

MINUTES OF THE 52nd MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON ENVIRONMENTAL IMPACT ASSESSMENT OF THERMAL POWER AND COAL MINE PROJECTS

The 52nd Meeting of the reconstituted Expert Appraisal Committee (Thermal) was held during **July 2-3, 2012** at Scope Convention Centre, SCOPE Complex, Lodhi Road, New Delhi. The members present were:

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|----|-------------------|---|------------------|
| 1. | Shri V.P. Raja | - | Chairman |
| 2. | Dr. C.R. Babu | - | Vice-Chairman |
| 3. | Shri J.L. Mehta | - | Member |
| 4. | Dr. G.S. Roonwal | - | Member |
| 5. | Shri M.S. Puri | - | Member |
| 6. | Dr. S.D. Attri | - | Member |
| 7. | Dr. P.L. Ahujarai | - | Member Secretary |

Dr. CBS Dutt, Dr. K.K.S. Bhatia, Shri T.K. Dhar, Shri V.B. Mathur and Member Secretary CPCB could not attend the meeting due to their pre-commitment.

In attendance: Sh. W. Bharat Singh, Deputy Director, MoEF.

The deliberations held and the decisions taken are as under:

DATE: 02.07.2012.

ITEM No.1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING.

Confirmation of the last meeting held during June 25-26, 2012 could not be taken up as the minutes were under finalization.

ITEM NO. 2.0 CONSIDERATION OF PROJECTS

2.1 Replacement of 62.5 MW by 1x660 MW (Unit- VI) Super-Critical Technology Bhusawal Coal Based TPP of M/s Maharashtra State Power Generation Company Ltd. (MAHAGENCO) at Village Pimpri-Sekam, Bhusawal Taluk, in Jalgaon Distt., in Maharashtra-reg. Environmental Clearance

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

The proposal is for setting up of 1x660 MW Super-Critical Technology Coal Based TPP at village Pimpri-Sekam, Bhusawal Taluk, in Jalgaon Distt., in Maharashtra. Presently three units viz. Unit-I of 62.5 MW; Unit-II of 210 MW; and Unit-III of 210 MW are in operation. Unit-IV & Unit-V comprising 500 MW each are in the process of being synchronized. It is proposed to phase out Unit-I, once Unit-VI becomes operational. The total plant area is about 673 Ha. Land requirement for the present proposal will be 115.93 ha (286.47 acres) out of which 276.44 acres is non-irrigated land and 10.03 acres is govt. land. The co-ordinates of the site will be located within Latitude 21°02'11.43" N to 21°03'02" N and Longitude 75°51'3.06" E to 75°51'58.4" E. The site is at an about 6.5 Km from Bhusawal town. A seasonal nallah passes near the site. A distance of 100 m has been maintained from the HFL of the same. Coal requirement will be 3.99 MTPA at 85% PLF. Washed coal will be used. LoA for domestic coal from WCL has been obtained as tapering linkage until Machakata Coal mines becomes operational. No additional land for ash dyke will be required for the proposed 1x660 MW. About 1.12 MTPA of fly ash and 0.28 MTPA of bottom ash will be generated. A Stack of 275m shall be provided. Water requirement of 50620 m³/day will be sourced from Ozerkheda reservoir. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within 10 km of the project site. Public Hearing was held on 08.02.2012. Cost of the project will be Rs.4548.0 Crores.

It was also informed that earlier the proposal was for replacement by a 300 MW unit and environmental clearance for the same was obtained in 2008.

It was also noted that soft copies of Form-I, Feasibility report, EIA/EMP report and its addendum (if any), public hearing proceedings, MoU/FSA for fuel etc. (if already not done) shall be submitted.

The Committee noted that coal linkage is available for only 300 MW. However, the desired unit capacity is 660 MW. The Committee therefore decided that the project proponent shall submit required documents to establish 100% coal availability.

It was observed that 2x210 MW units were commissioned during 1979-1982 and have become old and the environmental performance are very poor. The Committee observed that performance of these units need to be drastically improved in consonance with the desired level of environmental performance of the present needs. Accordingly it was decided that ESPs of the old units shall comply with 50 mg/Nm³.

The Committee was also informed that at present the power station has about 75% fly ash utilization. It was informed that no new ash pond is proposed for 1 x 660 MW units. Existing Ash Pond-II will be used. Ash Pond-I is now abandoned. The area of the abandoned ash pond has been handed over to the forest

department. The Committee advised the proponent that rehabilitation and closure of abandoned ash pond shall be taken up rigorously; ensuring the ecological restoration. The Committee also decided that the ground water quality monitoring around the ash pond shall be monitored regularly by constructing bore wells

The Committee also noted that Member of Parliament in his representation had raised issues of environmental concerns associated with the development of the Bhusawal Thermal Power Plant. The Committee decided that the project proponent shall address the issues raised (notably fishery issue) and submit the response to the Ministry.

The Committee also advised the proponent to develop three tier green belt all around the periphery of the plant and ash dyke to control fugitive emissions.

The Committee also discussed the issues raised in the Public Hearing and the response provided by the project proponent. The major issues raised were regarding employment to PAPs; demand for potable drinking water; and electricity; impact due to fly ash on agricultural fields; medical facility; pollution due to fly ash at village Fekari; assurance for Rs 257 Crores for tree plantation; pollution control measures; environmental audit of power plant etc.

While deliberating the issues raised in the Public Hearing, it was noted that response provided by the project proponent was inadequate and specific issues raised need to be appropriately addressed. The Committee therefore decided that the project proponent shall submit point-wise response and action plan for implementation.

The Committee also observed that as part of social service, regular health check-up of villagers in the nearby villages need to be carried out and records maintained. The Committee further noted that detailed CSR action plan along with year wise committed expenditure need be revised and submitted to the Ministry.

The Committee recommended the project for environmental clearance but has however decided that the project proponent shall first adequately clarify or ensure fulfillment of the following before any action is taken on file by the Ministry.

- i) Furnish documents to the Ministry to establish 100% coal availability for the 1x660 MW unit.*
- ii) Submit implementation programme and schedule for retrofitting/ installation for ESPs of the old units to control particulate emission below 50 mg/Nm³.*
- iii) Submit action plan for sound rehabilitation and closure of abandoned ash pond ensuring ecological restoration.*

- iv) Provide response to issues raised by MP on environmental impact associated with the development of the Bhusawal Thermal Power Plant (notably fishery issue).
- v) Submit action plan along with layout for mitigation and management of fugitive emissions in and around coal handling plant and for three tier green belt in and around coal handling plant and all around plant boundary.
- vi) Submit plan for monitoring mechanism for heavy metals and radio activity in and around the ash ponds including abandoned ash pond and in fly ash, through a reputed institute like IIT.
- vii) Detailed CSR action plan along with year wise committed expenditure shall be revised incorporating implementation of relevant issues agreed in public hearing shall be submitted.

The Committee recommended the project for environmental subject to stipulation of the following specification conditions:

- (i) Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.
- (ii) Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % 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.
- (iii) Stack of 275 m height shall be provided with continuous online monitoring equipments for SO_x, NO_x and Particulate Matter (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) No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.
- (v) COC of atleast 5.0 shall be adopted.
- (vi) Space provision for installation of FGD shall be made.
- (vii) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission from the proposed plant does not exceed 50 mg/Nm³.
- (viii) 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.
- (ix) Utilisation of 100% Fly Ash generated shall be made from **4th** year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.
- (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 form. 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 on radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. 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) Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land is affected. Damage to any land.
- (xiv) Green Belt with three tiers of plantations of native species around plant and at least 50 m width shall be raised. Tree density shall not less than 2500 per ha with survival rate not less than 80 %.
- (xv) The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.
- (xvi) An amount of Rs.18.20 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs.3.64Crore per annum till the life of the plant shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted to the Ministry within one month along with road map for implementation.
- (xvii) CSR scheme shall be identified based on need based assessment in and around the villages within 5.0 km of the site and in constant consultation with the village Panchayat and the District Administration. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training may also undertaken.
- (xviii) It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit to the Ministry status of implementation of the scheme from time to time.

2.2 2x300MW Coal & Middlings Based captive Thermal Power Plant of M/s Jayaswal Neco Urja Ltd. near villages Jobra & Hamirpur, in Tamnar Block, in District Raigarh, in Chhattisgarh - reg. Environmental Clearance.

