

MINUTES OF THE 3rd MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON ENVIRONMENTAL IMPACT ASSESSMENT OF THERMAL POWER & COAL MINE PROJECTS

The 3rd Meeting of the reconstituted Expert Appraisal Committee (Thermal) was held on **October 10, 2013** at Fazal Hall, Scope Convention Centre, Scope Complex, Lodhi Road, New Delhi. The members present were:

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| 1. Shri A.S. Lamba | - | Chairman |
| 2. Dr. C.R. Babu | - | Vice Chairman |
| 3. Shri T.K. Dhar | - | Member |
| 4. Shri J.L. Mehta | - | Member |
| 5. Shri N.K. Verma | - | Member |
| 6. Shri A.K. Bansal | - | Member |
| 7. Shri G.S. Dang | - | Member |
| 8. Shri P.D. Siwal | - | Member |
| 9. Dr. Saroj | - | Member Secretary |

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

Shri A.K. Bansal, Dr. Ratnavel, Representatives of CPCB, WII, IMD and NRSC were absent.

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

The minutes of the 1st Meeting held during September 19-20, 2013 were confirmed with some minor corrections.

Item No. 2: CONSIDERATION OF PROJECTS

2.1 3x660 MW Coal Based TPP of M/s Tata Power Ltd. at Tiruldih, in Saraikela Kharswan Distt., in Jharkhand – reg. *Environmental Clearance*.

The proposal is for consideration for environmental clearance. The project proponent made a presentation along with its consultant **M/s Ghose Bose & Associates Pvt. Ltd., Kolkata** and provided following information:

The proposal is for setting up of 3x660 MW Coal Based TPP at Tiruldih, in Saraikela Kharswan Distt., in Jharkhand. The total land required will be 1243 acres which includes 37.25 acres of single crop agricultural land and 1205.75 acres of Waste/Barren land. Out of total land of 1243 acres, 423 acres has been registered and agreement of purchase for another 166 acres had been done with land owners. The break-up of land required are 1049 acres for TPP site; 144 acres for ash pond; 50 acres for MGR. The co-ordinates of the TPP site will be located within Latitude 23⁰07'59" N to 23⁰09'38" N and Longitude 85⁰55'43" E to 85⁰58'22" E. The co-ordinates of the ash pond area shall be within Latitude 23⁰09'32.27" N and Longitude 85⁰57'25.9" E. Coal requirement will be 8.04 MTPA. The Ministry of Coal has allocated Tubed Coal Block jointly to M/s. Tata Power and M/s Hindalco, located in the vicinity of North Kranpura Coalfields, which is around 180 km away from the TPP site. As per the approved mine plant, M/s Tata Power Ltd. Tiruldih Plant will get 2.4 MTPA Coal from this block. Ash content in coal will be 40%. Sulphur will be 0.62%; and GCV will be 4100 Kcal/kg. About 3.659 MTPA of fly ash and 0.915 MTPA of bottom ash will be generated. Ash will be supplied for brick manufacturing, Cement and Tiles manufacturing; Road and embankment construction etc. Fly ash disposal system will be medium concentration slurry system. Tri-flue Stack of 275m will be provided. Water requirement will be 55 MCM, of which 23 MCM will be sourced from river Subernarekha upstream of Chandil Dam and 32 MCM will be sourced from river Subernarekha downstream of Chandil Dam, through a pipeline at a distance of about 25 km from the project site. Agreement has been signed with Water Resource Department, Govt. of Jharkhand for allocation of 55 MCM of water drawl vide letters dated 28th June 2013 and 13th July 2013. Natural Draft cooling system will be installed. 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 20.03.2013. Cost of the project will be Rs.12,000 Crores.

The Committee noted that the power project has inadequate coal even for one unit of 660 MW as on date. It has been informed by the project proponent that coal from Ganeshpur Coal Block, allocated to their sister concern company viz. M/s Tata Steel Ltd. shall be used for the Tiruldih TPP. However, no document from the Competent Authority i.e. Ministry of Coal authorizing support of their claim enabling use of coal from Ganeshpur Coal Block for Tiruldih TPP was furnished. It was also specifically stated that no coal source is in place for the two other units. *The Committee therefore decided that the PP should submit adequate documents to furnish claim for availability of coal for two units and should also provide the status of EC and FC of the Coal Blocks from where coal is required to be sourced.*

The Committee unanimously agreed that in the absence of firm coal availability for the power project, appraisal at this stage is pre-mature. The Committee however agreed to have the presentation by the PP and noted the following:

On the public hearing deliberations made it was noted that major issues raised were regarding measures taken for pollution control; provision for basic necessities like hospitals, schools, drinking water and electricity etc. land losers and unemployed youth of the nearby villages shall provide employment; the land acquired by the PP is 100% cultivable land; pollution factor shall be considered seriously; the PP should called village meetings before thinking about building a plant; displaced families must get concrete houses to live etc.

It was observed that the project proponent in its presentation made before the Committee has not spelt out the issues raised, the response made thereof and the corresponding concrete action plan proposed for implementation. The Committee therefore advised the project proponent to submit revise committed action plan of issues raised in the public hearing, while also clearly indicating the responses made during the public hearing.

