissa by M/s Sahara India Power Corporation Ltd. The project was accorded TOR for preparation of EIA/EMP

report on 08.12.2009. The EIA / EMP report after conducting Public Hearing was submitted to the Ministry for consideration of environmental clearance. The Project Proponent (PP) along with their environmental consultant, M/s Anacon Laboratories Pvt. Ltd., Nagpur made a presentation and provided following information:

The total project area is 950 acres including ash pond area and township, which is being acquired through IDCO (Industrial Dev Corporation of Odisha, Govt. of Odisha agency) as per the MoU. Total Land in possession of the PP is 467.65 acres and the balance 482.35 acres is under various stages of acquisition & transfer. Full payment for Land made as per demands of IDCO by SIPCL over 800 acres. Out of 950 Acres, disputed/ held up land is 276.53 Acres, which is under litigation in the Hon'ble High Court of Odisha. The co-ordinates of the site are located within Latitude 20⁰12'24.20" N to 20⁰13'59.49" N and Longitude 83⁰10'51.10" E to 83⁰12'8.60" E. The total project cost is Rs. 8000 crores.

There are no National Parks, Wildlife Sanctuaries, Biosphere/Tiger Reserves, Heritage sites etc. within 10 km of the plant. There are two reserve forests in the study area viz. Baranai R.F at 4 km in the north east and Bazargarh R.F at 7.7 km in the east.

The Total water requirement is estimated to be 3580 m³/h, which will be met from River Tel. Water allocation for annual drawl of 53 Cusec from Tel River, which is at 1.5 Km from site was approved by 57th Water Allocation Committee on 22.05.2011. Central Ground Water Board (CGWB), New Delhi has given NOC for drawl of 500 m³/day water for construction purpose vide letter 7th January 2011.

Earlier at the time of TOR, it was proposed to procure domestic coal from Mahanadi Coalfields. However, it is now informed that due to non-availability of domestic coal linkage, it is proposed to use imported coal which would be sourced from Indonesia. The imported coal requirement is 4.6 MTPA. An MOU was signed with M/s Anshul Impex Pvt. Ltd., Nagpur on 27.08.2013 for import of 4.66 MMT Coal from Indonesia with 6-17% ash, GCV 5500 to 6000 Kcal/kg, sulphur < 0.8 %. The coal will be imported through Gangavaram Port, Vishakhapatnam where adequate port capacity is available. It has been confirmed by the port authority vide letter dated 11th Oct. 2013. Coal will be transported through existing network of Indian Railways from Gangavaram Sea Port up to the project site. An amount of Rs. 63.79 lakhs has been deposited with Railways on 14th Nov. 2012. M/s Aarvee Associates Architects Engineers & Consultants Pvt. Ltd. Bhubaneswar have completed Survey & layout of Railway line from Sikiri Railway linking station (17 km estimated) from the site and DPR is under preparation & shortly it will be submitted to East Coast Railway. ECR letter of 16/08/2013 refers. Chimney Clearance approval will be obtained from Airport Authority of India (AAI).

Public Hearing/public consultation was conducted by the Orissa State Pollution Control Board held on 05.06.2012. It was noted that the issues raised in the Public Hearing include rise in temperature in the surrounding area due to the proposed project, scarcity in the drinking water supply, loss of agriculture due to emissions from the power plant, land acquisition and compensation, migration of labour, medical facilities and employment. The Committee discussed the issues raised in Public Hearing and the responses made by Project Proponent. *It was desired by the committee that a detailed action plan along with budgetary provision for all activities to be implemented in response to the issues raised in the Public Hearing need to be submitted.*

The committee noted that the MOU for sourcing imported coal was only signed on 27.08.2013, whereas the EIA/EMP report was prepared prior to it. Therefore, a detailed clarification was sought from the PP regarding the basis for the predictions on ambient air quality data etc. submitted in the EIA/EMP report. Further, it was also desired that PP should submit details on the coal requirement/annum vis-à-vis the MOU signed for the imported coal for long term. With regard to base line data, the committee noted that the exit velocity reported from stack is 71 m/s which is abnormally high and therefore needs to be relooked into and rework the AAQ predictions.

Further, the committee also sought the detailed hydrology of the area as the River Tel was in close vicinity i.e. about 1.5 km. distance. The PP shall ensure that the quantity of water drawl is within the CEA norms. The committee noted that PP has not submitted permission letter/assurance from Railways for the transportation of coal. This needs to be provided. It was also observed that the documents submitted were not in line with the presentation made on the CSR financial commitments. Hence, an action plan with time frame and budgetary provisions for capital CSR cost @ 0.4% of Project Cost during the construction phase indicating the activities and thereafter annual recurring CSR cost @ 0.08% of the Project Cost needs to be submitted.

