

**MINUTES OF THE 58<sup>th</sup> MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON ENVIRONMENTAL IMPACT ASSESSMENT OF THERMAL POWER AND COAL MINE PROJECTS**

The 58<sup>th</sup> Meeting of the reconstituted Expert Appraisal Committee (Thermal) was held during **October 8-9, 2012** at Scope Convention Centre, SCOPE Complex, Lodhi Road, New Delhi. The members present were:

- |    |                    |   |                  |
|----|--------------------|---|------------------|
| 1. | Shri V.P. Raja     | - | Chairman         |
| 2. | Dr. C.R. Babu      | - | Vice-Chairman    |
| 3. | Shri T.K. Dhar     | - | Member           |
| 4. | Shri J.L. Mehta    | - | Member           |
| 5. | Dr. G.S. Roonwal   | - | Member           |
| 6. | Shri M.S. Puri     | - | Member           |
| 7. | Dr. S.D. Attri     | - | Member           |
| 8. | Shri J.S. Kamyotra | - | Member           |
| 9. | Dr.Saroj           | - | Member Secretary |

Dr. CBS Dutt, Dr. K.K.S. Bhatia and Shri V.B. Mathur were absent.

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

The deliberations held and the decisions taken are as under:

**DATE: 08.10.2012.**

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

The minutes of the 56<sup>th</sup> Meeting held during September 3-4, 2012 were confirmed with some minor grammatical mistakes and factual figures changes noticed/suggested.

It was also brought to the notice of the Committee that in the minutes of the 50<sup>th</sup> meeting held during June 25-26, 2012, in the item at Sl. No. 3.2 pertaining to 540 MW (4x135 MW) Coal Based Thermal Power Plant of M/s Vandana Vidyut Pvt. Ltd.at Chhuri, Salora, Gangpur, Darrabhata & Jhora, Tehsil Katghora, District Korba, in Chhattisgarh there is an inadvertent mistake as noted under:

*While agreeing to the request for amendment the minutes had inadvertently mentioned that tapering linkage for 540 MW has been allocated, whereas, the tapering linkage allocated was for 270 MW (2x135 MW). The Committee therefore*

*agreed that the figure 540 MW mentioned therein for availability of tapering linkage shall be suitably substituted by 270 MW (2x135 MW).*

## **2.1 Expansion by addition of 2x660 MW Imported Coal Based TPP of M/s Lanco Amarkantak Power Ltd. in Korba Tehsil & Distt., in Chhattisgarh – reg. EC reconsideration.**

The proposal was earlier considered in 46<sup>th</sup> EAC meeting held during April 9-10, 2012 wherein the project proponent gave a presentation and provided the following information:

The proposal is for expansion by addition of 2x660 MW (Units 5-6) Imported Coal Based Supercritical TPP at village Pathadi, in Korba Tehsil & Distt., in Chhattisgarh. There are two units under operation viz. Unit –I and Unit-II consisting each of 1x300 MW. Unit-III & IV (2x660 MW) are under implementation. Additional land requirement will be 550 acres, which is a single crop agriculture land, comprising of 250 acres of land for ash pond, 250 acres for water reservoir and 50 acres for external facilities. Total land requirement for 3240 MW will now be 1945 acres. The co-ordinates of the site including all six units and ash pond of Units-1,2,3&4 are located within Latitude 22°13'12.76" N to 22°14'55.36" N and Longitude 82°43'17.77" E to 82°44'9.37" E. Coal requirement will be 5.06MTPA at 85% PLF. Imported Coal will be obtained from Australia. FSA has been signed with M/s The Griffin Coal Mining Company Pty Ltd. Ash and sulphur contents in imported coal will be 10% and 0.5% respectively. About 0.506 MTPA of ash will be generated. Fly ash will be supplied to M/s ACC Keymore Cement Works of Katni, M/s Vedant Infrastructures, M/s KJSL Coal & Power Ltd. Infrastructures, M/s Gajanan Ash Bricks, M/s Ganpati Ash Bricks, M/s Ultratech Cements etc. Ash pond area will be 250 acres and co-ordinates of the ash pond site is located within Latitude 22°12'41.75" N to 22°13'9.44" N and Longitude 82°42'19.82" E to 82°43'19.28" E. Twin flue Stack of 275m shall be provided. Natural Draft cooling system will be installed. Water requirement of 85848 m<sup>3</sup>/day (31.33 MCM) will be sourced from the Hasdeo River through a pipeline at a distance of about 2.4km from the project site. Approval from Water Resource Department, Govt. of Chhattisgarh has been obtained. Sakti Reserve forest is at a distance of 10.7 km from the plant site. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within ten km of the project site. Public Hearing was held on 07.01.2012. Cost of the project will be Rs.7062.0 Crores.

In the said 46<sup>th</sup> meeting, the Committee discussed point-wise compliance of TOR and the status of compliance of the conditions stipulated in the environmental clearance accorded for the earlier units. *The Committee desired that the status of compliance to the conditions stipulated in the environmental*

*clearance for the earlier units shall be submitted to the Ministry within a fortnight.*

On the question of cumulative impact assessment of AAQ in the study area, the project proponent clarified that the assessment has been done based on their existing and proposed units. It was informed that no other source of air pollution in the 10 Km area exists or is proposed to be coming up as per the records available.

In the said 46<sup>th</sup> meeting, the Committee discussed the issues raised in the Public Hearing and the responses made by the project proponent. The Committee noted that major issues raised were regarding compensation for land acquired; employment of PAPs; community development; discharge of effluents into Jogi nallah affecting human and animal; noise pollution due to operation of existing units; fly ash/ dust falling on houses of villages and also affecting nearby agricultural land; non willingness of some villagers to part with land; adverse impact on ground water used for construction of plant etc. That these issues were addressed and committed by the proponent. The project proponent had also informed that no litigation was pending / filed pertaining to the power project.

On the issue of drinking water for villages and contamination of Jogi nalla, which was also an issue raised in the Public Hearing, the proponent informed that they are adopting a zero discharge system.