The Committee also noted that the project proponent has not fulfilled some of the terms of conditions particularly the stipulations issued while the validity period of TOR was extended by the Ministry on 10.04.2013. It was noted that the project entails acquisition of tribal land, but the project proponent has not provided the details of the project affected people (Tribals/OBC) on the provisions of the TOR issued with respect to the same read as follows “*If the area has tribal population it shall be ensured that the rights of the tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of law of the land*”. Further, the presentation on Social Impact Assessment were inadequate and were required to be detailed specially the impact due to development of the project.

On the issue of CSR commitments made, the Committee observed this needs to be elaborated with specific details of firm commitment and implementation schedule with costing.

The Committee therefore advised that CSR details shall be submitted and action plan for firm implementation alongwith financial commitment presented.

The Committee noted that as advised ash pond has been shifted to a better location which is environmentally friendly.

The Committee with respect to water availability presented for the power project noted that the project proponent shall need to identify competing sources of other recipients such as drinking water of downstream villages, irrigation, industrial allocations etc. from the aforesaid Dam/Reservoir and the data on availability of water 12 months in the Dam/Reservoir shall be furnished. The Committee also noted that in case a weir is to be constructed on the river necessary permission and details of the weir including impact downstream need to be submitted.

It was also observed that the Fly Ash utilization action plan presented are general statements with no specific action plan for utilization of 100% Fly Ash by the end of fourth year projected. The Committee therefore decided that revised concrete action plan shall be submitted.

With regard to flora and fauna, the Committee noted even though the project may not be located within 10 kms of any national park/sanctuary etc. information based on field study need to be submitted.

The Committee concluded that the project is pre-mature for further appraisal in its present form and therefore decided that the matter be deferred for re-consideration at a later stage after the issues noted above are addressed by the project proponent. The Committee also decided that in case the clarification/documents sought, particularly w.r.t coal availability are not submitted in a month's time, the proposal may be delisted from the pending list of the Ministry.

2.2 30 MW Bagasse and Biomass based Power Plant of M/s. Lokmangal Mauli Industries Ltd. at Village Lohara Khurd, Taluk: Lohara District: Osmanabad, in Maharashtra- reg. Environmental Clearance.

The proposal was is for consideration for consideration for environmental clearance. The project proponent and its consultant **M/s. Mantras Green Resources Ltd.** gave a presentation and provided the following information:

The proposal is for setting up of 30 MW Bagasse and Biomass Based Power Plant at village Lohara Khurd, Taluk Lohara, District Osmanabad, in Maharashtra. The power plant shall consists of 135 TPH Boiler and a 30 MW extraction cum condensing type Steam Turbine. Bagasse and other bio-mass will be used as fuel. Environmental clearance for the sugar plant of capacity 6000 TCD shall be obtained from the SEIAA, Maharashtra as the same is a 'B' category project. The power plant will run for 300 days. Bagasse requirement will be 54000 MT/month. During 180 days the plant will run with Bagasse from own sugar mill and for the rest of 120 off season days Bagasse will be

obtained from own saved Bagasse and from outside neighbouring sugar mills. ESP meeting 100 mg/Nm³ will be installed. Fly ash generated will be collected in ash silo and will be given to farmers for use as manure. No woody Bio-Mass will be used. Out of 30 MW, about 17 MW will be sold to the grid. Land requirement will be 50 Ha which is already acquired. The co-ordinates of the site are located at Latitude 17⁰59'23" N and Longitude 76⁰22'23" E. Water requirement will be 900 m³/day which will be sourced from Makani Dam on Terana River. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within ten km of the project site. Public Hearing was held on 26.10.2012. Cost of the project will be Rs.282.17 Crores.

The Committee discussed the issues raised in the public hearing and the responses made by project proponent. It was noted that the major issues raised were regarding impact on Makani Dam due to effluent; acid rain possibilities; shortage of water in Makani Dam etc.

The Committee noted that Bagasse Based Co-generation power plant need encouragement but at the same time as Bagasse based Boilers are highly air polluting by its inherent nature unless efficient air pollution control devices like ESPs are put in place, the monitoring of these units need to be kept well attended.

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

- i) To control the particulate emission from the boiler, ESP meeting 100 mg/Nm³ shall be installed.
- ii) Bag filters shall be provided for control of fugitive emissions from the ash handling areas.
- iii) A stack of 76 m height shall be installed.
- iv) The project proponent shall undertake rain water harvesting measures and shall develop water storage for use in operation of the plant. Rain water harvesting system shall be put in place which shall comprise of rain water collection from the built up and open area in the plant premises. Action Plan for implementation shall be submitted to the Ministry.
- v) COC of 4.0 shall be adopted.
- vi) Waste water generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB.
- vii) Fly ash generated shall be provided to farmers to be used as manure or disposed of as per Fly Ash Utilization Notification, 1999 and as amended subsequently.