In view of the above short comings, the proposal was **deferred** for reconsideration after submission of all above documents.” **Unquote**

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

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

- (i) Since the land issue lacks clarity and is still in dispute and subjudice, efforts shall be made resolve the issues and progress made in this regard shall be submitted.
- (ii) The ground and surface water data submitted by the PP shall be verified with the CWC data of the area.
- (iii) Status of the proposed cement plant for fly ash utilization.
- (iv) Hydrology of the area shall be studied and report be submitted.
- (v) Three EIA reports were submitted to MoEF, hence, the report submitted for Public Hearing shall only be with MoEF and all others need to be withdrawn. Any additional information sought by EAC needs to be submitted only as an addendum.
- (vi) AAQ predictions of SO₂ need to be checked with the modified exit velocity and values of NO_x also appear on the lower side which needs to be checked.
- (vii) Response to the complaint received by the EAC/MoEF.
- (viii) Revised plant lay out with thick green belt all around the ash pond.

1.16 Expansion by addition of 1x660 MW Imported Coal based Thermal Power Plant at Village Toranagallu, in Sandur Taluk, in Bellary Distt., in Karnataka by M/s JSW Energy Ltd. - reg. Re-consideration for EC.

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

Quote “The proposal is for expansion by addition of 1x660 MW Imported Coal based Thermal Power Plant at Village Toranagallu, in Sandur Taluk, in Bellary Distt., in Karnataka by M/s JSW Energy Ltd. The ToR for preparation of EIA/EMP report was accorded on 13.05.2011. The EIA/EMP report after conducting Public Hearing was submitted to the Ministry for consideration of environmental clearance. The project proponent along with their environmental consultant, M/s MECON Ltd., Ranchi made a presentation and provided the following information:

The land requirement is about 89.19 acres which is available within the existing project area. The plant site corner co-ordinates are Latitude 15⁰11’1.16” N to 15⁰11’32.7” N & Longitude 76⁰39’39.8” E to 76⁰39’58.0” E and the ash pond corner co-ordinates are Latitude 15⁰11’21.39” N to 15⁰11’27.57” N & Longitude 76⁰40’21.88” E to 76⁰40’32.94” E. Daroji Bear Sanctuary is located at a distance of 5.4 km from the project site. The project capital cost is Rs. 3,300 crores. The MoEF’s Regional Office at Bangalore had visited the project site on 06.12.2012 and rated the efforts taken by the PP in implementing the environmental safeguards as satisfactory.

The coal requirement would be 2.25 MTPA and will be imported from South Africa/Australia through Goa/Mangalore/Krishnapatnam ports. An MoU was signed on 10.2.2012 with M/s Avani Coal Resources PTE Ltd., Singapore for supply of coal from South Africa and Australia. The guaranteed values of the ash content, sulphur content and GCV of the coal will be 28% max, 0.6 % max, and 4,500 Kcal/Kg minimum. The additional water requirement of 1,469 m³/h will be sourced from the captive reservoir. COC of 7 will be maintained for the cooling water system.

Base line data of ambient air quality monitored at eight locations indicates that the maximum concentrations of PM, SO₂ and NO_x are 93 µg/m³, 26.4 µg/m³ and 33.8 µg/m³ respectively. The predicted maximum incremental GLCs due to the proposed unit would be 0.9 µg/m³, 18.4 µg/m³ and 7.0 µg/m³ with respect to PM, SO₂ and NO_x respectively. The resultant concentrations are within the NAAQS. Effluent zero discharge concept will be adopted.

About 0.5 MTPA of fly ash and 0.12 MTPA of bottom ash would be generated. 95% of the Fly ash generated will be collected in dry form, stored in silos and dispatched in closed bulker to the group cement plant. A MoU was signed with M/s JSW Cement Ltd. on 07.03.2012 for supply of fly ash. The balance 5% of the fly ash will be utilized for the manufacture of bricks and ready mix concrete. The bottom ash will be used for low lying area development, strengthening of bund, road & embankment and mining segment.

Public Hearing/public consultation was conducted by the Karnataka State Pollution Control Board on 07.07.2012. The issues raised in the Public Hearing inter-alia include electricity to surrounding villages, traffic congestion due to increased level crossings, infrastructure development, employment to the locals, health care and medical facilities,

pollution control measures. The Committee discussed the issues raised in Public Hearing and the responses made by Project Proponent.

The committee noted that there is a difference between the guaranteed values & the rejection values of the coal characteristics in the MoU and recommended that the rejection values shall be same as the guaranteed values i.e. GCV of minimum 4,500 Kcal/Kg, Ash content of maximum 28% and sulphur content of maximum 0.6%. Hence, the MoU shall be revised accordingly and shall also be signed for a long term basis, as MoU is only upto 2015.

It was informed that the cumulative impact assessment of AAQ were carried out but were not submitted to MoEF/EAC. The committee desired that the same shall be submitted along with the cumulative water balance for the proposed power plant which shall also include the steel plant. It was noted that the permission from Ports and Railway authorities regarding additional handling of coal were not obtained and hence, the same need to be provided. The status of NBWL clearance also needs to be submitted. Social audit for the CSR activities by the JSW group and the contribution of JSW energy towards the same shall be submitted. An action plan with budgetary provisions for Public Hearing issues shall be revised and submitted. The existing Occupational Health and Safety survey and proposed action plan, details of environment management cell and traffic management for avoiding congestion shall also be submitted.