The Committee had also advised the proponent that radio activity in coal and ash needs be studied on a long term basis and mitigative action should be taken based on the outcome of the study. The project proponents were advised to avoid the acquisition of tribal land. That, however, in the event of extreme necessity, the relevant rules should be followed.

The Committee desired to seek information regarding status of compliance to the conditions stipulated for the earlier phases of the project; cumulative impacts on the ambient air quality within 15 km of the plant; report on the transportation of coal, including coal handling capacity at ports and railway rolling stacks availability; report on the water availability in Hasdeo River; action plan for implementation of issues raised in Public Hearing and CSR plan and point wise response to representation received by MEF.

The proponent have submitted a detailed information on the above issues. As per the information shared the proponent appears to have complied with conditions stipulated in the environmental clearance granted for the previous phases. High efficiency electrostatic precipitators have reported to have been installed to control particulate emission below 50mg/Nm<sup>3</sup>; space provision has been made for installation of FGD; cooling towers with closed cycle cooling are

installed. The company is achieving zero discharge and environment lab has been set up.

Cumulative impacts on the Ambient Air Quality (AAQ) have reported to have been assessed within 20km distance of the plant site. That the only power plant which is in operation within 15 km radius is the 1120 MW power station of Chhattisgarh State Electricity Board. The other thermal power plants which are operating near Korba are more than 15 km distance from the Lanco Power Station are 2600 MW of M/s NTPC at Korba; 2010 MW of M/s Balco ; and 840 MW of CESB at Korba West. The overall ground level concentration at a distance of 20 km radius taking into account all the power plants of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> is 69.28 µg/m<sup>3</sup>, 26.02 µg/m<sup>3</sup>, 56.5µg/m<sup>3</sup> and 33.5µg/m<sup>3</sup> respectively. The values are within the prescribed standards.

Regarding coal transportation, it was informed that the coal will be imported from Griffin Coal Mining Pty Limited, Australia. The fuel supply agreement is for 5 MTPA. The coal will be imported to Vishakhapatnam Port or Gangawaram Port and then to the plant augmentation site at Korba in BOXN rakes. The company has submitted a letter of comfort to handle 2 MTPA of coal from Vishakhapatnam Port Trust. Company would also transport coal from the Gangawaram Port which has handled 14 MT of coal in 2011- 2012 and it is proposed to enhance the cargo handling capacity to 45 MT in next two years. The current handling capacity is 24 MT. As regards, the rail transportation from ports, rails rakes from both the ports are available. The company has submitted an application to railways for Rail Traffic Clearance (RTC). To meet the transportation requirement, the proponent will need 4 rakes per day on average. As per the report submitted, the requisite rakes for the transportation to Amarkantak unit 5 & 6 will be easily available.

As regards the water availability from Hasdeo River, the lean season capacity of the storages from Hasdeo Barrage at Korba up to the confluence of Hasdev with Mahanadi is reported to be 99.949 MCM. While the lean season allotment to the power plants and industries are reported to be 86.952 MCM (after considering a cushion and net positive balance of 12.997 MCM). As per the hydrology study of the area, the construction of dams, barrages, antcuts and canals has resulted in storage of sufficient quantity of water for use during the lean months. The flow profile of Hasdeo River during lean months has increased with the construction of the water storage facilities and to meet the water requirement of Lanco Amarkantak Power project and other power plants / industries in the area.

A detailed action plan for implementation of issues raised during Public Hearing and CSR plan has been submitted. The issues raised in the representation received by the Ministry regarding employment and resettlement, environment conservation, pollution in the area and EIA report based on the old facts have been addressed. As per the information furnished,

M/s Lanco have provided employment to 317 affected persons. One time capital CSR expenditure of Rs. 25 Crore, to be raised to 28 Crore, till the commissioning of the plant and annual CSR budget thereafter to be Rs. 5.60 Crores till the operative life of the plant. Annual Social Audit to be conducted by a reputed University in the vicinity. There is no displacement of families. Regarding environment conservation, high efficiency ESPs are in operation and there is no discharge of effluent outside the plant. Continuous monitoring for stack emissions is being carried. Green belt has been developed in 75 acres of plant area. The ground water analysis carried shows that the levels of various parameters are within the prescribed standards. Lanco Amarkantak project is located at a distance of 13 km from Korba and does not fall in the critically polluted area. The AAQ data has been collected in the post monsoon season from September - November, 2010 subsequent to issuance of TOR. As discussed during the meeting, the PP may explore the possibility of setting up of a cement plant capacity to consume bulk fly ash.

It was brought to the notice that Chhattisgarh Environment Conservation Board (CECB) had issued show cause notice to the proponent for not complying with the conditions for green belt development and utilization of fly ash.

The Committee had therefore decided that the proponent should first provide the details regarding the show cause notice issued by the State Pollution Control Board before taking decision regarding the project.

On submission of the clarification the matter was again placed for re-consideration. The project proponent gave a presentation and informed the following:

That Unit-I & II (based on domestic coal) have been commissioned in November, 2010 and March, 2011 respectively. That Units-III & IV (based on domestic coal) are in advance stage of construction.

- That they have replied to the Show Cause Notice issued by Chhattisgarh Environment Conservation Board, which pertains primarily to emission of particulate matter; action plan for fly ash management; and action plan on green belt.
- That they have now decided to adopt 'Zero Discharge' concept and accordingly R.O System will be installed.
- That ammonia injection for SO<sub>2</sub> reduction is being undertaken.