- viii) An amount of **Rs 5.0 Crores** as one time investment shall be earmarked for activities to be taken up under CSR. Recurring expenditure for CSR shall be **Rs 1.0 Crores** annually till the life of the plant.
- ix) CSR schemes should address Public Hearing issues and shall be undertaken based on need assessment in and around the villages within 5 km of the site and in constant consultation with the village Panchayat and the District Administration. As part of CSR employment of local youth after imparting relevant training, as may be necessary, shall be undertaken as committed.
- x) It shall be ensured that an in-built monitoring mechanism for the CSR 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 besides putting their programs along with budgetary allocation on company's website.
- xi) Green Belt consisting of 3 tiers of plantations of native species around the plant boundary comprising of atleast 33% of total land for both sugar plant and proposed thermal power plant shall be raised. The density of trees shall not be less than 2500 per Ha and rate of survival atleast 80%.
- xii) An Environmental Cell shall be created at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the organization.

2.3 27 MW Bagasse based Co-generation Power Plant of M/s. Jamkhandi Sugars Ltd. at village: NAD KD, Taluk: Indi, District: Bijapur, in Karnataka- reg. Environmental Clearance.

The proposal was is for consideration for consideration for environmental clearance. The project proponent and its consultant M/s. Bhagavathi Ana Labs Pvt. Ltd., Hyderabad gave a presentation and provided the following information:

The proposal is for setting up of 27 MW Bagasse based Co-generation Power Plant at village NAD KD, in Taluk Indi, in Bijapur Distt., in Karnataka. Land requirement will be 98.04 acres, which will be within the premises of proposed 3500 TCD sugar plant. Earlier EC for 2500 TCD and 15 MW Co-generation power plant was obtained from the SEIAA, Karnataka on 25.12.2009. Later expansion for sugar plant to 3500 TCD was applied at the centre along with Co-gen power plant of 27 MW (which is a Category 'A' project). While the 2500 TCD sugar plant has been constructed, it was decided to go ahead with 27 MW

Co-gen power plant and the 15 MW Co-gen plant was dropped. The co-ordinates of the site will be located within Latitude 17⁰07'12.08" N to 17⁰07'37.40" N and Longitude 76⁰07'43" E to 76⁰08'03.20" E. Bagasse and agro waste requirement will be 1085 TPD and 547 TPD. The Co-generation plant will run for 260 days. Water requirement of will be 2.6 MLD, which will be sourced from Bhima river through a pipeline at a distance of about 9.0 km from the project site. M/s Karnataka Neeravari Nigam Ltd., Govt. of Karnataka has allocated 300 KLPD of water for drawl vide its letter dated 09.01.2012. There are three water bodies namely Sattanal nadi, Dodda Nala and Bhima River within 10 km of the project site. 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 18.05.2013. Cost of the project will be Rs.180 Crores.

The Committee discussed the issues raised in the public hearing and the responses made by Project Proponent. It was noted that the major issues raised were regarding increase in water consumption; odour nuisance & air pollution; improper supply of electricity; demand for civic amenities like construction of school building, public toilets, school etc. to the surrounding villages. The Committee noted that the some issues raised are valid and need to be implemented by the project proponent in true spirit. The Committee particularly was concerned with the issue of likely odour to be emanated from the molasses and air emissions due to burning of bagasse and therefore directed the project proponent that odour shall be controlled and ESP shall be installed to arrest particulate emissions.

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

- i) To control the particulate emission from the boiler, ESP meeting 100 mg/Nm³ shall be installed.
- ii) Bag filters shall be provided for control of fugitive emissions from the ash handling areas.
- iii) A stack of 76 m height shall be installed.
- iv) The project proponent shall undertake rain water harvesting measures and shall develop water storage for use in operation of the plant. Rain water harvesting system shall be put in place which shall comprise of rain water collection from the built up and open area in the plant premises. Action Plan for implementation shall be submitted to the Ministry.
- v) COC of 4.0 shall be adopted.

- vi) Waste water generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB.
- vii) Fly ash generated shall be provided to farmers to be used as manure or disposed of as per Fly Ash Utilization Notification, 1999 and as amended subsequently.
- viii) An amount of **Rs 5.0 Crores** as one time investment shall be earmarked for activities to be taken up under CSR. Recurring expenditure for CSR shall be **Rs 1.0 Crores** annually till the life of the plant.
- ix) CSR schemes should address Public Hearing issues and shall be undertaken based on need assessment in and around the villages within 5 km of the site and in constant consultation with the village Panchayat and the District Administration. As part of CSR employment of local youth after imparting relevant training, as may be necessary, shall be undertaken as committed.
- x) It shall be ensured that an in-built monitoring mechanism for the CSR 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 besides putting their programs along with budgetary allocation on company's website.
- xi) Green Belt consisting of 3 tiers of plantations of native species around the plant boundary comprising of atleast 33% of total land for both sugar plant and proposed thermal power plant shall be raised. The density of trees shall not be less than 2500 per Ha and rate of survival atleast 80%.
- xii) An Environmental Cell shall be created at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the organization.

2.4 Expansion by addition of 20 MW co-generation power plant of M/s Simbhaoli Power Pvt. Ltd. at village Simbhaoli, District Hapur, Uttar Pradesh –reg. TOR.

The proponent informed that they will not be able to attend the meeting. According, the proposal was deferred.

The Committee also noted that the project proponent in the past has the reputation of submitting applications for TOR and till date has never appeared thereby depriving of other project proponent to appear for TOR consideration. The Committee therefore recommended that the present application may be de-listed from the pending list of the Ministry and can be taken up only after fresh application is made.