The proposal is for consideration for environmental clearance. The project proponent made a presentation along with its consultant M/s EMTRC Consultants Pvt. Ltd., Delhi and provided following information:

The proposal is for setting up of 2x300 MW Coal and Middlings Based Thermal Power Plant near villages Jobra and Hamirpur, Block Tamnar, in District Raigarh, in Chhattisgarh. Land requirement will be 500 acres, out of which 2.67 acres is Govt. land; 8.07 acres is revenue forest land; 308.28 acres is single crop agriculture land and 180.024 acres is barren land. Out of the total land 200 acres of land is for water reservoir. The co-ordinates of the site are located within Latitude 22°02'02" N to 22°02'56" N and Longitude 83°30'43.36" E to 83°32'11.60" E. Coal and middling requirement will be 2.90 MTPA at 85% PLF. About 1.8 MTPA of middling shall be transported from the proposed washery and balance 1.1 MTPA domestic coal will be obtained through linkage (CEA has recommended to Ministry of Power). Ash and sulphur contents in coal will be 45% and 0.5% respectively. About 1.323 MTPA of ash will be generated (80% flyash; 20%bottom ash). Twin-flue Stack of 275m shall be provided. Water requirement will be 18 MCM and only 10 MCM will be sourced from two anicuts on Kelo River and anicuts will be constructed by WRD. The balance 8 MCM of water shall be managed through rainwater harvesting measures. There are no wildlife sanctuaries, national parks, biosphere reserves, heritage sites etc within 10 km of the plant boundary. Public Hearing was held on 23.09.2011. Cost of the project will be Rs.3310.80 Crore.

The Committee noted that there is a mismatch between domestic coal and middlings requirement and availability for 2x300 MW units. Also the status of environmental clearance of the washery from where middlings is to be sourced has not been indicated.

The Committee noted the 'Fuel Supply Agreement' signed between the project proponent and M/s Gupta Global Resources Ltd. seem merely a formality for complying the Ministry's requirement of firm coal linkage for consideration of environmental clearance and in its present form is not acceptable.

The Committee was informed by CEA representative that the project was qualified for only 1x300 MW, whereas the present proposal under consideration is for 2x300 MW. The Committee therefore decided that appropriate clarification on the observation of CEA shall be submitted by the project proponent.

The project proponent informed that they propose to use imported coal as an interim arrangement until domestic coal and middlings from coal washery is not available. The Committee advised that in view of the above, the project proponent shall submit MoU/FSA of imported coal for consideration. Accordingly, the proponent should also submit revised Form-I, updated

EIA/EMP (or its addendum) based on imported coal. The Committee also observed that transportation of imported coal and related issues shall be clearly dealt with in the updated/addendum EIA/EMP required to be submitted.

The Committee also noted that the area has a large number of proposed power plants and industrial units relying on same source of surface water which is an issue requiring detailed deliberation. It was therefore decided that even though the project proponent have water linkage from the State Govt., a detailed water availability study/analysis shall be submitted establishing availability of water for 12 months without impacting the competing users for drinking water supply and irrigation.

It was also noted that about 3.264 Ha of revenue forests (Chote jhar ka jungle) is involved for which forestry clearance may be required. The Committee also noted that there are schedule fauna in the region. The project proponent shall in consultation with the Office of the Chief Wildlife Warden prepare a wildlife conservation plan for implementation as may be required.

The Committee also discussed the issues raised in the Public Hearing and the response provided by the project proponent. The major issues raised were regarding objection for taking water from Kelo River; demand for health care facilities; compensation for land; area surrounded by forests; presence of ancient rock paintings; elephant corridor in area; presence of natural spring at 2 kms distance; EIA study prior to issue of TOR; wrong co-ordinates given for project site and project site in coal bearing area etc.

The response made by the project proponent point-wise was noted and the issues raised during Public Hearing were addressed. The Committee, however, desired that the CSR action plan shall give utmost importance to welfare of marginalized section of society particularly SC/STs as the area appears to have a large population of SC/STs.

The Committee after detailed deliberation decided that the project proponent shall submit the following information before the proposal is considered for environmental clearance.

- i) MoU/FSA for imported coal and any relevant document to establish 100% coal availability for the 2x300 MW units.
- ii) Revised Form-I, updated EIA/EMP (or its addendum) based on imported coal and middling (as the case may be).
- iii) Logistics for transportation of imported coal, capacity of the port, rail rakes, etc. and related issues shall be clearly dealt with in the updated/addendum EIA/EMP and details shall be submitted.
- iv) Clarification on the observation of CEA regarding qualification of the proposal for only 1x300 MW.

- v) Detailed water availability study/analysis shall be submitted establishing availability of water for 12 months without impacting other competing users for drinking water supply and irrigation.
- vi) Plan for identification and monitoring mechanism for heavy metals and long term study of radio activity in and around the ash pond and in fly ash, through a reputed institute like IIT.
- vii) Action plan for implementation of wildlife conservation measures in consultation with the concerned Office of the Chief Wildlife Warden.
- viii) Detailed CSR action plan along with year wise committed expenditure shall be submitted incorporating implementation of relevant issues agreed in public hearing. The plan shall include welfare measures for marginalized section (particularly landless farmers) whose sustenance were indirectly dependent on the land now proposed to be acquired for the power project. In addition special schemes for SC/STs shall be formulated.

Accordingly the proposal was deferred for reconsideration at a later stage.

2.3 2x660 MW Jawaharpur Thermal Power Project of M/s Jawaharpur Vidyut Utpadan Nigam Ltd. at villages Ayar, Babrauti Nasirpur, Birsinghpur, Malawan & Nigoh Hasanpur, in Etah Distt., in Uttar Pradesh - reg. Environmental Clearance.

The proposal is for consideration for environmental clearance. The project proponent made a presentation along with its consultant M/s GIS Enabled Environment & Neo-graphic Centre, Ghaziabad and provided following information:

The proposal is for setting up of 2x660 MW Jawaharpur Thermal Power Project at villages Ayar, Babrauti Nasirpur, Birsinghpur, Malawan & Nigoh Hasanpur, in Etah Distt., in Uttar Pradesh. Land requirement will be 865 acres, out of which 124.1 acres is double and single crop agriculture land; 738.7 acres is waste land; and 2.2 acres is under water bodies. Out of 350.07 ha of land, about 336.318 ha of land has been acquired by the project proponent and remaining 13.756 ha has been notified by the Gram Sabah for transfer. The co-ordinates of the site are located within Latitude 22°29'29.7" N to 22°30'32.8" N and Longitude 78°48'00"E to 78°50'10.40" E. Coal requirement will be 5.70 MTPA. Ministry of Coal, Govt. of India has allotted Chendipada & Chendipada-II Coal Blocks jointly to M/s UPRVUNL, M/s CMDC and M/s MAHAGENCO. UPRVUNL is entitled to 50% share in the coal block extracted from Chendipada & Chendipada-II Coal Blocks. Govt. of U.P has decided to allocate coal to Jawaharpur TPP from M/s UPRVUNL's share of Chendipada & Chendipada-II Coal Blocks. M/s UPRVUNL have agreed and approved the Fuel Supply Agreement between M/s JVUNL and M/s UPRUVNL for 5.38 MTPA of coal (for 85% availability). Ash and sulphur contents in coal will be 32% and 0.4% respectively. About 1.46 MTPA of fly ash and 0.36 MTPA of bottom ash will be

generated. Dry fly ash evacuation system shall be installed. Ash pond area will be 168 acres and co-ordinates of the ash pond site is located within Latitude 22°29'28.6" N to 22°30'30.6" N and Longitude 78°49'49.8"E to 78°50'24.3" E. Twin-flue Stack of 275m shall be provided. Natural Draft cooling system shall be installed. Water requirement of 37 MCM will be sourced from lower Ganga Canal through a pipeline at a distance of about 22km from project site. Allocation of 53 cusec (5400m³/hr) of water from Lower Ganga Canal has been made by Irrigation Department, Govt. of U.P. vide its letter no. 5257/09-27-Si-4, dated 09.11.2009. There are no national parks, wildlife sanctuaries, heritage sites, tiger/biosphere reserves etc. within 10 km of the project site. Public Hearing was held on 11.03.2011. Cost of the project will be Rs.7500.0 Crores.

The Committee noted that the coal block cited appears to be for other project and the project proponent need to make necessary amendment as may be required by the Ministry of Coal. It was also noted that environmental clearance for the coal block is yet to be obtained.

It was also noted that soft copies of Form-I, Feasibility report, EIA/EMP report and its addendum (if any), public hearing proceedings, MoU/FSA etc. (if already not done) shall be first submitted to the Ministry.