*The Committee observed that action plan undertaken for the issues mentioned in the Show Cause Notice of the CECB prior to the notice received and thereafter action plan for implementation in compliance to the notice shall be submitted.*

*That the pollution data not only for particulate matter but also for SO<sub>2</sub> prior to and after replying to notice shall be submitted. It was also decided that the details of R.O System including solid waste generated (from R.O System) handling and management shall be submitted. With respect to SO<sub>2</sub> reduction through ammonia injection, the project proponent need to submit details of SO<sub>2</sub> emission prior to adoption of the same and henceforth after adoption of the same. The Committee also expressed its concern regarding advisability of SO<sub>2</sub> injection and observed that the project proponent need to examine issue of oleum formation.*

*With regard to compensation and employment, the Committee noted that the Minister of Environment & Forests, while making an observation of a letter received from the Minister of State for Agriculture and Food Processing pertaining to the power project have desired that evidences on record shall be submitted.*

*The Committee observed that the project proponent need to submit action taken in specific to the issues raised in the public hearing.*

*The Committee also decided that details mentioned above shall be submitted in the form of an affidavit duly signed by an officer of appropriate seniority and notarised.*

*It was decided that the project proponent shall first establish compliance to the conditions stipulated for Units-I to IV and submit detailed compliance report vetted by the R.O of the Ministry and other agencies as applicable.*

*The Committee also decided that the project proponent shall introduce a Management Information System which indicates the environmental conditions / effective compliance monitoring of environmental conditions. Accordingly, the Committee decided that the project proponent need to submit details and action plan in this regard.*

*The Committee finally decided that the project proponent shall come with the compliance of the observations stated in the above preceding paragraphs and shall also prepare point-wise compliance of its earlier observations made in the 46<sup>th</sup> Meeting. Accordingly the proposal was deferred.*

**2.2 4x60 MW Captive Coal Based Thermal Power Plant and 1.0 MTPA Cement Grinding Unit and 1.0 MTPA Coal Washery of M/s Jaiprakash Associates Ltd. at village Churk, in Robertganj Taluk, in Sonebhadra Distt., in Uttar Pradesh - reg. reconsideration of Environmental Clearance.**

The proposal was earlier first considered in 8<sup>th</sup> meeting of the EAC meeting held during October 18-19, 2010, *wherein the Committee noted that from*

*records available the project proponent had not declared the existence of the wildlife sanctuary while submitting the proposal for seeking recommendation of terms of reference. The Committee observed that, the then Committee known of the facts regarding wildlife sanctuary, the recommendation for TOR would not have been made. The Committee viewed the suppression of information very seriously and decided the proposal may be referred to the Wildlife Division in the Ministry for its views and only after submission of the clearance from the Wildlife Division / Standing Committee of the National Board of Wildlife (as the case may be) the project proponent may re-submit for re-consideration after compliance of the following:*

- i) Point wise compliance of TORs prescribed shall be submitted;
- ii) Revised Form-I shall be submitted along with a map duly vetted by the concerned Office of the Chief Wildlife Warden, indication location (nearest boundary) of the wildlife sanctuary from project site.
- iii) A detailed primary survey of fauna and flora in the study area shall be carried out and submitted along with the authenticated list from the Competent Authority;
- iv) A wildlife conservation plan prepared in consultation with the concerned Office of the Chief Wildlife Warden and duly vetted by the said office. The plan shall consists of an in-built monitoring mechanism;
- v) Separate year marked financial budget for implementation shall be indicated in the wildlife plan and implementation shall begin before the proposal is submitted for re-consideration.
- vi) Ambient air quality data shall be re-assessed and cumulative impact of ambient air quality predictions accounting all possible sources of emissions shall be re-done using appropriate wind rose diagram;
- vii) CSR action plan with time bound implementation schedule and budgetary allocation activity wise shall be submitted;
- viii) Action plan for time bound implementation on issues raised in public hearing and others shall be prepared and submitted along with firm commitment;

The Committee had observed that the project proponent cannot feign ignorance of the location of the wildlife sanctuary as clarified by them and viewed the lapse very seriously. The Committee further expressed that the project proponent seem to be making a perfunctory approach in dealing with the process of seeking environmental clearance, rendering the whole process of appraisal based on information submitted by them redundant in case of an oversight. The Committee therefore decided that the Ministry may like to seek written clarification from the project proponent and the consultant i.e M/s Vimta Labs Ltd., on the matter. *The Committee also decided that the above information / documents shall be submitted along with an undertaking in a notorised stamp paper of appropriate amount and duly signed by the Head of the Organisation or an officer of appropriate superiority (authorized to sign). Accordingly the proposal was deferred for reconsideration at a later stage. The*

*Committee also decided that since the above may take some time the proposal may be **de-listed** from the pending list for the time being.*

On submission of the above clarification the matter was again placed in 56<sup>th</sup> meeting of Committee held during September 3-4, 2012. The project proponent gave a presentation and provided the following information:

The proposal is for setting up of 4x60 MW Captive Imported Coal Based Thermal Power Plant and 1.0 MTPA Cement Grinding Unit and 1.0 MTPA Coal Washery at village Churk, in Robertganj Taluk, in Sonebhadra Distt., in Uttar Pradesh. The power plant will be captive to Cement Grinding Unit and Coal Washery. Land requirement will be 150 acres which is available within the old Cement Plant, which is not in operation since 1991. The co-ordinates of the plant site are within Latitude 24°38'08" to 24°38'29" N and Longitude 83°05'541" E to 83°06'18" E. Washery rejects will be used as fuel for the power plant. Requirement of washery reject will be 2.0 MTPA. Quantity of Fly ash and bottom ash to be generated will be 2880 TPD and 720 TPD respectively. Air cooled condenser will be used for condensate cooling. Water requirement will be 5513 cum/day which will be met from Dhandrol Dam on Ghaggar River. Allocation of 4.5 cusec of water has been obtained. Kaimur Wildlife Sanctuary is located at a distance of 1.5 Km from the site. Public hearing was conducted on 02.06.2010. Cost of the project will be Rs. 1178.0Crores.

The Committee in the 56<sup>th</sup> meeting had noted that the project proponent has neither domestic coal nor documents to substantiate tie up of long term imported coal from Indonesia from where it is stated to be now proposed to be procured for the CPP as an interim arrangement until domestic coal is available. On the issue of washery, the project proponent could not give a satisfactory answer as to the source of coal for which the washery is being proposed. The Committee expressed its reservation as to how a washery rejects based CPP can be run on imported coal and noted that the project proponent even at this stage either seem unclear of coal source and therefore a detail clarification on the above shall be submitted.