*In view of the above short comings, the proposal was **deferred** for reconsideration after submission of all the above information/ documents.” **Unquote***

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

3. A copy of the revised MoU for supply of imported coal signed on 21.01.2014 was submitted. The MoU is valid till 30.09.2017 and is extendable till 31.03.2021. The rejection values of the coal specifications have been deleted in the MoU and the guaranteed values are GCV of minimum 4,500 Kcal/Kg, Ash content of maximum 28% and sulphur content of maximum 0.6%.

4. Cumulative impact assessment of AAQ (SO₂, Nox and PM₁₀) shows that the resultant GLCs are within the NAAQS. The cumulative water balance for the total complex was submitted and discussed. Letters from New Mangalore Port Trust, Krishnapatanam Port Company Ltd. and South West Port Ltd., Goa regarding capacity to handle additional requirement of imported coal for the project were submitted. Further, letter from Railway Board/ Ministry of Railways was submitted, which states that Railways would be able to handle two additional rakes per day from Krishnapatnam Port to expansion project provided the traffic is evenly spread around the year.

5. Regarding the status of NBWL clearance, sub- committee of State Board of Wildlife visited the site on 22.02.2013 and recommended the project for clearance. The Board was constituted on 01.03.2014 and has not met since then. The social audit for the CSR activities was conducted by Tata Institute of Social Science. The contribution of JSW Energy Ltd. towards CSR is approx. 1.74 crores each in the FY 2012-13 and 2013-14.

6. An action plan with budgetary provisions for Public Hearing issues which include development of infrastructure, employment to locals, healthcare and medical facilities, pollution control measures etc. was revised and submitted. The Occupational Health and

Safety data for 2009-14 along with an action plan was submitted. The action plan includes awareness to the employees regarding occupational health diseases, individual counseling for very high risk prone employees, job rotation, integrating the occupational health and safety departments etc.

7. The environment management cell is headed by the plant head (Sr. V.P) with members from O&M, Environment, TS and Civil Departments at various levels. A new State Highway parallel to existing road is under construction and will prevent traffic congestion.

8. 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) *The EC is subject to the clearance from the Standing Committee of the NBWL. Further, the grant of EC does not necessarily imply that wildlife clearance shall be granted to the project. The proposal of wildlife clearance will be considered by the respective authorities on its merits and decision taken. The investment made in the project, if any based on EC, in anticipation of the clearance from wildlife angle shall be entirely at the cost and risk of the project proponent and MoEF shall not be responsible in this regard in any manner.*
- ii) 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.
- iii) 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.
- iv) *One AAQ station shall be located in the South of the Plant.*
- v) *Sulphur and ash contents in the imported coal to be used in the project shall not exceed 0.6 % and 28.0 % 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.*
- vi) 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.
- vii) *COC of 7.0 shall be adopted.*
- viii) 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.
- ix) 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.
- x) 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.
- xi) 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.
 - xii) 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.
 - xiii) 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.
 - 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.

1.17 4x660 (2640) MW Coal Based Thermal Power Plant near village Komarada, in Vizianagaram District., in Andhra Pradesh by M/s Alfa Infraprop Pvt. Ltd. - reg. Review of EC as per Hon'ble NGT directions.

1. The above proposal was accorded EC by MoEF on 15.03.2010. Subsequently, the EC was challenged in the Hon'ble National Green Tribunal (NGT) in Appeal No. 9/2011 (NEAA Appeal No. 10/2010). Hon'ble NGT vide its Judgment dated 13.12.2013 has kept the EC under suspension for a period of six months with the directions to carry out the re-exercise of 'appraisal' within the said period, by calling for response from the Project Proponent in respect of all concerns and objections even if they are minor in nature and consider the objections and concerns along with the response given by the Project Proponent at the time of meeting to be convened and conducted for the said purpose, after giving an opportunity to the Project Proponent to be present at the time of that meeting. The EAC is directed to consider each and every issue separately and independently and record the reasons either for rejecting or accepting the concerns and objections and also the response by the Project Proponent thereon enabling thereby to understand both the Project Proponent and Objectors, ensuring transparency in the process of recommending either for acceptance or for rejection of the EC by the regulatory authority, namely the MoEF.