It was also informed that water conserved by lining the canal shall be utilized for the power project under consideration.

The project proponent also informed that fly ash utilization in western UP is not an issue and there is a huge demand by Cement manufacturers and National Highway Authority.

The Committee also discussed the issues raised in the Public Hearing and the response provided by the project proponent. The major issues raised were regarding manner of handling waste water; measures to mitigate air pollution from dust; likely noise pollution; source of water for the proposed plant; delayed compensation for land acquired etc.

The Committee noted that the land losers have still not received compensation. The Committee therefore advised that the project proponent shall ensure speedy release of compensation and also take measures in consultation with the State Govt. for identification and suitable welfare measures for landless farmers whose sustenance was indirectly dependent on the land not owned by them.

The project proponent provided point-wise response to the issues raised during the Public Hearing. The Committee however desired that the CSR action plan shall give utmost importance to welfare of marginalized section of society particularly SC/STs as the area seem to have a large population of SC/STs.

Based on the information and clarifications provided, the Committee *recommended environmental clearance for the project* subject to stipulation of the following specific conditions and submission of documents/requirements as mentioned above:

- i) Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.
- ii) Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5 % and 34 % 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.
- iii) Bi Flue stack of 275 m height shall be provided with continuous online monitoring equipments for SO_x, NO_x and Particulate Matter (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) No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.
- v) COC of at least 5.0 shall be adopted.
- vi) Space provision for installation of FGD shall be made.
- vii) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission from the proposed plant does not exceed 50 mg/Nm³.
- viii) 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.
- ix) Utilisation of 100% Fly Ash generated shall be made from **4th** year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.
- 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 form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash and also in the effluents 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. 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) Fugitive emissions shall be controlled to prevent impact on such that no agricultural/non-agricultural land. Impact to any land shall be mitigated and suitable compensation provided in consultation with the local Panchayat.
- xiv) Green Belt comprising of three tiers of plantations of native species around plant and at least 50 m width shall be raised. Tree density shall not less than 2500 per ha with survival rate not less than 80 %.
- xv) The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with implementation schedule for providing free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.
- xvi) The project proponent shall ensure compensation to the land oustees and also formulate scheme in consultation with the State Govt. for immediate implementation of sustainable welfare measures for marginalized landless farmers whose sustenance were indirectly dependent on the land now proposed for the power project and not owned by them.
- xvii) An amount of Rs.30.0 Crore shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs.6.0 Crore per annum till the life of the plant shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted to the Ministry within one month along with road map for implementation.
- xviii) CSR scheme shall be identified based on need based assessment in and around the villages within 5.0 km of the site and in constant consultation with the village Panchayat and the District Administration. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training may also undertaken.
- xix) It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.

2.4 6x350 MW (2100 MW) Gas Based Combined Cycle Power Plant of M/s Urban Energy Generation Pvt. Ltd. at village Kondgaon, in Roha Taluk, in Raigad Distt., in Maharastra -reg. Environmental Clearance reconsideration.

The proposal was recommended for environmental clearance in the 40th Meeting of the Committee held during January 9-10, 2012. The Committee in the said meeting had noted that the discharge of hot water is proposed to be ultimately let off to the Dharamtar Creek and had therefore decided that the

project proponent shall develop a guard pond and discharge the treated effluent after bringing down at ambient temperature. The Committee also decided that the project proponent shall submit data on benthic flora and fauna of the Creek *within six months*.

The Ministry however felt that since waste water from cooling tower is to be ultimately discharged into Dharamtar Creek, the project proponent need to have carried out Marine EIA Study.

In the meantime, the project proponent decided that they will go for 'Zero' discharge and the treated effluent will not be discharged into the Dharamtar Creek as was earlier envisaged.

The matter was accordingly referred back to the Committee for its views.

M/s Urban Energy Generation Pvt. Ltd. informed that water requirement will now be reduced from 58 MLD to 49 MLD and the solid waste generated from the RO System will be disposed off to the TSDF site at 40 Kms distance.

The Committee deliberated the issue and recommended for revised proposal with 'Zero' liquid discharge and High Efficiency RO System with additional safe guards for solid waste of R.O rejects. Accordingly the Committee decided that its earlier recommendation stands valid with the changes affected due to 'Zero Liquid Discharge' and High Efficiency RO System now introduced.

2.5 21 MW Bagasse Based Co-Generation Project of M/s Vaidyanath Sakhar Karkhana Ltd. at village Pangari, Taluka Parali Vajinath in Beed Dist., Sahakari Maharashtra – reg. Environmental Clearance

The proposal is for consideration for environmental clearance. The project proponent made a presentation along with its consultant M/s Vasantdada Sugar Institute, Pune and provided the following information:

The proposal is for setting up of 21 MW Bagasse Based Co-Generation Project at village Pangari, in Beed Dist., Maharashtra. Land requirement will be 5 acres, which is located within the sugar mill premises. The co-ordinates of the site are located in between Latitude 18⁰55'06" N to Longitude 76⁰28'26"E. Bagasse requirement will be 42.40 TPD during crushing season and 16.13 TPD during off season. About 8.14 MT/day of ash will be generated during season and 3.09 MT/day of ash will be generated during off season. Stack height will be 72 m. Water requirement of 1,015 m³/day will be sourced from Wan Medium Scale Project through a jack well at a distance of 6.5 km from the project site. Irrigation Department (Divisional office- Aurangabad) has approved water drawl permission for 1.20 million cubic meters per annum. Induced cooling tower cooling system will be installed. There are no National Parks,

Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within 10 km distance of the site. Public Hearing was held on 14.02.2012. Cost of the project will be Rs. 80.11Crores.

The project proponent also informed that about 4.7 MW of power will be used for sugar unit, 0.6 MW for Distillery Unit and 1.8 MW for Co-Generation unit. The surplus power will be exported to MSEDCL grid.

The Committee also discussed the issues raised in the Public Hearing and the response made by the project proponent. The major issues were regarding whether any air monitoring station will be installed at the site so that people can know the level of pollution due to plant; clarification on AAQ data presented in the EIA Report; lack of medical facilities in the area including veterinary care nos. of ESP proposed; green belt development; irrigation facility; ash generation etc.

The Committee noted that the project proponent had addressed to the specific queries raised in the Public Hearing.

Based on the information and clarifications provided, the Committee *recommended the project for environmental clearance* subject to stipulation of the following specific conditions:

- i) No change in fuel mix shall be permitted. No woody biomass shall be used at any point of time. Inventory of fuel used and stock pile duly verified by head of the plant shall be maintained for verification by concerned authority.
- ii) It shall be ensured that the area drainage is not disturbed due to the proposed expansion.
- iii) Alternative source for meeting the water requirement shall be developed within the development of the project to reduce the use of ground water. The mechanism and status for meeting the water requirement shall be specified and submitted to the Regional Office of the Ministry **within six months**.
- iv) A stack of 72 m height with flue gas velocity not less than 22 m/s shall be installed.
- v) Green Belt with native species around plant and at least 50 m width all around shall be developed except in places not feasible which shall be clearly specified and justification submitted. The vegetation density shall be not less than 2500 trees/ha and survival rate not less than 75%.
- vi) Waste water generated (if any) from the plant shall be treated before discharge to comply limits prescribed by the SPCB.
- vii) A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises. Action plan and road map for implementation shall be submitted to the Ministry **within six months**.

- viii) Well designed acoustic enclosures for the DG sets and noise emitting equipments to achieve the desirable insertion loss viz. 25 dB(A) should be provided.
- ix) Additional soil for leveling of the sites should be generated within the site in a way that natural drainage system of the area is protected and improved.
- x) An amount of Rs. 0.32 Crores as one time investment should be earmarked for activities to be taken up under CSR by the above proponent. Recurring expenditure for CSR shall not be less than Rs.0.06 Crores per annum till the operation of the plant. Detailed action plan with break-up of activities to be undertaken shall be submitted **within four months** to the Ministry.
- xi) While identifying CSR activities it shall be ensured that need based assessment for the nearby villages within study area shall be conducted to study economic measures with action plan which can help in upliftment of poorer sections of society. Income generating projects consistent with the traditional skills of the people shall be undertaken. Development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. Vocational training programme for possible self employment shall be imparted to pre identified villagers free of cost.
- xii) An Environmental Cell shall be created at the project site itself and shall be headed by qualified officer, who is well versed with the environmental aspects. It shall be ensured that the Head of the Cell shall directly report to the Head of the organization.