*The Committee had observed that incase the proposal is to be considered based on imported local, the associated issues such as port handling capacity in the identified port in India and transportation for imported coal from the Port to plant site by rail including railway wagon availability etc. need to be looked into and accordingly the revised Form-I, EIA/EMP Report or its addendum shall be submitted.*

*It was also decided that the information on taking over the old cement plant from U.P Govt. and the chronology of events shall be placed on record in written.*

The Committee in the 56<sup>th</sup> meeting on perusal of records available had also observed that the Wildlife Division of the Ministry had written letters to: (i) The



Principal Secretary, Forest Deptt, Govt. of U.P; (ii) The PCCF, Govt. of U.P; and (iii) The Chairman, UPPCB, wherein a copy of the Site Visit Report undertaken by the Wildlife Institute of India (WII) was enclosed. The aforesaid letter had informed that the proposal forwarded by the Govt. of U.P was placed in the 21<sup>st</sup> and 24<sup>th</sup> meeting of the Standing Committee of the National Board of Wildlife (NBWL) and it was decided that a site visit will be undertaken by WII to assess impact of the project on biodiversity of Kaimur Wildlife Sanctuary. That based on the decision, the site visit was undertaken and it was reported that the project proponent had gone ahead with the construction activities and had completed 50-60% of the construction work without mandatory environmental clearance and approval of the SC of NBWL. That the letter of the Ministry has sought that action taken report on the issues be submitted to the Ministry.

The Committee also perused the Minutes of the 25<sup>th</sup> Meeting of the Standing Committee of the National Board of Wildlife held on 13.06.2012 and the extracts of the minutes of the Standing Committee of NBWL was read out for information of members. It was noted that the Standing Committee of the NBWL did not find merit for consideration and had referred the proposal to the Impact Assessment Division of the Ministry to take necessary action in view of the reported violations. *The Committee deliberated at length and desired that the project proponent should submit detail information as referred above and accordingly the proposal was deferred.*

On submission of clarifications the matter was placed again for re-consideration.

The Committee noted that the information submitted by the project proponent indicates that the erstwhile Utter Pradesh State Cement Corporation Ltd. (UPSCCL- a Government of Utter Pradesh Enterprise) were operating three Units of Cement plants at Dalla, Chunar and Churk in Utter Pradesh. That due to economic reasons the Company was declared sick and went under BIFR. The Plants were shutdown in the year 1999. That the Hon'ble High Court of Uttar Pradesh, in order to facilitate revival of these Units, ordered liquidation of the assets of Uttar Pradesh Cement Corporation Ltd., through competitive bidding and was awarded to M/s Jaiprakash Associates Ltd. in the year 2006. That M/s Jaiprakash Associates Ltd. took initiatives for revival of the abovementioned Units by replacement and up-gradation of Plant & Equipment at Dalla and Chunar locations. That these two Units have already been made functional and are operating & generating direct and indirect employment which may have benefitted the population in the area. That the present proposal for revival of Churk Unit which is under consideration may also bring in much needed socio-economic support to the local habitant. That for running the proposed 4x60 MW Captive Power Plant during the interim period, the project proponent is constrained to use imported coal. That they have examined the possibility of using Porting West Coast and the East Coast and also evaluated the local transportation cost. That Mundra Port in the West

Coast and Gangavaram Port in the East Coast have been considered and the estimated cost of local transportation by rail has been considered. That the project proponent have also carried out an exercise to scenario building using imported coal from Indonesia and have submitted an addendum report.

The project proponent also regretted the partial construction activities undertaken right after Public Hearing of the project was over. That however, all construction activities were suspended in August 2011 and remain suspended till date. Further, it was also stated that the Board of Directors of M/s Jaiprakash Associates Ltd. has passed a resolution during the Board Meeting held on 27<sup>th</sup> September 2012 regretting the activities initiated prior to obtaining EC for the CPP and also submitted along with it its Corporate Environment and Energy Policy for implementation.

It was also stated that the Uttar Pradesh State Pollution Control Board has also filed a Petition in the Court of Chief Judicial Magistrate of Sonbhadra on 27<sup>th</sup> September 2012 under ref. Misc. Case No. 761/2012, Under Section 15 of the Environmental Protection Act 1986. It was also stated that after an elaborate process of claims, counter claims, verifications etc. an amount of Rs.116 crores was distributed by an Order of the Hon'ble High Court dated 12.10.2007 among 6000 ex-employees of the Corporation towards their past dues.

The Committee during the course of deliberation decided that the consideration now is only w.r.t. CPP and Cement Grinding Unit and Coal Washery cannot form a part of the present appraisal.

The Committee also discussed the public hearing issues, the responses and action plan for implementation made by the project proponent. The major issues raised were regarding employment of local people; cutting of trees; drawl of water from Ganghar/Dhandraul Dam and availability of water for farmers; control of air and water pollution etc.

The Committee noted that regarding local employment the project proponent have so far given employment to 78 ex-employees and dependants of 82 ex-employees of Churk cement plant and that about Rs 3.0 Crores is earmarked for ITI at Dallah for imparting training. Regarding cutting of tree it was clarified that only eucalyptus trees in the proposed site have been cut after taking prior permission from appropriate authority. It was stated that green belt development will be carried out in an area of 20.173 ha and an amount of Rs 7.0 Crores is ear marked. Additional Rs 80 lakhs per annum has also been earmarked as recurring expenses for green belt.