2. The EAC was directed to discuss the following items in detail, even if these have already been taken into consideration and add specific mandatory conditions as appropriate,

- (i) *Impact of the project on drainage and surface hydrology during the normal and monsoon conditions. The specific engineering interventions required to be made to preserve the hydrological integrity of the area should be clearly delineated as a mandatory condition.*
- (ii) *The EAC is directed to call for an action plan for maintaining the drainage system from the Project Proponent, scrutinize the same from both engineering and environmental angles and stipulate mandatory conditions, if so required, in the list of conditions.*
- (iii) *Prior to the issuance of the consent to operate, the Andhra Pradesh Pollution Control Board is specifically directed to satisfy itself in terms of design, projected efficiency levels of various treatment units and the quality characteristics with regard to the discharge of treated wastewater into river Janjavathi.*
- (iv) *The EAC is directed to review its appraisal process with regard to issues raised in the public hearing and give attention to points missed by it, if any, during the earlier process of appraisal and stipulate additional conditions, if so warranted.*
- (v) *The EAC is directed to discuss the ecological aspects of the flood plain of the riverine systems in the vicinity of the proposed project and impose conditions, if required, to be followed by the Project Proponent.*

3. The project proponent has submitted the reply on 13.06.2014. Accordingly, the matter was placed before the EAC in the present meeting, wherein the PP and their environmental consultant & hydro geology consultant i.e. M/s Vimta Labs, Hyderabad & Hydro-Geo Survey Consultants Pvt. Ltd., Jodhpur respectively made a detailed presentation and provided the following information:

4. The Plant falls in the catchment area of two Rivers, Jhanjavati and Nagawali. Both the Rivers are perennial and meet at a distance of 1.5 km in South East of the Plant. The micro-watershed map of the plant area shows 17 micro- water sheds having limited surface runoff to very small catchments, mostly collected in 17 existing village tanks. Vanakabadi Gedda, a tributary of river Jhanjavati is passing through the south-western part of the plant and a dam is being constructed at 1.5 km upstream of the proposed power plant.

- 5. With the construction of the plant, out of 17 existing village tanks, the area of 11 tanks will be used for the plant, ash pond and water reservoir. Six village tanks located in open area in south-eastern part of the plant will not be disturbed and receive water from their micro watersheds and also diverted harvested rain water. The surface water regime of the plant will not be affected as Vanakabadi Gedda will continue to flow through a diversion drain getting overflow of the dam and meeting river Jhanjavati. A part of the roof top rain water from the plant buildings (2,59,200 m³) will join the drain and another part (3,10,489 m³) will meet Komarada village tank just outside the plant in its north-eastern direction which can be pumped for irrigation.
- 6. The State Govt. is constructing Vanakabadi Gedda water reservoir, at 1.5 km upstream of the plant in the north western direction. After construction, its length, height and storage capacity will be 630 m, 13 m and 1.99 TMC respectively. Its catchment area of 17.35 sq.km lies on the north western side of the dam. After revision of its command area by the A.P Water Resources Department, it will irrigate the north eastern part and western part outside the plant area without any reduction of its original command area. After the construction of water reservoir, which is being constructed on Vanakabadi Gedda, its downstream flow will be stopped. In case of overflow, the water will take its original course which passes through the plant area along its western boundary. It is proposed that the Gedda will be diverted along the

western boundary of the plant and will join River Jhanjavati. The drain will be 2470 m in length, 2.07 m in depth, 26 m width and flow capacity of 242 cumecs. Hence the catchment area, its storage capacity and its finally joining River Jhanjavati will not be affected by the plant.

7. It will be ensured that the units proposed for the treatment of effluent will be verified by APPCB before issuing consent to operate. The detailed design will be prepared and implemented at the time of detailed engineering. The wastewater will be treated and discharged into downstream of confluence point of River Jhanjavati and Nagawali after the water quality matches the APPCB/CPCB standards. Continuous monitoring of effluent discharge will be undertaken and it will be ensured that when discharge enters the natural drain the ambient temperature will be maintained.
8. An action plan along with budget for all the issues (person wise) raised in the Public Hearing was presented.
9. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Migratory Corridors and Schedule-I species in the study area. The core zone/project area does not involve any forest land, has undulating terrain with sporadic vegetation devoid of trees and does not harbor any endangered or endemic flora & fauna. The buffer zone has 21 RFs & 2 PFs, one Major River & its tributaries, seasonal ponds, one reservoir and does not cross any habitat of conservation importance or migratory corridors of any species and has no presence of Schedule-I species. The major area of the buffer zone was under agriculture & scrubland.
10. The anticipated impacts on the floodplain areas and the riparian ecosystems are considered low as there are no sensitive ecosystems or species in this area. It is anticipated that the project activities will have negligible impacts on the geographical range of species, introduction of weeds, ecosystem resilience, habitat fragmentation and degradation. The usage of water by the project shall not impact the irrigation of the agricultural land in the downstream of the project as the irrigation is through canal system & bore wells while the drawl and discharge of water is at the confluence point of Nagawali and Jhanjavathi Rivers.