2.6 1980 MW Coal based Thermal Power Plant of M/s Kineta Power Pvt. Ltd. near Thammanipatnam, in District Nellore, in Andhra Pradesh - Amendment in EC

Neither the project proponent nor its representative was present in the meeting. The matter was accordingly deferred.

2.7 26 MW Co-Generation Thermal Power Projects M/s Chincholi Sugar & Bio Industries Ltd. at village Chincholi, District Gulbaraga in Karnataka - reg. TOR

The proponent did not attend the meeting. The Committee decided to defer the proposal and it will be considered at the request of the project proponent.

2.8 1320 MW coal based thermal power plant of M/s Dalmia Power Ltd at villages Chapariya, Sadhujor, Maledih, Badkitland, Lakhangadiya & Pichchribad, District Deoghar in Jharkhand - reg. TOR

The proposal was considered for determination of terms of reference for undertaking EIA/EMP study as per the provisions of EIA Notification, 2006. The project proponent gave a presentation through its consultant M/s Vimta Labs Ltd., Hyderabad and provided the following information:

The proposal is for setting up of 1320 MW coal based thermal power plant at villages Chapariya, Sadhujor, Maledih, Badkitland, Lakhangadiya & Pichchribad, District Deoghar in Jharkhand. Land requirement will be 974 acres of which 315 acres is single crop agriculture land; 277 acres is Barren land and 382 acres is degraded & waste Land. The co-ordinates of the site are located in between Latitude 24°21'25" N to 24°22'55" N and Longitude 86°38'14"E to 86°40'16"E. Coal requirement will be 5.258 MTPA at 85% PLF. Water requirement of 36 MCM will be sourced from Ajay River through a pipeline at a distance of 3.2 km from the project site. Area required for the ash pond will be 98 acres. There are no National Parks, Wildlife Sanctuaries, and Tiger/Biosphere Reserves etc. within 10 km of the site. About 500 land oustees will be involved from this project site.

The Committee also noted that a UMPP is also being proposed very close to the site, which may be falling in the command area of the proposed Dam. It was also noted that an ancient temple exists in the vicinity for which approval from the Archaeological Survey of India (ASI) may be required.

The Committee therefore decided that the project proponent shall obtain clearance from the Water Resources Department w.r.t command area of proposed Dam.

Based on the information provided and presentation made, the Committee prescribed the following specific TOR over and above the standard TORs as at **Annexure-A1** for undertaking detailed EIA study and preparation of EMP.

- i) Approval from Water Resources Deptt. shall be obtained stating that the proposed site is in not in command area of proposed dam.
- ii) Approval of ASI shall be obtained w.r.t ancient temple located nearby and accordingly conservation action plan shall be formulated.
- iii) Action plan for rehabilitation of homestead losers (if any) and details of compensation paid to land losers shall be submitted. The R&R plan shall include identification of marginalized section of people who do not own land but were dependent indirectly on the land to be acquired for the power plant and their rehabilitation thereof;
- iv) Details regarding water availability for 12 months and drainage area study shall be submitted. The study shall include details of competing users of water from Ajay river downstream of the proposed power plant;

- v) Action plan for carrying out a long term study of radio activity, heavy metals from coal to be used and reputed institute identified for the task shall be formulated. The plan shall comprise of an in-built continuous monitoring mechanism for radio activity and heavy metals in coal and fly ash (including bottom ash).

2.9 Expansion by addition of 2x660 MW (Phase –II) Coal Based Thermal Power Plant of M/s NCC Power Projects Ltd. near Painapuram, Varakavipudi villages, in District SPS Nellore, in Andhra Pradesh - reg. TOR

The proposal was considered for determination of terms of reference for undertaking EIA/EMP study as per the provisions of EIA Notification, 2006. The project proponent gave a presentation through its consultant M/s TEAM Labs and Consultants, Hyderabad and provided the following information:

The proposal is for expansion by addition of 2x660 MW (Phase –II) coal based Thermal Power Plant near Painapuram, Varakavipudi villages, in District SPS Nellore, in Andhra Pradesh. Additional land required for Phase-II will be 200 acres, which is a single crop agriculture land. The co-ordinates of the site are located in between Latitude 14°20'36.9" N to 14°21'47.3" N and Longitude 80°08'05" E to 86°09'30.2" E. Coal requirement will be 6.09 MTPA at 85% PLF. Blended coal (70:30 domestic : imported) will be used. Additional Water required for phase-II will be 308.88 MLD and will be sourced from sea through a pipeline at a distance of 2.2 km from the project site. Area Required for Ash pond will be 120 acres. Buckingham canal is at a distance of 0.1 Kms from west side of the project site and Bay of Bengal is 1.0 km away from the project site in the Southeast direction. There are no National Parks, Wildlife Sanctuaries, and Tiger/Biosphere Reserves etc. within 10 km of the site.

The project proponent also informed that Krishnapatnam Port is located at a distance of 7-8 Kms from the site.

The Committee noted that there are a large number of Thermal Power Plants proposed (including Phase-I project of the project proponent) in the Nellore Distt. The Committee therefore decided that the project proponent shall carry out cumulative impact assessment over a radius of 25 Kms. The cumulative impact assessment shall also include marine studies considering impact on marine ecosystem due to sea water drawl by a large number of TPPs and discharge.

Based on the information provided and presentation made, the Committee prescribed the following specific TORs over and above the standard TORs as at **Annexure-A1& A2** for undertaking detailed EIA study and preparation of EMP.

- i) Cumulative impact assessment over a radius of 25 Kms shall be carried. The cumulative impact assessment shall also include marine studies considering impact on marine ecosystem due to a large number of TPPs, sea water drawl and discharge by a large number of Thermal Power Plants.
- ii) Certified compliance report with respect to environmental clearance conditions for Phase-I report from RO of the Ministry shall be submitted.
- iii) Action plan for carrying out a long term study of radio activity, heavy metals from coal to be used and reputed institute identified for the task shall be formulated. The plan shall comprise of an in-built continuous monitoring mechanism for radio activity and heavy metals in coal and fly ash (including bottom ash).

DATE: 03.07.2012

2.10 2X660MW Based Thermal Power Plant of M/s NSL Nagapattanam Power & Infratech Pvt. Ltd. in District Angul, in Orissa - reg. Environmental Clearance.

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

The proposal is for 2x660 MW Coal Based TPP at village Tehrampur, in Talcher Taluk, in Angul Distt., in Orissa. Earlier TOR was issued in the name of M/s Mahanadi Aban Power Co. Ltd. for 2x515 MW on 11.05.2007. The configuration was later on changed to 2x660 MW and approval for the same was accorded on 29.04.2011. Public Hearing was held on 19.11.2007 for 2x515 MW capacity. The project was placed for consideration for environmental clearance in March, 2009, wherein the EAC had declined to appraise the project since firm coal and water linkage was not in place then.

In the meantime the proposed 2x660 MW power project of M/s Mahanadi Aban Power Co. Ltd. has been acquired by M/s NSL Nagapatnam Power & Infratech Pvt. Ltd. and therefore presented the proposal before the Committee.

The Committee noted that merger and acquisition process is under process and yet to be completed. The Committee therefore observed that as of now the project proponent has no locus stand to apply for environmental clearance for a project which is held by some other entity. The Committee therefore decided to consider the proposal when all process of merger/acquisition is complete and relevant documents are in place. Accordingly the proposal was deferred.

2.11 Proposed 6x660 MW (3960 MW) Imported Coal Based Saurashtra Super Thermal Power Plant of M/s Universal Crescent Power Pvt. Ltd. at village Bhatvadia, in Kalyanpur Taluk, District Jamnagar in Gujarat- EC reconsideration reg.