On the issue of drawl of water from Ganghar/Dandraul Dam, it has been stated that the old churk cement plant has water allocation for 4.95 cusec water to be obtained from seepage of Ganghar Dam and the same will be utilised. That air cooled condenser is being proposed with additional

investment of Rs 25 crores in order to minimise water consumption. On the issue of air and water pollution control it has been clarified that ESP meeting 50 mg/Nm<sup>3</sup> will be installed along with Bag Filters in Cement Grinding unit and dust suppression system and green belt will be raised. That accordingly an amount of Rs 223.55 crores is ear marked for pollution control measures. And that Rs 7.9 Crores per annum will be ear marked for maintenance of these equipments for pollution control.

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

- (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) Air cooled condenser shall be installed.
- (iii) Sulphur and ash contents in the coal to be used in the project shall not exceed 0.6 % and 8 % 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.
- (iv) Stack of 125 m height shall be provided with continuous online monitoring equipments for SO<sub>x</sub>, NO<sub>x</sub> and Particulate Matter (PM<sub>2.5</sub> & PM<sub>10</sub>).
- (v) Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.
- (vi) COC of atleast 5.0 shall be adopted.
- (vii) Space provision for installation of FGD shall be made.
- (viii) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission from the proposed plant does not exceed 50 mg/Nm<sup>3</sup>.
- (ix) Action plan along with mitigation and management of fugitive emissions in and around coal handling plants and implementation schedule and monitoring mechanism for development of a thick three tier green belt all around plant boundary except in areas not feasible, shall be submitted to the R.O of the Ministry within six months.
- (x) 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.
- (xi) Utilisation of 100% Fly Ash generated shall be made from **4<sup>th</sup>** year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.
- (xii) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the

form of slurry 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.

- (xiii) Ash pond shall be lined with HDPE/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.
- (xiv) A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.
- (xv) Continuous monitoring for heavy metals in and around the existing ash pond area shall be immediately carried out by reputed institutes like IIT, Chennai.
- (xvi) Fugitive emission of 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.
- (xvii) 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 %.
- (xviii) 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.
- (xix) An amount of Rs 5.0 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs 1.0 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.
- (xx) Additionally as committed by the project proponent Rs 3.0 Crores shall be earmarked for development of ITI at Dallah for imparting training for local people in craft for employment. An amount of Rs 7.0 Crores shall be ear marked for development of green belt and Rs 80 lakhs per annum shall be kept as recurring expenses for green belt as committed.
- (xxi) 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.

(xxii) 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.

### **2.3 380 MW Gas Based CCPP of M/s GAIL (India) Ltd. at village Vijaipur, in Guna District, in Madhya Pradesh- reg. Envirnomental Clearance.**

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

The proposal is an inter-state case and hence is being dealt at the Centre.

The proposal is for setting up of 380 MW Gas Based CCPP Plant at village Vijaipur, in Guna District, in Madhya Pradesh. Land requirement will be 45 acres which is within existing premises of GAIL's LPG manufacturing facility/Compressor station. The co-ordinates of the site are located within Latitude 24°27'52.46" N to 24°29'14.28" N and Longitude 77°08'40.96"E to 77°09'34.72" E. Gas requirement will be 1.452 MMSCMD at 85% PLF. Blend of Natural Gas and Re-Gasified LNG in 60:40 ratio will be used. Water requirement of 10920 KLD will be sourced from Gopi Krishna Sagar Dam through a pipeline at a distance of about 12km from project site. Induced draft cooling system will be installed. Stack height will be 60 m. There are around 3 protected forests namely Raghogarh, Dongar and Ajrora and 3 water bodies namely Parwati river, Ruthyai river and Gopi Krishna Sagar Dam within 10 km of the project site. Public Hearing was held on 11.04.2012. Cost of the project will be Rs.1209.0 Crores.

The Committee sought clarification / response to the Ministry of Power Circular / Advisory asking project developers not to plan gas based power projects until 2015-16. The Committee also observed that there are large number of stranded gas based power projects and desired to know why a new gas based plant be permitted which would add to the number of stranded projects. The project proponent stated that the circular is only for domestic gas based projects, whereas, their project is conceived based on internal availability of domestic gas and imported LNG.

The Committee decided that the case can be considered based on 100 % imported LNG provided copy of gas supply contract and feasibility of the project with details of power production cost at users end are provided.

It was informed that obtaining environmental clearance is a part of the process for development of the power project and based on the clearance investment decision will be taken.

The Committee noted that the above mentioned statement of the project proponent is highly objectionable since public investor need to know the detail facts and accordingly decided under these circumstances the project proponent need to issue a public notice declaring the same so that investors know about the facts and are not given false hopes.

The project proponent also informed that they intend to sign PPA with PTC / Tata and discussions are being held. The Committee decided that road map for PPA shall be submitted.

The Committee also noted that the site does not seem to satisfy the requirement for location of a TPP as the railway line is running adjacent the boundary. It was therefore decided that the project proponent shall first revise its power project layout fulfilling the requirement for location of a TPP as prescribed in the 'Guidelines' and submit the same to the Ministry.

The Committee also noted that some of the provisions of TOR prescribed such as TOR points (iii), (xv), (xvi), (xxiii) & (xxiv) seem to have been not complied.

*The Committee also desired that the project proponent shall first submit compliance to the observations mentioned above to the Ministry before the proposal is next placed for re-consideration.*

*In view of the above stated inadequate information as detailed in various paras above, the Committee decided that the proposal in its present form is pre-mature for consideration for environmental clearance and accordingly **deferred** the proposal.*

#### **2.4 2x250 MW Jagdishpur Captive Thermal Power Plant of M/s NTPC-SAIL Power Company Ltd. at village Jagdishpur, in Sultanpur District, in Uttar 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 and provided the following information:

Earlier TOR was obtained on 04.11.2011 for 1050 MW Gas Based CCPP at the same site but due to non availability of gas have decided to drop the project and go for coal based TPP. It was also stated that 50% of the power will be utilized by M/s SAIL.