2.5 Expansion by addition of 2640 MW Coal Based TPP of M/s ESSAR Power Gujarat Ltd. at Jamnagar Distt., in Gujarat – reg. TOR re-consideration.

The proponent informed that they will not be able to attend the meeting. According, the proposal was deferred and will be considered on receipt of fresh request by the project proponent.

2.6 Change of source of coal for 2x660 MW from Imported to Domestic Coal Based TPP of M/s Adani Power Rajasthan Ltd. at Kawai, in Baran Distt., in Rajasthan – reg. Amendment of EC.

The Ministry had accorded environmental clearance for setting up of 2x660 MW Super Critical Coal Based Thermal Power Plant at village Kawai, in Atru Taluk of District Baran, Rajasthan to M/s Adani Power Rajasthan Ltd. (M/s APRL) on 04.05.2011. M/s APRL informed that the first unit of 660 MW is already commissioned and the second unit is also at the advance stage and likely to be commissioned by October, 2013.

M/s APRL informed that the project has been conceived and developed on the basis of fuel from domestic coal sources and Environment Impact Assessment (EIA) Report was prepared on the basis on domestic coal. The EIA was later revised and presented to Expert Appraisal Committee indicating the impact of the project based on imported coal as well as domestic coal. It was also then informed that the use of imported coal is only an interim arrangement and that the plant is being developed to run on domestic coal. That they had applied to Ministry of Coal for allocation of coal for both the units of the project and accordingly the Government of India has issued the following orders:

- (a) The Cabinet Committee on Economic Affairs (CCEA), vide their note dated 11th June 2013 had allocated coal for the project.
- (b) A Presidential Directive was issued on 17th July, 2013 asking CMD's of ECL/BCCL/CCL/MCL/SECL/WCL/NCL for signing FSAs.
- (c) M/s Coal India Limited, vide letter dated 8th August, 2013 has agreed to supply coal to the units mentioned in CCEA's Note.

In view of the above, M/s APRL has requested for amendment of the environment clearance as may be necessary.

The Committee noted the contents of the Presidential Directive issued by the Ministry of Coal which is extracted as under:

“Directive issued under Article 37 of the memorandum and Articles of Association of Coal India Limited.

1. Whereas the competent authority has decided the following course of action for signing of fuel Supply Agreement (s) by subsidiary companies of Coal India Limited with the power utilities:-
 - (i) CIL to sign FSAs for a total capacity of about 78,000 MW, including tapering linkage cases as now identified, which are likely to be commissioned by 31.3.2015. MOC to issue directions to CIL to replace the identified list of 60,000 MW power projects earlier sent vide Ministry of Coal letter No. 23011/185/2013 dated 17.02.2012 by the revised list now provided by MOP vide their letter dated 27.05.2013.
 - (ii) Taking into account the overall domestic availability and the likely actual requirements of these power plants, FSAs be signed for the domestic coal quantity of 65%, 65% 67% and 75% of ACQ for the remaining four years of the current Plant for the power plants having normal coal linkages. Cases of tapering linkage would get coal supplies as per the tapering linkage policy. Actual coal supplies would, however, be available when the required long term PPAs are tied up.
 - (iii) To meet its balance FSA obligations towards the above categories, CIL may import coal and supply the same to the willing power plants on cost plus basis. Power plants may also directly import coal themselves, if they so opt. MOC to issue suitable instructions as per the decisions taken by CCEA.

2. And whereas the competent authority has also directed that coal may be supplied to power plants of 4660 MW capacity and other similarly placed power plants that do not have any fuel linkage (as per the list attached with Ministry of Power's letter No. FU-12/2011-IPC Vol.II dated 14.05.2013 subject to the availability of coal and on the condition that such supplies do not adversely impact the availability of coal for the identified plants of 78000 MW capacity as per approval accorded vide Paragraph 1 above and other Letters of Assurance holders.

3. And whereas the Object III A4 of the memorandum of Association of Coal India Limited provides as follows:

“CIL to act as an entrepreneur on behalf of the State in respect of the coal industry and plan and organize production of coal as also its beneficiation and the manufacture of other by products of coal in accordance with the targets fixed in the Five Year Plan and the economic policy and objectives laid down by the Government from time to time.

4. Whereas Article 37 of the Articles of Association of Coal India Limited *inter-alia* provides as under:

“Notwithstanding anything contained in all these Articles the President may from time to time issue such directives or instructions as may be considered necessary in regard to the conduct of business and affairs of the company and in like manner may vary and annual any such directives or instruction. The Directors shall give immediate effect to the directives of instructions so issued. In particular, the President will have the powers:

- (i) To give directives to the Company as to the exercise and performance of its functions in matters involving national security or substantial public interest.”

5. And whereas the policy regarding power generation/capacity addition of coal based power plants has been based on coal linkage and coal availability of 100% of the normative requirement, corresponding to 85% PLF and assured supply of coal by CIL. Banks and Financial Institutions, developers and the competitive bidding regime are critically dependent on the quantity of linkage/ LoA given and supplies made. Failure to supply adequate quantity will have many consequences affecting the power utilities and ultimately, the consumers of power. Any major deviation in the coal supplies will have far reaching implications on power and financial sector and ultimately on the economic growth of the country. Therefore, this is considered a matter involving substantial public interest.