The proposal was earlier considered in the 44th Meeting held during March 5-6, 2012, wherein the project proponent gave a presentation and provided the following information:

The proposal is for setting up of 6x660MW Imported Coal Based Saurashtra Supercritical Imported Coal Based Thermal Power Plant at village Bhatvadia, in Kalyanpur Taluk, District Jamnagar in Gujarat to be implemented in three phases. Land requirement will be 1281 acres, out of which 281 acres is double and single crop agricultural land and 1000 acres is waste land. About 47 acres of land is required for the Jetty. The co-ordinates of the site are located within Latitude 21°59'43" N to 22°04'00.64" N and Longitude 69°10'57" E to 69°14'14.92" E. Coal requirement will be 16 MTPA. FGD will be installed for Phase-II (2x660 MW) and Phase-III (2x660 MW). Imported coal will be obtained from Indonesia. Ash and sulphur contents in the imported coal will be 6.0-8.0% and 0.1-0.6% respectively. About 1.15 MTPA of fly ash and 0.28 MTPA of bottom ash will be generated. Fly ash will be supplied to M/s Tirupati Vancom Pvt. Ltd., Kolkata and M/s Sahajan and Marketing Pvt. Ltd., Vadodara who are in the business of Ash export. Three numbers of bi-flue Stacks of 275m shall be provided. Coal will be transported from Jetty by closed conveyor belt system over a distance of about 4.5 Kms. Water requirement will be 897 MLD and will be sourced from Arabian Sea and Gujarat Coast through a pipeline at a distance of about 7.0 km from project site. Permission letter dated 04.11.2011 has been received from Gujarat Maritime Board for drawl of water. Gaga Bird Sanctuary is located at a distance of 5.3 Km from the project site. Clearance from the Standing Committee of the National Board of Wildlife is awaited. Public Hearing was held on 20.09.2011. Cost of the project will be Rs. 25,248.0 Crores.

In said 44th Meeting, the Committee observed that land-use details of proposed power plant site have not been furnished and therefore suggested that authentic information as per revenue records shall be furnished. It was also observed that about 47 acres of forest land is involved and therefore advised that the same shall be deleted to which the project proponent readily agreed. The land required would therefore be 1281 acres. It was also observed that imported coal documents submitted could at best cater to only 2x660 MW and hence recommendation, if agreed to, can be for 2x660 MW (Phase-I) only although appraisal can be considered for 6x660 MW.

The Committee had also observed Saurashtra region is well known for limestone deposits and therefore desired to know the details of mineralogy in

the project site. A detailed geological map of the area indicating the presence of minerals from the Geological Survey of India needs to be obtained from GSI.

It was further also noted in the 44th meeting that the site is close to a Bird Sanctuary, which amply signifies that there must be surface water bodies / low lying area/wetlands in the vicinity. The Committee had therefore decided that the project proponent shall submit authenticated map indicating the location of the boundary of the Bird Sanctuary from the nearest boundary of the TPP. A copy of the application submitted to the National Board for Wildlife for seeking permission under the Wildlife (Protection) Act, 1972 along with their comments/recommendations need to be furnished.

It was also noted that presently the outfall is proposed at 1.08 kms distance from the sea shore and intake at 2.0 kms from the sea shore. The Committee observed that the location of outfall and intake requires a detailed re-examination and need possibly to be reversed from their present locations the details shall be submitted after reexamination. The Committee also decided that coastal erosion map of the area shall be submitted.

With regard to CSR and other social issues, the Committee observed that impact on fishery (in terms of catch) need a detail examination as the proposed power project along with the proposed jetty may have a serious impact on 1200 fishermen in the area. The Committee therefore decided that CSR component need a revision based on PH issues and need to be re-submitted along with financial break-up activity wise with annual recurring activities and budgetary details in the form of a CSR Action Plan.

In view of the above, the Committee had decided to defer the proposal for reconsideration.

On receipt of clarification/ additional information sought by the Committee the matter was placed again.

The Committee noted the clarifications submitted and presented by the project proponent.

It was noted that the location of Gaga Bird Sanctuary with respect to the project site as per the authenticated by the Chief Conservator of Forests is at a distance of 5.3 Kms. Regarding land use of site, the project proponent presented a letter from OSD of Industries & Mine Dept., addressed to the Principle Secretary, Revenue Department stating the intention to allot 405 Ha of Govt. land to the project proponent.

Regarding forest land of about 47 acres, the project proponent have confirmed that no forest land will be involved for the power project. It was also stated that

coal from jetty to the project site will be conveyed without involving any intermediate storage in jetty area.

The project proponent also presented the mineral map of the area and informed that only low grade limestone is present in patches/pockets at 3-5 m depth. NOC for the site has been given by the Industries & Mine Department.

The project proponent informed that they have suitably revised the intake and outfall location. As per the revised study the maximum temperature increase at outfall is 1.15°C instead of 1.19°C. The maximum salinity increase will be 2.48 psu instead of 4.14 psu.

On the question of impact on fishery, the project proponent informed that as per data from Fisheries Deptt, about 37 families of fishermen are registered in Bhogat village and there are no registered fishermen in Gojiness and Kurunga villages. There will be no impact due to activities associated with the TPP. The project proponent however committed an expenditure of about Rs 25.0 Crore for fishermen welfare schemes in addition to CSR activity.

The Committee decided that the project proponent shall take care of the fishermen families and special schemes for sustainable welfare scheme for these families shall be formulated as committed.

The Committee also revisited the issues raised in the Public Hearing and the responses made by the project proponent. The major issues were regarding false information of land use in EIA report; use of Gochar land for proposed TPP; adverse impact due to coal dust and fly ash; livelihood impact on 12000 fishermen; impact on landless farmers; right of way for villagers; pollution of Bhogat Bandharaniya due to the proposed TPP; presence of peacock development centre at 5.3 Kms away from site and impact due to the proposed TPP; land for TPP a three seasonal crop area etc.

The Committee perused the point wise reply to the various issues raised in the Public Hearing and noted that all the issues were addressed. The Committee however observed that no community land (Gochar land) shall be acquired for the power project. In case of absolute necessity, equal area of Gochar should be been developed and handed over for community use.

The Committee also noted that about one ship movement per day may be required when all the Phases of TPP is in operation. Coal is reported to be transported from the captive jetty to the plant site by the closed conveyor belt. The nearest Port is at Porbander and Okha at about 40 Kms distance from the proposed site.

The Committee observed that a third party monitoring by Institute such as NIO shall be carried to assess impacts due to ship movement on the marine flora/fauna.

Based on the information and clarifications provided, the Committee *recommended environmental clearance* for **2x660 MW** subject to stipulation of the following specific conditions and submission of documents/requirements above mentioned:

- (i) The environment clearance is subject to obtaining clearance from the Standing Committee of National Board of Wildlife under the Wildlife Protection Act, 1972.
- (ii) Environmental clearance shall be applicable for **2x660 MW**. However at a later stage when firm coal linkage for other units of 660 MW is also available, the project proponent may request the Ministry for inclusion of other units of 660 MW to which the Ministry shall consider appropriately.
- (iii) In case source of fuel supply is to be changed at a later stage (now proposed imported coal from Indonesia) the project proponent shall intimate the Ministry well in advance along with necessary requisite documents for its concurrence for allowing the change. In such a case the necessity for re-conducting public hearing may be decided by the Ministry in consultation with the Expert Appraisal Committee.
- (iv) A study shall be undertaken through a reputed Govt. Organization/ Agriculture University on the impact on vegetation within 10 km radius of the plant due to fly ash generated and action taken shall be submitted to the Ministry. The study shall be completed within **one year** of operation of the proposed plant.
- (v) A wildlife conservation plan shall be formulated in consultation with the Office of the Chief Wildlife Warden and duly vetted by the concerned Chief Wildlife Warden for immediate implementation. The plan shall have an in-built monitoring mechanism.
- (vi) No community land (Gochar land) shall be acquired for the power project. In case the same is absolute necessity, it shall be carried out only after equal area of Gochar land has been developed and handed over for community use
- (vii) The project proponent shall carry out a long term R&D on Boiler efficiency vis-à-vis large variation on ash content of coal and submit its findings to the Ministry at a later stage.
- (viii) Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.
- (ix) Sulphur and ash contents in the coal to be used in the project shall not exceed 0.6 % and 10 % 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.