The proposal is for setting up of 2x250 MW Jagdishpur Thermal Power Plant at village Jagdishpur, in Sultanpur District, in Uttar Pradesh. Land requirement will be 500 acres which is within the existing premises of Jagdishpur Steel Plant of M/s SAIL. The co-ordinates of the site are located in between Latitude 26°29'45" N to 26°30'45" N and Longitude 81°32'19"E to 81°33'51"E. Coal requirement will be 3.16 MTPA. Water requirement will be 1800 m<sup>3</sup>/hr and will be sourced from Gomati River through a pipeline at a distance of 20 km from the project site. About 160 acres of land will be for Ash dyke. There are no National Parks, Wildlife Sanctuaries, and Tiger/Biosphere Reserves etc. within 10 km of the site.

The Committee also noted that the site does not seem to satisfy the requirement for location of a TPP as the railway line is running adjacent the boundary at about 50 m only. It was therefore decided that the project proponent obtain NOC from the appropriate authority in the Railways, which shall comprise as a point for TOR.

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

- i) NOC from the appropriate authority in the Railways, which shall comprise as a point for TOR.
- ii) Layout of TPP indicating distance of boundary of TPP from railway line shall be furnished.

## **2.5 2x60 MW Imported Coal based Thermal Power Plant of M/s ARS Metals Ltd. at village Gummidipoondi, in District Thiruvallur in Tamil Nadu - reg. reconsideration of Amendment of EC.**

The request of M/s ARS Metals Ltd. amendment of few specific conditions in the environmental clearance accorded to them for its 2x60 MW Imported Coal based Thermal Power Plant of M/s ARS Metals Ltd. at village Gummidipoondi, in District Thiruvallur in Tamil Nadu was earlier placed in 50<sup>th</sup> meeting of the EAC meeting held during June 25-26, 2012.

In the said meeting M/s ARS Metals Ltd. informed the Committee that they have applied to the railway for the approval of railway siding and are in final stage of appointing a consultant. The process of approval and the completion of work will take minimum period of four years. M/s ARS Metals Ltd. therefore requested the Ministry to permit a road transport of coal by road for a period of 5 years after commissioning.

M/s ARS Metals informed that as per FSA the sulphur content of coal quality varies from 0.3 to 0.7 % and therefore requested the Ministry for permission to use the coal with sulphur content upto 0.7%.

M/s ARS Metals further informed that they have already completed the construction of storm water drains and the rain water reservoir. Efforts of the company will be only to use harvested water and permission to use ground water may also be given as the area falls under safe zone. The request made for amendment of EC conditions (i), (iii) and (vi) are extracted as under:

- (i) Transportation of coal shall be carried out strictly by rail and the project proponent shall immediately take up the matter with the Railways. Status of implementation shall be submitted to the Regional Office of the Ministry from time to time.*
- (iii) Sulphur and Ash contents in the coal to be used in the project shall not exceed 0.5% and 25% respectively at any given time. In case of variation of coal quality at any point of time fresh reference shall be made to MOEF for suitable amendments to the environmental clearance conditions wherever necessary.*
- (vi) Water requirement for running plant shall be met from harvested rain water initially subject to approval from Central Ground Water Board/ Authority but the project proponent subsequently shall shift to use harvested water only. Status of implementation in this regard shall be submitted to the Ministry from time to time. ”*

In the said 50<sup>th</sup> meeting, M/s ARS Metals pleaded before the Committee that a similar amendment for permission to use road transportation for a period of four years was given to M/s Accord Energy Ltd. for its proposed TPP located at about 200 m from their proposed plant.

The Committee in the said 50<sup>th</sup> meeting had observed that while seeking the amendment, substantial issues such as impact due to road transportation, volume of traffic for coal transportation and its implications etc. need to be spelt out in detail. That simply relying on a case pertaining to M/s Accord Energy Ltd. was not an appropriate justification for seeking the present amendment.

The Committee had also noted that public health and safety issues involving road transportation of coal need to be adequately addressed.

*The Committee had therefore observed that the project proponent shall submit documents to indicate action taken up with the railways and communication to this effect from the Railways shall be first submitted before the matter could be considered. Accordingly the matter was deferred.*

On receipt of clarification the matter was placed again.



The Committee deliberated the issue of road transportation and decided that as has been agreed for M/s Accord Energy Ltd. road transportation of coal can be agreed for a maximum period of four years provided commitment that road transportations is purely a temporary arrangement for four years and shall not be applicable from the fifth year onwards is submitted. It was also decided that the commitment submitted shall also provide detail programme for avenue plantation along the route of transportation. The Committee further decided that the commitment stated above shall be in the form of an affidavit, duly signed by an officer of appropriate seniority in the organization and notarised.

## **2.6 4x600 MW coal based TPP of M/s Jindal Power Ltd. at Tamnar, in Gharghoda Tehsil, in Raigarh District, in Chhattisgarh- reg. Amendment of EC.**

M/s Jindal Power Ltd. was accorded environmental clearance for its 2x600 MW Domestic Coal based Thermal Power Plant on 18.03.2011 and later addition for another 2x600 MW Imported coal based TPP was accorded on 04.11.2011.

M/s Jindal Power Ltd. has now requested for amendment of specific condition no. (xxvi) mentioned in the environmental clearance extracted as under:

*“Information on all new activities like the proposed setting up of a Coal Handling Plant, a Coal Gasification Plant, Coal Stock Yard etc. including the proposed pipe coal conveyor from Prasada to M/s JPL at Tamnar shall be brought to the notice of the people both through EIA/EMP studies and at the time of the Public Hearing for the proposed Steel Plant of M/s JSPL in an explicit, comprehensive and understandable fashion”.*

M/s JPL now informed that the proposed pipe coal conveyor from Prasada to M/s JPL power plant site at Tamnar will take considerably long time due to delay in obtaining environmental clearance for the Steel Project. SECL and MCL have informed that the coal will be supplied from nearby mines located in the range of 20-30 km from plant site for interim period only.

M/s Jindal Power Ltd. has therefore now requested for installation of coal crushers along-with dump hopper within the plant site and permission for transportation of coal by road for the interim period. That they now proposed to crush coal at TPP plant site.

The matter was placed before the Committee for its consideration.