6. Now, therefore, keeping in view the need for making adequate coal available to the power utilities, in exercise of the power conferred under Article 37 of the Articles of Association read with the Object contained in Article III.A.\$ of memorandum of Association of CIL, the President is pleased to issue a directive to CIL to implement the decisions mentioned

above within a period of four weeks in so far as the matter of signing of FSAs with the power projects commissioned during 01.04.2009 to 31.03.2015 is concerned and as mentioned at para 1(i)

7. In continuation of para 1(i) above, read with letter no. FU-12/2011-IPC (Vol. II) dated 14.05.2013 of the Ministry of Power, once the actual capacity of 60000 MW of power plants out of the said 78000 MW becomes eligible for drawing coal as per the FSA, the actual supply schedule may be further reviewed with the Ministry of Coal.
8. The Ministry's letter No. 23011/185/2011-CPD dated 17.02.2012 and the Presidential Directive of the same number dated 04.04.2012 would stand modified to this extent.

For and on behalf of the President of India”.

The Committee perused through the contents of the Presidential Directive and was of the view that when the highest authority in the country has already given certain Directives, the question of CIL not following the said Directive as made out by the project proponent seem a little out of the context. This more so because the environmental clearance accorded on 04.05.2011, itself mentions that imported coal from South Africa will be used for an interim period until domestic coal is made available. Regarding the provision of specific condition no. (ii) under para no.4, the Committee noted that while appraisal of the power project was based on imported coal, the impact has been taken into account based on both domestic coal as well as imported coal from South Africa, with varying coal characteristics.

The Committee also noted that the existing provisions of the environmental clearance does seem to demand any amendment requiring substitution by domestic coal, for the present domestic coal is yet to be made available by CIL, therefore, the issues can be addressed by the Committee at a later date when the source of coal is known and the impact due to transportation can be examined.

In view of the above, the Committee decided that the member from the Central Electricity Authority may take up the issue with the Ministry of Coal so that the project proponent is not subjected to unnecessary burden for the purpose of getting the FSA signed with CIL and its subsidiaries.

2.7 Change of source of coal for expansion by addition of 3x660 MW Imported Coal Based TPP of M/s Adani Power Maharashtra Ltd. at

MIDC Industrial Area, in Tiroda, in Maharashtra – reg. Amendment of EC.

M/s Adani Power Maharsashtra Ltd. was accorded environmental clearance for its expansion by addition of 3x660 MW Imported Coal Based TPP at MIDC Industrial Area, in Tiroda, in Maharashtra on 22.04.2010.

M/s Adani Power Maharsashtra Ltd. (M/s APML) have informed that the 1st Phase of 2x660 MW (1320 MW) is fully operational and the expansion from 1320 MW to 3300 MW by addition of 3x660 MW under Phase-II is at an advanced stage of construction. That the 1st Unit of the second Phase (domestic coal based EC) is already commissioned and the next two units of 660 MW are also likely to be commissioned by December 2013.

M/s APML informed that the project has been conceived and developed on the basis of fuel from indigenous sources and Environment Impact Assessment (EIA) Report was prepared on the basis on domestic coal. It was also then informed that the use of imported coal for two units under Phase-II was only an interim arrangement and that the plant is being developed to run on indigenous coal only. That they had applied to Ministry of Coal for allocation of coal for all the three units of the project and accordingly the Government of India has issued the following orders:

- (d) The Cabinet Committee on Economic Affairs (CCEA), vide their note dated 11th June 2013 had allocated coal for the project.
- (e) A Presidential Directive was issued on 17th July, 2013 asking CMD's of ECL/BCCL/CCL/MCL/SECL/WCL/NCL for signing FSAs.
- (f) M/s Coal India Limited, vide letter dated 8th August, 2013 has agreed to supply coal to the units mentioned in CCEA's Note.

In view of the above, M/s APML has requested for amendment of the environment clearance as may be necessary.

The Committee noted the contents of the Presidential Directive issued by the Ministry of Coal which is not repeated for sake of brevity as the same has been already extracted while discussion on the item at S.N 6 above.

The Committee noted that as per environmental clearance, domestic coal of 2.89 MTPA for 1x660 MW was required. Ash and Sulphur contents in the domestic coal will be 34% and 0.5% respectively. Whereas, the Imported coal

requirement for the two units under Phase-II will be 5.44 MTPA and the Ash and Sulphur contents in imported coal will be 32% and 0.3% respectively. Total coal requirement will be 8.36 MTPA.

That the likely source of domestic coal will be from SECL, Korba/ MCL, IB Valley. That the impact after change of fuel from imported to domestic coal and the environmental parameters will remain within the stipulated guidelines of MoEF.

As deliberated in the previous item, the Committee was of the view that when the highest authority in the country has already given certain Directives the question of CIL not following the said Directive as made out by the project proponent seem a little out of the context. This more so because the environmental clearance accorded on 04.05.2013, itself mentions that imported coal from South Africa will be used for an interim period until domestic coal is made available. Regarding the provision of specific condition no. (ii) under para no.4, the Committee noted that while appraisal of the power project based on imported coal, the impact has been taken into account based on both domestic coal as well as imported coal from South Africa, with varying coal characteristics.