- (x) Stack of 275 m height shall be provided with continuous online monitoring equipments for SO_x, NO_x and Particulate Matter. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.
- (xi) No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.
- (xii) COC of atleast 1.3 shall be adopted.
- (xiii) Velocity at intake shall not exceed 0.15 m/s.
- (xiv) Third party monitoring by Institute such as NIO on impact of marine biology due to ship movement shall be carried out periodically to ascertain the adversity on marine biology.
- (xv) Space provision for installation of FGD shall be made.
- (xvi) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emissions from the proposed plant does not exceed 50 mg/Nm³.
- (xvii) 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.
- (xviii) Utilisation of 100% Fly Ash generated shall be made from **4th** year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.
- (xix) 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 form. 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.
- (xx) 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.
- (xxi) A long term study on radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. 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.
- (xxii) Fugitive emissions due to fly ash (dry or wet) shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided in consultation with the local Panchayat.
- (xxiii) Green Belt consisting of three tiers of plantations of native species around plant and at least 50 m width shall be raised. Tree density shall not less than 2500 per ha with survival rate not less than 80 %.
- (xxiv) The project proponent shall also adequately contribute in the development of the neighbouring villages. Special package with

- implementation schedule for providing free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.
- (xxv) An amount of Rs2 6.0Crores shall be earmarked as one time capital cost for CSR programme for Phase-I. Subsequently a recurring expenditure of Rs5.28 Crores per annum till the life of the plant shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.
- (xxvi) In addition to CSR an amount of Rs 25.0 Crores as committed for fishermen welfare schemes shall be utilized for sustainable livelihood upliftment schemes. The status of implementation and the action plan for implementation shall be regularly submitted to the R.O of the Ministry.
- (xxvii) CSR scheme shall be identified based on need based assessment in and around the villages within 5.0 km of the site and in constant consultation with the village Panchayat and the District Administration. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training may also undertaken.
- (xxviii) It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.

2.12 3x660 MW Coal Based Ichagarh Thermal Power Project of M/s Moser Baer Power & Infrastructures Ltd. at villages Kukru, Sapada, Heremuli, Dere and Latemda, Tehsil/block Ichagarh, District Saraikela- Kharswan in Jharkhand – reg. TOR

The proposal was considered for determination of terms of reference for undertaking EIA/EMP study as per the provisions of EIA Notification, 2006. The project proponent gave a presentation through its consultant M/s Vimta Labs Ltd., Hyderabad and provided the following information:

The proposal is for setting up of 3x660 MW Coal Based Ichagarh Thermal Power Project at villages Kukru, Sapada, Heremuli, Dere and Latemda, Tehsil/block Ichagarh, District Saraikela- Kharswan in Jharkhand. Land requirement will be 1500 acres, out of which 240 acres is single crop agriculture land; 1240 acres is waste land; 10 acres is grazing land; and 10 acres under ponds and kachha roads. The co-ordinates of the site are located in between Latitude 23⁰05'25" N to 23⁰07'09" N and Longitude 85⁰57'55" E to 85⁰59'47" E. Coal requirement will be 10.32 MTPA at 85% PLF. Water requirement of 60 MCM will be sourced from Chandil Reservoir through a

pipeline at a distance of 20 km from the project site. Area required for Ash pond will be 300 acres. There are two rivers, three nallahs and six protected forests within 10 km of the site. Also there are one reserve forest and two protected forests within 15 kms distance of the site. There will be 140 land oustees.

The Committee noted that grazing land (community land) shall be either untouched or if absolutely unavoidable, an equal area shall be first developed and made available to community for grazing. It was also decided that no water body shall be disturbed and existing water bodies need to be regenerated.

The Committee also noted that the area appears to have a large number of small and medium scale industries and; is a severely polluted. Therefore, a cumulative impact assessment, on air and water should be carried. The details of all likely sources of pollution including proposed power and industrial project with in 15 Kms radius shall be considered. The Committee also decided that comments of the State Pollution Control Board regarding suitability for setting up such a large power plant in a severely polluted area shall be submitted.

The Committee therefore also decided that social impact assessment beside CSR need to be undertaken. The study shall clearly indicate disease pattern, livelihood pattern and needs of people, tribal rights involved etc.

Based on the information provided and presentation made, the Committee prescribed the following specific TOR over and above the standard TORs as at **Annexure-A1** for undertaking detailed EIA study and preparation of EMP.

- i) Cumulative impact assessment over a radius of 15 Kms shall be carried out. The cumulative impact assessment shall include considering impact due to a large number of TPPs on air, water, flora/fauna and solid waste management.
- ii) The Committee also decided that comments of the State Pollution Control Board regarding suitability for setting up of such a large power plant in an already severely polluted area shall be submitted.
- iii) Grazing land (community land) shall be either untouched or if absolutely unavoidable, an equal area shall be first developed and made available to community for grazing.
- iv) The Committee therefore decided that social impact assessment beside CSR need to be undertaken. The study shall clearly indicate disease pattern, livelihood pattern and needs of people, tribal rights involved etc.
- v) Action plan shall be prepared for carrying out long term study on radio activity, heavy metals from coal to be used and reputed institute identified for the task. The plan shall comprise of an in-built continuous monitoring mechanism for radio activity and heavy metals in coal and fly ash (including bottom ash).

2.13 9x125 MW Captive Power Plant for the proposed Coal to Liquid (CTL) Plant of 80,000 BPD of M/s. Jindal Synfuels Ltd. at village Durgapur, in District Angul, in Odisha - reg. TOR.

The proposal was considered for determination of terms of reference for undertaking EIA/EMP study as per the provisions of EIA Notification, 2006. The project proponent gave a presentation through its consultant M/s Vimta Labs Ltd., Hyderabad and provided the following information:

The proposal is for setting up of 9x125 MW Captive Power Plant for the proposed Coal to Liquid (CTL) Plant of 80,000 Barrels Per Day (BPD) at village Durgapur, in District Angul, in Odisha. Total land requirement (including residential area) will be 4805 acres for CTL Plant and Captive TPP. Out of total land of 4805 acres, about 2066 acres is single crop agriculture land; 2517 acres is barren land; 10 acres is double crop agriculture land; and 212.11 acres is forest land. The co-ordinates of the site are located in between Latitude 20°51'48" N to 20°54'33" N and Longitude 84°52'53"E to 84°56'22"E. Coal requirement will be 4.0 MTPA (for coal to liquid plant). Water requirement for captive power plant will be 5230 m³/hr and for CTL Plant 6130 m³/hr will be sourced from Mahanadi River through a pipeline at a distance of 50 km from the project site. There are no National Parks, Wildlife Sanctuaries, Tiger/Biosphere Reserves etc. within 10 km of the site. About 223 homestead will be involved from this project site.

The Committee noted that a Satkosia Tiger Reserve is located at distance of about 15-16 kms and the project appears to be located in an area surrounded by forests. It was also noted that forest land is involved for the CTL and CTPP project. The Committee decided that the comments of the National Tiger Conservation Authority shall be obtained.

Based on the information provided and presentation made, the committee prescribed the following specific TORs over and above the standard TORs as at **Annexure A-1** for undertaking detailed EIA study and preparation of EMP:

- i) An authenticated map showing the location of the project and Satkosia Tiger Reserve from the Chief Wild Life Warden/Director Project Tiger along with his comments/recommendation shall be submitted.
- ii) Cumulative impacts on ambient air quality due to location of other projects within 15 kms distance shall be carried out.
- iii) Action plan shall be prepared for carrying out long term study on radio activity, heavy metals from coal to be used and reputed institute identified for the task. The plan shall comprise of an in-built continuous monitoring mechanism for radio activity and heavy metals in coal and fly ash (including bottom ash).

2.14 2 x 250 MW Coal Based Captive Thermal Power Plant of M/s NALCO, in District Angul, in Orissa– reg. TOR reconsideration.

The proposal was earlier considered for determination of TOR for undertaking EIA/EMP study in the 28th held during July 4-5, 2011, wherein, the Committee noted that the implementation of the environmental regulations including conditions stipulated in the environmental clearance for the plant is reported to be very poor. Breach of Ash pond in the recent past was also a problem, which led to vast devastation in the area. The Committee therefore expressed its inability to consider recommendation for TOR for the present expansion proposal in the absence of the following information:

- a) Copy of High Power Committee Report on Ash Pond breach that took place sometime in the year 2000 shall be submitted along with point wise compliance of observations made in the said report.
- b) Action plan for abatement of pollution in critically pollution industrial clusters at Angul- Talcher area formulated by Orissa state pollution Control Board sometime in December 2010 or so.
- c) Status of compliance on the High Power Committee Report pertaining to Smelter and Captive Power Plants.
- d) Status of compliance to the conditions stipulated in the environmental clearance for the Captive as well as Smelter plants.
- e) Copy of DGMS approval for proposed mine void filling with ash from CPP.
- f) Details of Green Belt development activities (year wise species wise) taken up by M/s NALCO in Smelter and CPP complex with photographs.
- g) Environmental baseline and meteorological data for last 10 years along with interpretation of the trend for CPP.
- h) Details of existing drainage system in CPP and ash pond area.
- i) Ground water analysis and test report conducted by a recognized reputed laboratory (particularly fluoride) in and around the plant and villagers in the periphery of Smelter and CPP.
- j) Analysis of ground water in proposed mine void filling area.
- k) Soil testing report of the mine void filling area.
- l) Geological report of mine void filling area.
- m) EIA/EMP report for mine void filling area.
- n) Details of land availability for existing CPP units (1200 MW) and proposed expansion units (2x250 MW).
- o) Permission for existing water source and proposed additional water source.
- p) Long term coal linkage for existing unit and proposed new units.
- q) Status of statutory clearances like to consent to establish, wild life clearance, environment clearance, forest right act clearance, forest clearance for the captive coal mine and proposed mine void with status of compliance of condition.