11. *The Committee discussed with the project proponents and their experts who responded to the issues raised by Hon'ble NGT in greater depth and found that more detailed information on the hydrology and riparian ecosystems, conservation of waterbodies, waste water treatment scheme and action plan for addressing public hearing issues is required before taking final decision on the EC issued. Consequently, the Committee desires the following information for its further consideration:*

- (i) *Clarification on waterbodies whether the waterbodies in the project area are water tanks or ponds and their utility for local community.*
- (ii) *Size and depth of waterbodies and the water levels in dry and monsoon seasons and their impacts on the ground water levels in the bore wells of surrounding villages, particularly within the radius of 10 km.*
- (iii) *Details of the Vanakbadi Gedda stream with respect to: (a) its catchment in the upstream of the existing dam, (b) pondage area of the reservoir, (c) dry and monsoon seasonal flows in the downstream, (d) the extent of flood plains of the stream within the stretch of the project area, (e) the riparian ecosystems within the stretch of the project area, and (f) flood zoning of the stream.*

- (iv) *Details of the flood plains of both the Rivers (Jhanjavati and Nagawali) and the riparian ecosystems that exist in the stretches outside the boundary of the project area and the ecological services provided to the local communities including recharging of the ground water to maintain the level in bore wells, number of bore wells and renney wells located in the flood plains of both the rivers.*
- (v) *Details of the extent of flood plains of the rivers and streams, included in the project and the landuse of it in the project and the mitigation measures proposed to prevent flood waters entering into the project area and its impact on the floods in the downstream of the River due to narrowing of floodway.*
- (vi) *Details of dams/barrages/weirs on the two Rivers, if they are located within 10 km radius of the project area and the volume of the water available in dry and monsoon season, and the impacts of withdrawal of water from the Rivers on the availability of water for irrigation and to maintain the downstream ecology.*
- (vii) *The existing 17 ponds within the project site shall not be disturbed and the plant layout shall be revised so as to avoid the diversion of Vanakabadi Gedda stream.*
- (viii) *Scientific explanation for rise in temperature due to the proposed plant and acid rains.*
- (ix) *Consolidated action plan for public hearing issues.*
- (x) *Mitigation and management measures for the conservation of flood plain such as greenbelt development (50 m width), embankment of stream, no dumping of solid waste etc.*
- (xi) *The wastewater treatment scheme shall be studied in detail and submitted. The concerned senior officials of APPCB are also invited for the EAC meeting when the matter would be considered by the EAC.*

1.18 Expansion of 4x250 MW by addition of 4x600 MW Coal Based Thermal Power Plant at Tamnar, in Gharghoda Tehsil, in Raigarh Distt., in Chhattisgarh by M/s Jindal Power Ltd. - reg. Amendment of EC.

1. The PP made a presentation and provided the following information. EC for 2x600 MW of the above project based on domestic coal linkage was accorded on 18.03.2011 and EC for the remaining 2x600 MW based on imported coal (till domestic coal linkage is available) was accorded on 04.11.2011. An amendment to specific condition no (xxvi) of EC was accorded on 10.01.2014, which is extracted as under:

*"Information on all new activities like proposed setting up of a Coal Handling Plant, a Coal Gasification Plant, Coal stock yard etc. including the proposed pipe coal conveyer from Prasada to M/s JPL, at Tamnar shall be brought to the notice of the people both through EIA/ EMP studies and at the time of the Public hearing for the proposed Steel Plant of M/s JSPL in an explicit, comprehensive and understandable fashion. However as an interim arrangement as the above may take some time, the coal handling plant may be setup at the thermal power site for crushing coal obtained from SECL and MCL mines located between 20-50 Kms distances. The coal crusher at the plant site is permitted as an interim measure and would be dismantled after the lapse of interim period of **three years**. The transportation of coal from these mines by road may be undertaken for a limited period of **three years** from the date of issue of this letter, by which time the pipe conveyer shall be put in place for coal transportation"*

2. EC for unit 1 and 2 was accorded based on linkage coal from SECL and MCL mines. Therefore, in the EIA report it was proposed that coal from mines of SECL and MCL will be

transported by railways upto Parsada, crushed at Parsada and transported by pipe conveyer up to the plant site. Subsequently, while signing of the Fuel Supply Agreement, SECL and MCL have confirmed that the coal can be supplied from the nearby operating mines, namely Kulda of MCL and Barod/ Chhal of SECL. The 4X600 MW project is pithead within SECL and MCL mines and the coal is available within 20 - 30 Km on either side. The EC for Units 3 & 4 is based on imported coal till such time the domestic coal linkage is granted. The Unit 3 and 4 are at an advanced stage of commissioning and will be commissioned and operated on imported coal in Financial Year 2014-15. Unit 3 has already been synchronized on oil. The domestic coal linkage for these units is expected to be available in early 13th plan. *While granting of coal linkage, as per the present policy of CIL, the specific mine can be allotted, based upon the request of the PP.*

3. In light of above, the PP reviewed the original plan of coal transportation as indicated in EIA & EMP study & approved while granting the EC. The PP now proposes the following for transportation of coal for 4x600 MW expansion project:

- a) The entire coal shall be transported by close circuit pipe conveyer (CCPC) from the MCL mines up to the plant site. SECL has agreed for transfer of the linkage to MCL.
- b) The coal shall be crushed near the mines & transported to the TPP at Tamnar which is at a distance of approx. 22 Km through CCPC by its subsidiary company, Uttam Infralogix Ltd. (UIL).
- c) UIL has already submitted the applications for the grant of Consent to Establish the pipe conveyer to the Chhattisgarh Environment Conversation Board & Odisha State Pollution Control Board which are under active consideration by them.
- d) The entire project of coal crushing & transportation system is proposed to be implemented by UIL and is likely to be completed in 3 years.