M/s Jindal Power Ltd. also informed that the construction work has been commenced for all 4 units and with the current progress they expect the commissioning and COD by July 2013.

The Committee noted that while the appraisal for 4x600 MW was carried out it was stated that due to paucity of land certain facilities like coal handling plant, fabrication units etc will be done near Steel Plant and the position now seem to be reverse of the earlier statement.

*The Committee therefore desired to know whether space is available now for location of the coal and crushing plant at site. The Committee therefore desired that Sh. M.S. Puri, Member (and if possible Shri J.L. Mehta shall also join) may undertake a site visit and submit a report first before the present amendment is considered. Accordingly the matter was deferred.*

**2.7 Change in Configuration form 2x660MW to 2x800 MW Gadwara Super Thermal Power Project of M/s NTPC Ltd. near villages Gangai, Umaraiya, in Gadarwara Tehsil, Narsinghpur District, in Madhya Pradesh - reg. Amendemnt in TOR.**

M/s NTPC Ltd. was prescribed TOR on 13.01.2011 for conducting EIA/EMP study for its 2x660 MW Gadwara Super Thermal Power Project of M/s NTPC Ltd. near villages Gangai, Umaraiya, in Gadarwara Tehsil, Narsinghpur District, in Madhya Pradesh. Public hearing for the project was held on 20.06.2012.

M/s NTPC now informs that they have now decided to set up 2x800 MW instead of 2x660 MW. That this was also a demand in the public hearing held for the power project. That the equipment orderd for 2x800 MW Gajmara TPP will now go to this Gadwara TPP, as Gajmara TPP is presently being withheld due to want of firm coal linkage and land.

The matter was placed before the Committee for its views.

The Committee noted that the change in configuration may generate more power per megawatt but the additional incremental adverse environmental impacts (due to 2x800 MW) in deviation from the earlier 2x660 MW as provided in the EIA/EMP report need to be declared for information of all the stake holders.

The Committee therefore decided that M/s NTPC shall issue a public notice/advertisement in local and national newspapers declaring the deviation and the associated environmental implications as stated above seeking comments / objections if any.

*The Committee decided that after fulfilling the above, the matter shall be rescinded by the Committee. Accordingly the matter was deferred.*

**2.8 Clarification sought for coal based Thermal Power Plant of M/s Vidarbha Industries Power Ltd. at Plot No. D-3, MIDC Industrial area, Butibori, Nagpur Distt., in Maharashtra pertaining to requirement of lining of ash pond for HCSD disposal area - reg.**

The Committee noted that the desired information / observation sought from CPCB is yet to be received. It was also noted that that neither the project proponent nor its representative were present in the meeting. The matter was accordingly deferred for re-consideration at a later stage.

**2.9 2x525 MW of Malaxmi Mega Thermal Power Project of M/s Navabharat Power Pvt. Ltd. at villages Meramundali & Kharagprasad, Dhenkanal District, in Odisha- reg. Extension of validity of EC.**

M/s Navabharat Power Pvt. Ltd. was accorded environmental clearance for its 1050 MW (3x350 MW) Phase-I Malaxmi Mega Thermal Power Project at Meeramundali & Kaharagprased Dhenkanal, in Orissa on 08.02.2008. Later the configuration was changed to 2x525 MW (1050 MW) and permission for change of configuration was accorded on 03.06.2011.

M/s Navabharat Power Pvt. Ltd. now informed that the land acquisition is getting delayed and will be starting construction soon once land is transferred to the company. M/s Navabharat Power Pvt. Ltd. have requested for extension of validity period of EC for further period of five years.

The matter was placed before the Committee for its views.

M/s Navabharat Power Pvt. Ltd. made a presentation and informed the Committee that EPC contract for supply of BGT and BOP has been signed in July, 2010 and long term open access agreement signed with PGCIL on 07.06.2010.

The Committee noted that, as reported by the project proponent, nothing have progressed on ground and as part of due diligence it is required to know about the issue of coal block – a matter which has come in public domain.

The Committee therefore decided that the matter need to be re-considered only after details on coal bock issue is placed before the Committee. Accordingly the matter was deferred.

**2.10 Expansion by addition of 2x660 MW (Unit- 3 & 4) Coal Based TPP of M/s Udupi Power Corporation Ltd. at village Yellur, in Udupi District, in Karnataka –reg. Extension of validity of TOR.**

M/s Udupi Power Corpn. Ltd. was issued TOR for its expansion by addition of 2x660 MW (Unit- 3&4) at Yellur village, in Udupi Distt. In Karnataka on 17.08.2010. M/s Udupi Power Corpn. Ltd. now informed the Ministry that due to constraint in land acquisition the project is getting delayed and also hampering in finalizing of the EIA study and preparation of EMP. M/s Udupi Power Corpn. Ltd. has requested for extension of TOR issued for the project.

The matter was placed before the Committee for its views.

M/s Udupi Power Corpn. Ltd. also made a presentation and informed that Unit-1&2 have been commissioned and even the 400 KV evacuation project which had been held up in the Green Tribunal has now been disposed of and the same has now been commissioned.

The Committee noted that a representation against the project has been received in the Ministry. The Committee desired that M/s Udupi Power Corpn. Ltd. shall provide para-wise response to the representation received. It was also decided that M/s Udupi Power Corpn. Ltd. shall furnish a chronology of amendments sought for the power project, its details and amendments concurred till date for ready reference.

In view of the above, the Committee therefore decided that the request for extension of validity for TOR will be considered only after submission of the above. Accordingly the matter was deferred.

#### **2.11 4x660 MW Coal Based TPP of M/s Pragdisa Power Pvt. Ltd. near village Momidi, in Chillakur Mandal, SPS Nellore District, in Andhra Pradesh- reg. Extension of validity of TOR.**

M/s Pragdisa Power Pvt. Ltd. was prescribed TOR for its 4x660 MW Coal Based TPP on 09.09.2010. However, the due to uncertainty in coal availability the work for project related studies are delayed and has therefore requested for extension of validity of TOR.