On submission of above clarification/documents the matter was again placed in the 40th Meeting of the Committee held during January 9-10, 2012.

In the said 40th meeting, the Committee observed that before according any approval to any further expansion, the breach of ash dyke in December, 2000, resulting in devastating damage to the ecology of the area, needs to be looked into greater details as the project proponent could not satisfactorily reply to the observations made in the 28th meeting. *The Committee therefore had decided that a sub-group under the Chairmanship of Dr. C.R Babu and comprising of Shri J L Mehta, Dr. K.K.S Bhatia, Dr. CBS Dutt and representative of Ministry from the Ministry's Regional Office shall visit the site to assess the compliance of environmental clearance conditions of the existing plant and to suggest additional TORs which would be relevant to the project. Accordingly the proposal was deferred.*

The site visit was undertaken during March 30-31, 2012 by the Sub-Group headed by Dr. C.R. Babu and the report was placed before the Committee and deliberated.

The Sub-Group informed that fly ash breach after the devastation caused has now been managed quite well. The utilization of fly ash is still very poor. It was observed that Bharatpur OCP, mine void has been completely filled up with water and the water is acidic due to presence of pyrite. M/s NALCO proposes to utilize the void of Bharatpur OCP for fly ash dumping from the proposed 2x250 MW Captive TPP to meet statutory requirement of fly ash utilization, which may not be allowed. It was observed that the mine void water is acidic and therefore fly ash dumping in the void is unsuitable and cannot be permitted. The sub-group recommended that TOR can be prescribed subject to fulfillment of recommendation made in the report, which can form a part of TOR.

The Committee accepted the report of the Sub-group and decided that recommendation of TOR can be made subject to compliance of the report of the Sub-Group.

2.15 390 MW (Phase-II) Gas Based Combined Cycle Power Project of M/s GVK Industries Ltd., at Jejurupadu, in Kadiyam Mandal, in District East Godavari, in Andhra Pradesh- Amendment in EC reg.

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

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

M/s GVK Industries Ltd. informed that the gas supply from M/s Reliance Industries Ltd. to the project is in reducing trend and the current supply is at about 0.5 MMSCMD instead of 1.1 MMSCMD. With the less quantity of gas available, the project can be operated at 47% PLF only. Due to continuous reduction in gas supply, the plant operation has fallen below technical limits of 60% loading, thus reducing available energy to the grid. In order to meet the power demand of the grid, it is envisaged to use liquid fuel (HSD) as an alternative fuel in place of Naphtha.

The Committee noted that that HSD is a subsidized fuel for specific end users and its use for commercial power generation is uncalled for. The proponent informed the Committee that HSD can be used as fuel for power plant and referred to notification of MoP&NG in this regard.

The Committee, however, rejected the request for substitution of naphtha by HSD and decided that the project proponent may submit its request, which can be forwarded to MoP & NG and Ministry of Power for their views.

2.16 3X500 MW Aravali Thermal Power Project of M/s Aravali Power Company Pvt. Ltd. at village Jharli, District Jhajjar in Haryana-reg. Amendment in EC

M/s APCPL (a joint venture of M/s NTPC Ltd., M/s IPGCL, & M/s HPGCL) was issued Environmental Clearance on 08.08.2007, wherein Specific condition no. (ii) Extracted as under was prescribed:

“Ash and Sulphur contents in the coal to be used as fuel shall not exceed 34% and 0.5% respectively”

M/s APCPL informed that the first and second unit are operational now and third unit is under advanced stage of erection. As per MoEF condition, the power plant is required to use coal having ash content not exceeding 34% but the coal linkage accorded from Ministry of Coal from MCL coal mines has higher ash content which can be reduced only after washing. Coal washery was likely to come up during 2011-2012. Accordingly M/s APCPL requested MoEF for allowing use of normal coal from MCL mines till suitable coal with low ash content is made available. Then MoEF permitted M/s APCPL or M/s NTPC Ltd. to use blended coal having ash content of 37.47% instead of the cap of 34%, for a period of one and half years from the commissioning of 1st Unit or till the time washed coal of 34% or less ash content is available, whichever is earlier.

M/s APCPL further informed that installation of coal washery by M/s MCL is in process of tendering and will take at least 3 years time to commission for production of washed coal. In view of the fact that coal washery would take time, M/s APCPL requested for allowing using blended coal having ash content of 37.47% till washed coal is available from M/s MCL washery.

The Committee observed that already extension for using higher ash content in coal was permitted for the power plant in national interest during Commonwealth Games, 2010. The Committee noted that the project proponent had made the same plea during that time.

The Committee therefore decided that at best further extension of 18 months time can be agreed. M/s APCPL shall take up the matter with M/s MCL for the needful. It was also decided that the Ministry shall not accept any further request for extension of time thereafter.

2.17 1800 MW (3x600 MW) Mahan Super Thermal Power Project of M/s Essar Power (M.P.) Ltd at Singrauli Tehsil, District Sidhi in Madhya Pradesh- Change in source of Coal reg.

M/s Essar Power (M.P.) Ltd. were accorded environmental clearance for its 1800 MW (3x600 MW) Mahan Super Thermal Power Project, in Singrauli Tehsil, in District Sidhi, in Madhya Pradesh on 20.04.2007.

M/s Essar Power (M.P.) Ltd. informed unit-I(600 MW) is under advanced stage of commissioning. The unit-I and unit-II(600 MW) will be synchronized by August,2012 and November,2012 respectively. The coal source is from Mahan block. The Mahan Coal Block allocated jointly between M/s Essar Power (M.P.) Ltd. and the M/s Hindalco Industries Ltd. has been accorded environmental clearance. But the coal production from the block could not be commenced as per the schedule for want of forestry clearance. Under the circumstances, it has become a necessity for the power plant to source coal from alternative sources such as: i) Tapering Linkage for which M/s Essar Power (M.P.) Ltd. has already applied to MoC; ii) E-auction; iii) Imported Coal.

M/s Essar Power (MP) Ltd. has therefore requested for allowing alternate source of coal.

The matter was placed before the Committee for its views.

The Committee noted that e-auction coal at best can be used for topping up and not as a means of base load requirement. The Committee also noted that since tapering linkage is yet to be allotted, the project proponent can explore imported coal option for using in the power plant for limited period until Coal Block becomes operational. The Committee however observed that coal sourced

from a trader for imported coal cannot be considered as imported coal option unless full proof mechanism is in place ensuring that actual imported coal of required quantity is brought to the country.

The Committee in view of the above, observed that the project proponent may immediately submit MoU for imported coal for 5.5 MPTA as required for operation of the plant may be first submitted and along with following information:

- i) Assessment of impact due to transport of coal with changed sources;
- ii) Plan for development of avenue plantation along the route of transportation;
- iii) Commitment for using only mechanized covered trucks for coal transportation.

The Committee finally decided that the request for using imported coal with e-auction coal topping up can be agreed for a limited period of three years only and the Ministry may do the needful.

2.18 2000 MW Gas Based Combined Cycle Power Plant (CCPP) of M/s Nana Layja Power Co. Ltd. at Godhra village, in Kutch Distt., in Gujarat - TOR.

The proposal was earlier placed for considered in 46th meeting of EAC held during 9-10 April, 2012, wherein, the project proponent had conveyed its inability to be present in the meeting and requested to defer the matter. Accordingly the proposal was deferred.