The proposed scheme of transportation of coal will reduce the cost towards transportation of fuel, avoid loss of coal in the transshipment process, reduce the environment pollution hazard & furthermore will reduce the additional burden on the Railway network especially in South, Eastern & Central railway where the rail network is heavily burdened.

4. However, till the CCPC is ready, the PP need to transport the imported coal from Raigarh up to the plant by road similar to Unit 1 and 2 from SECL/MCL mines, as approved by MOEF vide letter dated 10.01.2014. In this regard, the PP informed that their parent company, JSPL is transporting 3.2 MTPA of washed coal from its Gare IV/1 coal mine located near Tamnar to its steel plant at Raigarh; permission for the same is available in the EC granted for the Gare IV/1 coal mine. The PP / Jindal Power Limited proposes to transport imported coal for Unit 3 and 4 by road from Raigarh railway siding on Bilaspur- Howrah section to Tamnar by utilizing the same empty trucks returning back from Raigarh to Tamnar, as same will not increase traffic on the road.

5. Further, during appraisal of the proposal for amendment of EC for transport of domestic coal by road, traffic impact study was submitted to MOEF and discussed in EAC meeting held on 19.09.2013. In the traffic study report, impact of transportation of coal by road from Gare-IV/1 mine of JSPL to their Raigarh Steel plant and Vice-Versa was also included. The report covered existing traffic composition and road conditions, existing traffic volume estimated in PCU (IRC 64: code of practice), existing traffic emission load, traffic study modeling, mitigation measures for pollution minimization, accident prevention, etc. Since the traffic impact study included the impact of existing traffic due to transport of coal from

Gare-IV/1 to the Raigarh steel plant, there will be no additional traffic volume due to transport of imported coal from Raigarh to Tamnar site by deploying use of same empty dumpers. The maintenance of these roads is being done by JSPL and will be continued by JSPL and JPL in the future.

6. *Based on the information and clarifications provided by the Project Proponent and detailed discussions held on all the issues, the Committee recommended for amendment in EC for installation of coal crusher by its subsidiary company namely Uttam Infralogix Ltd near MCL mines and transporting the crushed coal through CCPC. As an interim arrangement, committee also agreed to permit transport of imported coal by road from Raigarh railway siding of JSPL, on Bilaspur-Howrah line to the expansion plant at Tamnar for three years, by which time the CCPL shall be put in place for coal transportation. Accordingly, the specific condition no. (xxvi) of EC may be amended as follows:*

*“The linkage coal for the proposed expansion project will be crushed near MCL mines by installing coal crushers by its subsidiary Company Uttam Infralogix Ltd and the crushed coal will be transported to the plant site at Tamnar through Close Circuit Pipe Conveyer (CCPC). However, as an interim arrangement, the domestic and imported coal may be transported by road from MCL/SECL mines and Raigarh, respectively for a limited period of **three years**, by which time the CCPL shall be put in place for coal transportation and crush the same within the plant site by installing coal crusher.”*

7. *Further, the following additional conditions are stipulated:*

- (i) The coal transportation by road shall be through mechanically covered trucks to the extent feasible, else, shall be through tarpaulin covered trucks.*
- (ii) Avenue plantation of 2/3 rows all along the road shall be carried out by the project proponent at its own expenses in consultation with the State Government Authorities.*
- (iii) Periodic maintenance of the road shall be done by the project proponent at its own expenses and shall also facilitate the traffic control on the road in consultation with the State Government Authorities.*

1.19 3x660 MW Imported Coal Based Thermal Power Plant near Village Thaminapatnam, in Chilakul Mandal, in Nellore Distt., in Andhra Pradesh by M/s. Kineta Power Pvt. Ltd. - reg. amendment of EC for change in configuration.

1. The PP made a presentation and provided the following information. EC was accorded for the above project on 25.01.2012. It is now proposed to change the configuration to 3x800 MW considering better plant heat rate and specific coal consumption. There would be no additional land and water requirement.

2. At the outset, committee opined that the request tantamount to expansion although there may be relative environment advantages. The PP then requested for only 2x800 MW in place of 3x660 MW. To this request, the committee noted that the same could be agreed to. *However, complete details shall be submitted by the PP and shall be re-considered in the next EAC.*

1.20 1x600 MW Coal Based Thermal Power Plant at villages Bade Bhandar, Chote Bhandar, Sarvani & Amali Bhona, in Tehsil & Distt. Raigarh, in Chhattisgarh by M/s. Korba West Power Company Ltd.- reg. temporary permission for road transportation of coal.