The Committee also noted that the existing provisions of the environmental clearance does seem to demand any amendment requiring substitution by domestic coal, for the present domestic coal is yet to be made available by CIL, therefore, the issues can be addressed by the Committee at a later date when the source of coal is known and the impact due to transportation can be examined.

In view of the above, the Committee decided that the member from the Central Electricity Authority may take up the issue with the Ministry of Coal so that the project proponent is not subject to unnecessary burdened for the purpose of getting the FSA signed with CIL and its subsidiaries.

2.8 Change in location of Ash Pond for 2x660 MW Coal Based TPP of M/s Lanco Babandh Ltd. at Dhenkanal Distt., in Orissa –Amendment of EC reg.

M/s Lanco Babandh Ltd. was accorded environmental clearance for its 2x660 MW Coal Based at Dhenkanal Distt., in Orissa on 17.02. 2010. As per the said environmental clearance, ash pond is to be located within the plant area.

M/s Lanco Babandh Ltd. have now informed the Ministry that to cater to the water requirement during lean season, Govt. of Odisha (GoO) imposed enhancement of Raw Water Storage Capacity from 10 days to 60 days i.e two months during revalidation of water allocation. Due to this, raw water reservoir land area is required to be increased from 70 acres to 200 acres. This imposition clubbed with associated green belt requirement for land totaling 260 acres has constrained them to relocate the Ash Pond outside the plant boundary.

M/s Lanco Babandh Ltd. have also informed that orientation in GMR system based on the condition put up by Railway Authority for preliminary approval on the DPR for railway siding, has necessitated installation of Wagon tippler and associated systems to cater the need of Box-N type Railway wagons. This resulted in additional Wagon tippler and associated conveyor system and re-orientation of MGR Bulb to provide Pre & Post tippler length.

That the above conditions has forced them to relocate the Ash Pond outside the plant boundary at suitable location with minimum disturbances avoiding any adverse impact on environment. That after due diligence of the local area, they have now selected a location for ash pond at a distance of 8.9 km from project site at villages Janamunda & Sanamunda, in Tehsil Hindol, in Distt-Dhenkanal, in Odisha. The location of the new site for ash pond shall be within latitude 20⁰44'53.96" N and longitude 85⁰14'46.67" E. The proposed area does not involve relocation of habitations, forest land, wild life presence habitations etc.

That while approaching the Odisha State Pollution Control Board (OSPCB) for their consent on suitability of this land. That on their recommendation of OSPCB, they have conducted detailed hydro-geological study of the proposed location with specified area. After careful consideration of our proposal and based upon the studies conducted by them, OSPCB has approved the relocation request.

In view of the above. M/s LBPL has requested for amendment in the EC accorded /permission for the changes.

The Committee noted the request and observed that apparently M/s LBPL has failed to acquire 220 acres in the main plant area as the land probably might be fertile agricultural land which can be irrigated by the canal passing nearby in the region.

The Committee also noted that the project proponent intends to increase not only the raw water reservoir area from 70 acres to 220 acres but also the Coal

Handling Plant (CHP) area from 130 acres to 200 acres. The net land area additionally required is 230 acres.

The Committee observed that the amendment sought needs further detail information on land holders as per revenue records. It was also noted that the land for new ash pond required is stated as mostly barren with hardly any agricultural activity. There also seem to be habitations nearby the newly identified ash pond area.

The Committee was of the firm view that allowing the amendment without having the stake holders views would be unadvisable as the environmental impact due to ash pond not appropriately managed are large with severe consequences.

The Committee therefore decided that the project proponent shall place all details of the new ash pond location and system of conveyance using HCSD in public domain at appropriate locations such as the Regional Office of the State Pollution Control Board, their Site Office and their website. Thereafter a public notice in a National and local newspapers of wide circulation in both English and vernacular language seeking comments and objections within 30 days shall be issued.

*Copy of the public notice in newspaper and objections received thereof shall be thereafter submitted to Ministry for further reference to the Committee. Accordingly the matter was **deferred**.*

2.9 1x150 MW Coal based TPP of M/s Nagapattinum Energy Pvt. Ltd. at village karappidagai, Taluk Kilvelur, distt. Nagapattinam, in Tamil Nadu- reg. Amendment in EC.

M/s Nagapattinam Energy Pvt. Ltd. (M/s NEPL) was accorded environmental clearance for its 1x150 MW Imported Coal Based Thermal Power Plant proposed to be located at Nagapattinam Distt., in Tamil Nadu on 29.11.2012.