The proposal is for determination of terms of reference for undertaking EIA/EMP study as per the provisions of EIA Notification, 2006. The project proponent gave a presentation through its consultant M/s L&T-RAMBØLL Consulting Engineers Ltd., Hyderabad and provided the following information:

The proposal is for setting up of 2000 MW Gas Based CCPP at Godhra village, in Kutch Distt., in Gujarat. Land requirement will be 85 acres which is a single crop agriculture land as per revenue records. The land identified for the project is certified by "Industries Commissionerate", Govt. of Gujarat for industrial purposes and land has been already acquired. The co-ordinates of the site are located in between Latitude 22°56'33.64" N to 22°56'59.41" N and Longitude 69°13'39.11"E to 69°13'56.59"E. Natural gas requirement will be 7.06 MMSCMD. The gas will be imported (Africa/ Middle East/ USA/ Australia) in form of Liquefied Natural Gas (LNG) in special vessels and shall be unloaded, regassified and stored at a dedicated LNG terminal of 2.5 MTPA capacity proposed to be set up at Captive Jetty at Nana Layja, Kutch Gujarat. Water requirement of 90.5 MLD will be sourced from Arabian Sea through a pipeline

at a distance of 12 km from the project site. There are no National Parks, Wildlife Sanctuaries, Tiger/Biosphere Reserves etc. within 10 km distance of the site.

The project proponent also informed that a multipurpose SEZ is being set up by a consortium of M/s IL&FS and M/s All Cargo Logistics and TOR for SEZ has been issued in September, 2011. The 2000 MW Gas Based Combined Cycle Power Plant will be part of the SEZ and land has been earmarked for the TPP by the SEZ Developer.

It was also informed that an LNG Terminal is also being set up at a distance of 10.5 Kms south of the SEZ. That TOR for Shipyard cum Captive Jetty including LNG Terminal has also been issued in February, 2012.

Based on the information provided and presentation made, the Committee prescribed the following specific TOR over and above the standard TORs as at **Annexure-A1& A2** for undertaking detailed EIA study and preparation of EMP.

- i) Cumulative impact assessment over a radius of 15 Kms shall be carried out. The cumulative impact assessment shall also include marine studies considering impact on marine ecosystem due sea water drawl and discharge and movement of ship for transportation of LNG.
- ii) Seismic study shall be carried out.

2.19 4x660 (2640) MW Coal Based Thermal Power Plant of M/s Alfa Infraprop Pvt. Ltd. near village Komarada, in District Vizianagaram, in Andhra Pradesh –reg. Amendment in EC

M/s Alfa Infraprop Pvt. Ltd. was accorded environmental clearance for 4x660 (2640) MW Coal Based Thermal Power Plant on 15.03.2010.

M/s Alfa Infraprop Pvt. Ltd. have requested the Ministry for amendment of the following:

Amendment of condition no. (xix) read as *“The treated effluents conforming to the prescribed standards only shall be discharge outside the plant boundary. Arrangements shall be made that effluents and storm water do not get mixed”*, be substituted by the following:

“Treated effluents shall be recycled to the maximum extent and remaining effluent after conforming to the prescribed standards shall be discharged into the Nagavalli river after the confluence point”.

The Committee recommended for the amendment of the above stipulated condition.

2.20 3x23MW Captive Power Plant of M/s Ultratech Cement Ltd. at Awarpur Cement works, Taluka Korpana, District Chandrapur in Maharashtra- Amendment in EC

Neither the project proponent nor its representative was present in the meeting. The request for amendment was accordingly deferred.

3.0 Any Other Item with the permission of the Chair.

3.1 820 MW Gas Based Combined Cycle Power Project (Phase-II) of M/s Konseema Gas Power Ltd. at Devarapalli, in East Godavari Distt., in Andhra Pradesh - Extension of validity of EC reg.

The matter was earlier listed in the 50th held during June 25-26, 2012 but could not be taken up due to paucity of time. The matter was therefore again taken up.

The Committee was informed by the representatives of the Ministry that a request from M/s Konseema Gas Power Ltd. was received requesting for extension of validity of environmental clearance for a further period of five years as project is delayed due to delay in fuel tie up and uncertainty of gas supply. It was also informed that environmental clearance for 820 MW Gas Based Combined Cycle Power Project (Phase-II) at Devarapalli, in East Godavari Distt., in Andhra Pradesh was accorded on 27.07.2007.

The Committee noted the progress of milestones achieved and also noted that M/s Konseema Gas Power Ltd. has preliminary long term gas sales agreement with M/s GAIL.

The Committee therefore decided that the request can be agreed in accordance with the provisions prescribed in the EIA notification 2006.

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

It was also decided that the next meeting will be held during August 6-7, 2012.

Terms of Reference (TOR) :

- i) Vision document specifying prospective long term plan of the site, if any, shall be formulated and submitted.
- ii) Status of compliance to the conditions stipulated for environmental and CRZ clearances of the previous phase(s), as applicable, shall be submitted.
- iii) Executive summary of the project indicating relevant details along with recent photographs of the approved site shall be provided. Response to the issues raised during Public Hearing and to the written representations (if any), along with a time bound Action Plan and budgetary allocations to address the same, shall be provided in a tabular form, against each action proposed.
- iv) Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and status of implementation shall be submitted to the Ministry.
- v) The coordinates of the approved site including location of ash pond shall be submitted along with topo sheet (1:50,000 scale) and confirmed GPS readings of plant boundary and NRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/river shall be specified, if the site is located in proximity to them.
- vi) Layout plan indicating break-up of plant area, ash pond, area for green belt, infrastructure, roads etc. shall be provided.
- vii) Land requirement for the project shall be optimized and in any case not more than what has been specified by CEA from time to time. Item wise break up of land requirement and revised layout (as modified by the EAC) shall be provided.
- viii) Present land use as per the revenue records (free of all encumbrances of the proposed site, shall be furnished. Information on land to be acquired) if any, for coal transportation system as well as for laying of pipeline including ROW shall be specifically stated.
- ix) The issues relating to land acquisition and R&R scheme with a time bound Action Plan should be formulated and clearly spelt out in the EIA report.
- x) Satellite imagery or authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest villages, creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
- xi) Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on

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

- withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project. Commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.
- xxii) Detailed plan for carrying out rainwater harvesting and its proposed utilisation in the plant shall be furnished.
 - xxiii) Feasibility of zero discharge concept shall be critically examined and its details submitted.
 - xxiv) Optimization of COC along with other water conservation measures in the project shall be specified.
 - xxv) Plan for recirculation of ash pond water and its implementation shall be submitted.
 - xxvi) Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals.
 - xxvii) Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out by a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of local communities.
 - xxviii) Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
 - xxix) If the area has tribal population it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
 - xxx) A detailed CSR plan along with activities wise break up of financial commitment shall be prepared. CSR component shall be identified considering need based assessment study. Sustainable income generating measures which can help in upliftment of poor section of society, which is consistent with the traditional skills of the people shall be identified. Separate budget for community development activities and income generating programmes shall be specified.
 - xxxi) While formulating CSR schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CSR details done in the past should be clearly spelt out in case of expansion projects.

- xxxii) R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.
- xxxiii) Assessment of occupational health as endemic diseases of environmental origin shall be carried out and Action Plan to mitigate the same shall be prepared.
- xxxiv) Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conductive 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 modelling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The wind roses should also be shown on the location map as well.
- xxxviii) Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
- xxxix) Fuel analysis shall be provided. Details of auxillary fuel, if any, including its quantity, quality, storage etc should also be furnished.

- xl) Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished.
- xli) Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
- xlii) For proposals based on imported coal, inland transportation and port handling and rolling stocks /rail movement bottle necks shall be critically examined and details furnished.
- xliii) Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.
- xliv) EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.
- xlv) A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be carried out. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided.
- xlvi) The DMP so formulated shall include measures against likely Tsunami/Cyclones/Storm Surges/Earthquakes etc, as applicable. It shall be ensured that DMP consists of both on-site and off-site plan, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan shall be prepared both in English and local languages.
- xlvii) Detailed plan for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary (except in areas not possible) with tree density of 2000 to 2500 trees per ha with a good survival rate of about 80% shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports.
- xlviii) Over and above the green belt, as carbon sink, additional plantation shall be carried out in identified blocks of degraded forests, in close consultation with the District Forests Department. In pursuance to this the project proponent shall formulate time bound Action Plans along

with financial allocation and shall submit status of implementation to the Ministry every six months.

xlix) Corporate Environment Policy

- a. Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
- b. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
- c. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions. Details of this system may be given.
- d. Does the company has system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.

All the above details should be adequately brought out in the EIA report and in the presentation to the Committee.

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

Additional TOR for Coastal Based TPPs:

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

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

- k) Tsunami Emergency Management Plan shall be prepared and plan submitted prior to the commencement of construction work.
- l) There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other words necessary preventive measures for spillage from pipelines, such as lining of guard pond used for the treatment of outfall before discharging into the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because the areas around the projects boundaries is fertile agricultural land used for paddy cultivation.