1. The PP made a presentation and provided the following information. EC was accorded for the above project on 20.05.2010. Full load operation was achieved and COD declared on 31.03.2014. The PP has proposed the transportation of coal from coal pit-head to the plant site by Rail. Work for connection of railway network to plant site is in advanced stage, but may take around three years for becoming operational. CECB has granted permission for trial operation with the condition to get concurrence from MoEF within 3 months for transportation of coal by road. Hence, permission for transportation of coal by road for an interim period of three years is requested.

2. The proposed route of road transportation of coal would be Bhupdeopur Rly. Station – Dhimrapur Circle – Chatamuda Circle – Project site. The coal requirement is 8767 MT/d for which 351 trucks of coal @25 MT would be required. Turn around time for each truck is eight hrs and two trips shall be made by a truck in a day. The impact on AAQ in the study area due to the proposed increase in road traffic was assessed and the resultant concentrations of PM10, PM_{2.5}, SO₂ and NO_x would be within the NAAQS. The assessment of proposed road for its categorization & carrying capacity as per IRC: 64-1990 – Guidelines has been carried out. The carrying capacity of the roads has been assessed based on current traffic, proposed traffic and road width.

3. It was observed that all the roads were black topped and in good condition. The average width was found to be 9.96 m with width of 7.0 m to 21.6 m. No bottlenecks & issues were found at any location at the time of study and there were no traffic jams. When the PCU projections for the future percent utilization were estimated, it was found that the carrying capacity (as per IRC: 64-1990) at all census points were within limits.

4. *Based on the information and clarifications provided by the Project Proponent and detailed discussions held on all the issues, the Committee recommended for amendment of EC for road transportation of coal for a limited period of **three years**, by which time the railway siding shall be put in place for coal transportation and subject to the following additional conditions*

- (i) The coal transportation by road shall be through mechanically covered trucks to the extent feasible, else, shall be through tarpaulin covered trucks.*
- (ii) Avenue plantation of 2/3 rows all along the road shall be carried out by the project proponent at its own expenses in consultation with the State Government Authorities.*
- (iii) Periodic maintenance of the road shall be done by the project proponent at its own expenses and shall also facilitate the traffic control on the road in consultation with the State Government Authorities.*

1.21 2x600 MW Coal based Thermal Power Project at Katwa, District Burdwan, West Bengal by M/s West Bengal Power Development Corporation Ltd. - reg. transfer & extension of EC and amendment of EC for change in configuration.

The Committee could not appraise the project at this stage due to the expiry of EC dated 01.05.2008 on 30.04.2013 and expiry of ToR dated 13.05.2011 on 12.05.2014 for revised project configuration of 2x800 MW.

1.22 4x360 MW Thermal Power Project at Uchpinda, Tehsil Dabara, District Janjgir Champa in Chhattisgarh by M/s R.K.M Powergen Pvt. Ltd. – reg. temporary permission for road transportation of coal.

1. The PP and their environmental consultant, M/s. B S Envitech Pvt. Ltd, Hyderabad made a presentation and provided the following information. EC was accorded for the above project (4x350 MW) on 26.08.2008 and subsequent amendment for revision of configuration to 4x360 MW was accorded on 12.11.2008. The validity of EC was extended till 25.08.2018. Out of the total project area, 814 acres has been acquired and for balance land, in principle approval was obtained for Government acquisition. The commissioning of these units is scheduled for September 2014-January 2015.
2. Since the power plant is in an advanced stage of construction and railway siding is expected to be delayed slightly and will not be ready at the time of commissioning of the first two units of plant, the company is considering an interim arrangement to transport the coal by road from Kharsia Goods shed. Hence, permission for transportation of coal by road for an interim period of three years is requested.
3. The coal requirement is 5226 MT/d for which 209 dumpers @25 MT would be required and nine trips can be made by one dumper in a day. Three Wheel Loaders and two Loaders/Dozers will be required at loading point and unloading point respectively. The two way road connecting the Kharsia Goods shed to the project site is of width 10 m, mostly bituminous and already trucks are plying on these roads. Further, the distance by road is only 15.6 km. Regarding the transportation road carrying capacity, the total traffic after the proposed road transportation of the project will be 348 PCU/hr as against capacity of 1200 PCU/hr as per IRC-106:1990.
4. During dry/windy periods, fugitive dust generation shall be suppressed by spraying of water or by other suitable means. Transportation of material by truck shall be wetted and covered to prevent the dust nuisance. All vehicles shall be properly maintained and shall have PUC certificate. There are no bottlenecks and issues along the road alignment, additional capital cost is not much, being a temporary arrangement by hiring the trucks and operational cost is also minimal in view of the small distance of travel. The three projects within the vicinity are Athena, RKM and DB Power. DB Power if at all transports coal from Kharsia by road, the alignment is totally different. RKM and Athena have common alignment for a certain distance and then branch off to their respective plants. Hence, no obstacles are envisaged in road movement of coal.
5. *Based on the information and clarifications provided by the Project Proponent and detailed discussions held on all the issues, the Committee recommended for amendment of EC for road transportation of coal for a limited period of **three years**, by which time the railway siding shall be put in place for coal transportation and subject to the following additional conditions*
 - (i) *The coal transportation by road shall be through mechanically covered trucks to the extent feasible, else, shall be through tarpaulin covered trucks.*

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

(iii) Periodic maintenance of the road shall be done by the project proponent at its own expenses and shall also facilitate the traffic control on the road in consultation with the State Government Authorities.