Latter M/s NEPL has sought amendment of few conditions mentioned in the environmental clearance. The amendment sought and the reasons stated and the observation of the Ministry are briefly described as under:

The amendment sought and the reasons stated and observations of the Ministry are tabulated as under:

Specific condition no. sought for	Contents of Specific condition sought for amendment	Reasons for seeking amendment	Observations

amendment			
(vi)	Transportation of coal shall be strictly by rail and no road transportation shall be allowed.	Our proposal and also EIA studies conducted were for rail cum road transportation. This issue was discussed in detail by the EAC committee which advised us to deploy trucks capacity not less than 20 T for road transport for the last 12km to the Project site The EIA study has also been done with the coal movement through trucks which was discussed in the EAC. (Please refer Clause no. v of the EAC committee recommendation).	<p><i>While appraisal for EC the project proponent had stated that imported coal will transported from Tuticorin Port by rail to Velankanni and thereon by covered trucks, the EAC had also advised to explore transportation of coal from the Port to power plant site by railways.</i></p> <p>Since transportation of coal by trucks passing through population vis State / National Highways is a health and safety hazards unless such specific condition is specified, in the foreseeable future it is not expected that the project proponent will ever explore the rail route option.</p> <p>The amendment sought is not justified neither environmentally nor is it the adopted principle of the Ministry.</p>
(vii)	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5% and 15% respectively at any given time.	Our Proposal/EIA studies have considered coal with 0.9% (max) sulphur content. EAC recommendations have also approved the same. Since the EC granted is for Indonesian coal, the sulphur content of Indonesian coal is generally in the order of 0.8% to 1%. Hence we have considered 0.9% maximum limit. Also since we are adopting CFCB technology for the boilers, limestone addition is planned to minimize the SO2 below PCB norms. (Please refer clause no-vi of the EAC	<p><i>M/s NEPL vide its letter dated 03.10.2011 (pg 675-682) submitted a Fuel Supply Agreement where coal characteristics is mentioned as follows: Sulphur content rejection at Load Port – Above 0.5%. The ash content specified for rejection is if above 10% and not 15% as mentioned in the EC.</i></p> <p>The amendment sought has therefore no justification. Rather it is now required to limit the ash content at 10%</p>

		committee recommendation).	as mentioned in the FSA.
(vii)	A stack of 220 M height shall be provided.	As per CPCB/MOEF norms for thermal power plants of unit capacity above 200MW/210MW and less than 500 MW the stack height needs to be 220metres and for less than 200 MW unit sizes, the height to be decided based on the formula prescribed. Accordingly the stack height has been worked out as 135 metres for our 150 MW project as per the formula and the same has been furnished in our proposal and EIA reports which is very much as per MOEF norms. The EAC committee has also reviewed and recommended the same. Detailed calculations for arriving the minimum stack height as per MOEF norms have been furnished in Annexure-X of our EIA report. A copy of the same is enclosed herewith for ready reference. (Please refer clause no. vii of the EAC committee recommendations).	The reason cited maybe valid but the Stack Height Guidelines states that above 200 MW, the stack height shall be 220 m and below 200 MW will be calculated based on $H=14x(Q)^{0.3}$, where Q is the SO ₂ emission rate. The request can however be agreed provided the project proponent submits a firm undertaking on oath that they will not go beyond 200 MW total capacity at the present site and if in case expansion is proposed at future date to reach 200 MW and above, shall demolish the existing stack and install appropriate stack height.
(xxxv)	M a n g r o v e conservation and regeneration plan shall be formulated and implemented during the development of the Project itself and the status of implementation shall be submitted to the regional office of the ministry from time to time. In addition about 100 ha in	Our Project is proposed to be set up in 107.06 acres only. We are developing green cover within the project area as per MoEF norms. We shall work in conjunction with the district forest authorities for conservation and regeneration of mangrove plantation from the EMP budget committed. The clause of additional 100 ha mangrove plantation my please be removed.	The request for deletion of the clause for removal of additional 100 ha mangrove plantation seem valid, as this clause is not reflected in other ECs for other TPPs in the Distt. which has been accorded. The project proponent may instead be insisted upon to identify in a time bound manner areas in the region in consultation with the Forests Dept. for regeneration/preservation of mangroves and submit detailed action plan to the Ministry. On

	<p>and around the Project area shall be developed into mangrove forests:</p>	<p>receipt of the same the necessary amendment can be carried out on merits. A communication to this effect can be communicated to the project proponent so that they are on the side of law w.r.t this clause.</p>
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The matter was referred to the Committee for its views.

The Committee noted that the environmental clearance was given by the Ministry during the time SEIAA/SEAC of Tamil Nadu State was not in place. Now that the SEIAA/SEAC is in place it may therefore be advisable that further course of action may be taken up by the SEIAA, Tamil Nadu.

The Committee however decided to examine the issue and agreed while clause (vi) pertaining to rail transportation may impact the implementation of the project economically, however, it appears that road transportation entailing about 60 truck (12T) movements (one side) per day is not only environmentally advisable but also a traffic hazard. The Committee therefore decided that the transportation of coal by road can at best be agreed only for an interim period of three years from the COD declaration. The Committee also decided that only mechanically covered trucks and not trucks covered with tarpaulin shall be permitted. Thereafter, the project proponent need to either put in place railway system or closed conveyor system for coal transportation for the power project.

With regard to amendment sought on clause (vii) on the issue of sulphur and ash content of coal to be imported, it was decided that as observed by the Ministry, the argument placed for amendment is unacceptable and cannot be agreed.

The Committee also agreed with the observation of the Ministry with regard to amendment sought for clause (vii) on stack height and accordingly decided that the project proponent shall submit an undertaking as noted in the relevant clause above, in case stack height 135 m is to be installed.

Regarding clause no (xxxv) on mangrove, the Committee agreed with the observation of the Ministry and decided that the same shall be followed.

The Committee finally concluded that with the observations made above the concerned file may be transferred to the SEIAA, Tamil Nadu for taking further course of action. Accordingly the Committee closed the matter.

2.10 Change in source of coal for 2x80 MW Renusagar Power Plant of M/s Hindalco Industries Ltd. at Sonebhadra, in U.P – reg. Amendment of EC.

M/s Hindalco Industries Ltd. was accorded environmental clearance for its 2x80 MW Renusagar Power Plant (Expansion of Stage-VI) at Renusagar, in Sonebhadra Distt., in U.P on 28.11.2001.

Clause (vii), under para no. 3 of the environmental clearance letter read as “Coal for the project, as far as possible from Jhingurdah coal mine of Northern Coalfields Ltd. should be used @ 1310 TPD for expansion units. Fuel should be transported only through existing two aerial ropeways from Mine Head to the project site. In case of change of coal mine, details of fuel analysis and mode of transportation should be submitted to the Ministry for approval”.

M/s Hindalco Industries Ltd. has now informed that linkage coal to the Power Plant was supplied by NCL from its Jhingurda Coal Mine. The Jhingurda Coal Mine is nearly exhausted and therefore, the Ministry of Coal & Mine has decided to shift the linkage coal to Krishnashila Mine from Jhingurda Mine.

In view of the above, M/s Hindalco Industries Ltd. has now sought amendment for change in source of coal.

M/s Hindalco Industries Ltd. also informed that coal from Jhingurda Mine was transported to Renusagar Power Plant through Aerial Ropeway. However, the coal from to Krishnashila Mine will be transported through Pipe Belt Conveyor and Aerial Ropeway. That the Piped Belt Conveyor will meet the exiting Aerial ropeway midway, and thereafter the coal will be shifted through existing Aerial Ropeway for onward transportation to Renusagar Power Plant.

M/s Hindalco Industries Ltd. also provided the fuel analysis of Jhingurda & Krishnashila Mine Coal is appended below.

Jhingurda Coal :

Ash %	: 39%	Sulphur %	:0.3 to 0.5%
GCV	: 3000 Kcal/Kg.		

Krishnashila Coal:

Ash% :	31.8%	Sulphur %	:0.3 to 0.5%
GCV	: 4480 Kcal/Kg.		

The matter was referred to the Committee for its views.

The Committee noted that the power plant is captive to the Aluminium Smelter of M/s Hindalco Industries Ltd. which is a Category 'A' project in existence.

The Committee also noted that the coal from Krishnashila seem to be have better characteristics and decided that the request for amendment is valid and can be agreed. The Committee therefore recommended that the Ministry may carry out the necessary amendment. The Committee further recommended that while making the amendments necessary stipulations which were earlier not prescribed but relevant now shall be inserted.

2.11 Change in configuration from 1x660 MW to 2x660 Mw Super Critical TPP of M/s Sona Power Pvt. Ltd. at villages Mudpur Kachanda, Khosora and Salkhan, Dist. Janjgir-Champa, in Chhattisgarh – reg. validation of TOR.

The Committee noted that the project proponent was absent.

M/s Sona Power Pvt. Ltd. was issued TOR for its proposed 2x300 MW Coal Based Thermal Power Plant at Nawagarh Tehsil, in Janjgir Champa Distt., in Chhattisgarh on 16.01.2009. Later the TOR was reiterated for 1x660 MW capacity on 14.02.2011. M/s Sona Power Pvt. Ltd. has now requested for validation of TOR for 2x660 MW.

The Committee on perusal of the project file noted that as stated above TOR was prescribed on 16.01.2009 and therefore in accordance with the provisions prescribed in the Ministry's O.M dated 22.03.2010, the same cannot be validated for 2x660 MW now as by now they need to have applied for EC after undergoing public hearing with data not older than three years.

The Committee therefore decided that that the Ministry may inform the project proponent to apply afresh for TOR for the requested capacity of 2x660 MW.

2.12 EXTENSION OF VALIDITY OF TOR

- i) 1x660 MW Super-critical Coal based TPP of **M/s Nitin Thermal Power Pvt. Ltd.** at village Chaddana, Taluk Teothar, in Rewa Distt, in Madhya Pradesh.

- ii) Expansion by addition of 700MW (Stage-II) gas based CCPP of **M/s NTPC Ltd.** at National Capital Power Station, Dadri in Gauram Budh Nagar Distt., in Uttar Pradesh
- iii) 2x300 Mw (Phase-I) and 1x660 Mw (Phase-II) coal based TPP of **M/s CESC Ltd.** at villages Danro Phnbsiga Mahadevsol, Kusubana, Dumka, Dumka distt., Jharkhand.
- iv) 1320 MW (2x660MW) Super-critical coal based TPP of **M/s Torrent Power Ltd.** at village Jamasara, Raison, Baghwaman and Gangan, in Sandila Taluka in HardviDistt., in Uttar Pradesh.

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

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

ANNEXURE- A1

Terms of Reference (TOR) :

- i) Vision document specifying prospective long term plan of the site, if any, shall be formulated and submitted.
- ii) 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.

- xxxix) 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.