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

ANNEXURE- A1

Terms of Reference (TOR):

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

- villages, creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
- xi) Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Office of the Chief Wildlife Warden of the area concerned.
 - xii) Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of fill material required; its source, transportation etc. shall be submitted.
 - xiii) A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land to be acquired is developed alternatively and details plan shall be submitted.
 - xiv) A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on economically feasible mineable mineral deposit shall be submitted.
 - xv) Details of 100% fly ash utilization plan as per latest fly ash Utilization Notification of GOI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash.
 - xvi) Water requirement, calculated as per norms stipulated by CEA from time to time, shall be submitted along with water balance diagram. Details of water balance calculated shall take into account reuse and re-circulation of effluents which shall be explicitly specified.
 - xvii) Water body/nallah (if any) passing across the site should not be disturbed as far as possible. In case any nallah / drain has to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of diversion required shall be furnished which shall be duly approved by the concerned department.
 - xviii) It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc.
 - xix) Hydro-geological study of the area shall be carried out through an institute/ organization of repute to assess the impact on ground and surface water regimes. Specific mitigation measures shall be spelt out and time bound Action Plan for its implementation shall be submitted.
 - xx) Detailed Studies on the impacts of the ecology including fisheries of the river/estuary/sea due to the proposed withdrawal of water / discharge of treated wastewater into the river/creek/ sea etc shall be carried out and submitted along with the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.
 - xxi) Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project. Commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.

- xxii) Detailed plan for carrying out rainwater harvesting and its proposed utilization in the plant shall be furnished.
- xxiii) Feasibility of zero discharge concept shall be critically examined and its details submitted.
- xxiv) Optimization of COC along with other water conservation measures in the project shall be specified.
- xxv) Plan for recirculation of ash pond water and its implementation shall be submitted.
- xxvi) Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals.
- xxvii) Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out by a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of local communities.
- xxviii) Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
- xxix) If the area has tribal population it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
- xxx) A detailed CSR plan along with activities wise break up of financial commitment shall be prepared. CSR component shall be identified considering need based assessment study. Sustainable income generating measures which can help in upliftment of poor section of society, which is consistent with the traditional skills of the people shall be identified. Separate budget for community development activities and income generating programmes shall be specified.
- xxxi) While formulating CSR schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CSR details done in the past should be clearly spelt out in case of expansion projects.
- xxxii) R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.
- xxxiii) Assessment of occupational health as endemic diseases of environmental origin shall be carried out and Action Plan to mitigate the same shall be prepared.
- xxxiv) Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conducive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two years shall be conducted with an excellent follow up plan of action wherever required.

- xxxv) One complete season site specific meteorological and AAQ data (except monsoon season) as per MoEF Notification dated 16.11.2009 shall be collected and the dates of monitoring recorded. The parameters to be covered for AAQ shall include SPM, RSPM (PM10, PM2.5), SO₂, NO_x, Hg and O₃ (ground level). The location of the monitoring stations should be so decided so as to take into consideration the pre-dominant downwind direction, population zone, villages in the vicinity and sensitive receptors including reserved forests. There should be at least one monitoring station each in the upwind and in the pre - dominant downwind direction at a location where maximum ground level concentration is likely to occur.
- xxxvi) A list of industries existing and proposed in the study area shall be furnished.
- xxxvii) Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the Model used and the input data used for modeling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The wind roses should also be shown on the location map as well.
- xxxviii) Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
- xxxix) Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.
- xl) Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished.
- xli) Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
- xlii) For proposals based on imported coal, inland transportation and port handling and rolling stocks /rail movement bottle necks shall be critically examined and details furnished.
- xliii) Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.
- xliv) EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.
- xlv) A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be carried out. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided.
- xlvi) The DMP so formulated shall include measures against likely Tsunami/Cyclones/Storm Surges/Earthquakes etc, as applicable. It shall be ensured that DMP consists of both on-site and off-site plan, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan shall be prepared both in English and local languages.
- xlvii) Detailed plan for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary (except in areas not possible) with tree density of 2000 to 2500 trees per

ha with a good survival rate of about 80% shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports.

xlvi) 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.

xlvi) 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.

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

(Shri N.K. Verma)
Member

(Shri G.S. Dang)
Member

(Shri A.K. Bansal)
Member

(Dr. S.D. Attri)
Member

(Dr. Saroj)
Member Secretary