The matter was placed before the Committee for its views.

M/s Pragdisa Power Pvt. Ltd. also informed that land acquisition process is in advance stage and marine EIA studies are in process. That EPC contract has been awarded and draft EIA is under preparation.

*The Committee noted that coal availability scenario in the country is a matter of concern and considering that for the 12<sup>th</sup> Plan Projects the MoP and MoC are still yet to carry out the exercise for coal allocation, the request can be agreed.*

*Accordingly the Committee recommended for extension of validity of TOR for a period of one year.*

**2.12 4x660 MW Coal Based TPP of M/s Vainateya Power Pvt. Ltd. near village Melmaruthur, in Ottapidaram Taluk, Tuticorin District, in Tamil Nadu- reg. Extension of validity of TOR.**

M/s Vainateya Power Pvt. Ltd. was prescribed TOR for its 4x660 MW Coal Based TPP on 09.09.2010. However, the due to uncertainty in coal availability the work for project related studies are delayed and has therefore requested for extension of validity of TOR.

The matter was placed before the Committee for its views.

M/s Vainateya Power Pvt. Ltd. also informed that land acquisition process is in advance stage and marine EIA studies are in process. That EPC contract has been awarded and draft EIA is under preparation.

*The Committee noted that coal availability scenario in the country is a matter of concern and considering that for the 12<sup>th</sup> Plan Projects the MoP and MoC are still yet to carry out the exercise for coal allocation, the request can be agreed. Accordingly the Committee recommended for extension of validity of TOR for a period of one year.*

**2.13 2x660 MW Coal Based TPP of M/s CESC Ltd. at village Balagarh, Hooghly District, in West Bengal- reg. Extension of validity of TOR.**

M/s CESC Ltd. was prescribed TOR for its 4x660 MW Coal Based TPP on 08.09.2010. M/s CESC Ltd. informed that due to uncertainty in coal availability the work for project related studies are delayed. M/s CESC Ltd. therefore requested for extension of validity of TOR.

The matter was placed before the Committee for its views.

*The Committee noted that coal availability scenario in the country is a matter of concern and considering that for the 12<sup>th</sup> Plan Projects the MoP and MoC are still yet to carry out the exercise for coal allocation, the request can be agreed. Accordingly the Committee recommended for extension of validity of TOR for a period of one year.*

**DATE: 09.10.2012**

**2.14 2x600 MW Sub Critical TPP of M/s Chettinad Power Corpn. Pvt. Ltd. at Tharangambadi Taluk, Nagapattinam District, Tamil Nadu-reg. review of Environmental Clearance in accordance with the Order of the NGT.**

M/s Chettinad Power Corpn. Ltd. was accorded environmental clearance for its 2x600 MW Sub Critical TPP of M/s Chettinad Power Corpn. Pvt. Ltd. at Tharangambadi Taluk, Nagapattinam District, Tamil Nadu on 20.01.2011.

The environmental clearance accorded for the above mentioned power project was challenged in the National Green Tribunal (NGT) by an NGO viz. Coastal Action Network and others on the ground amongst others that the EIA Report has major violations of TOR issued for the project, inconsistency in draft EIA report and final EIA report, site of the TPP, public hearing procedure etc.

The NGT vide its order dated 30.05.2012 had suspended the environmental clearance accorded for the project and have given directions to be followed by the project proponent and the Ministry of Environment & Forests / Expert Appraisal Committee (Thermal Power).

In compliance to the order of the NGT, the project proponent submitted revised EIA/EMP and Marine EIA Study report to the Ministry which was subsequently uploaded in the Ministry's website on 07.09.2012. The project proponent have also reported that they have given wide publicity given 30 days time inviting comments / objections.

The matter was accordingly placed before the Committee for its review of environmental clearance of the power project.

The Order of the NGT was read out and the operative part of the judgment was flagged point-wise for analysis of the fulfillment required to be carried out by the project proponent for the purpose to review the environmental clearance.

M/s Chettinad Power Corpn. Ltd. also made a presentation and informed that they have given copies of the revised EIA/EMP and Marine EIA Study reports to the NGO and the appellants in the NGT.

The Committee noted that the project proponent does not seem to have effectively dealt with some of the observations of the order of the NGT particularly with regard to Olive Ridley Turtle issue as mentioned at page no. 15, 16 and 17 of the order. It was also observed that the documents now made available does not seem to indicate any data (primary or secondary) on Olive Ridley Turtle having been dealt with at length. It was also noted that the project proponent have not explained satisfactorily the issue flagged by the

NGT on fly ash and archaeological importance site as mentioned at page 16 of the order.

The Committee decided that the project proponent shall submit a detail report on the issue on Olive Ridley Turtle including data collected by them during the nesting season and vetted by the Competent Authority. The project proponent shall also submit a long term plan for sustainable preservation of Olive Ridley Turtle and implementation thereof by a competent institute in the area.

*In view of the inadequate information, the Committee decided that the project proponent shall submit para-wise response /remarks/ information of the order of the NGT. It was also decided that the response shall be submitted in the form of an affidavit duly signed by the Competent Authority in the organization and notarised. It was further also decided that the response/ remarks/ information shall be accompanied by a Board Resolution certifying that the signatory of the affidavit providing response/remarks/information submitted is authorized to sign. Accordingly, the matter was deferred.*

**2.15 Expansion by addition of 10 MW of Co-generation Power Plant of M/s Shree Renuka Sugars Ltd. at Belgaum District, in Karnataka – reg. Enviernomental Clearance.**

The proposal was is for consideration for consideration for environmental clearance. The project proponent and its consultant gave a presentation and provided the following information:

The proposal is for expansion by addition of 10 MW Co-Generation Power Plant within the premises of sugar plant located at Burlatti village, in Athani Taluk, in Belgaum Distt., in Karnataka. Environmental clearance for 58 MW was accorded on the recommendation of the EAC (Industry) on 23.10.20108. No additional land requirement will be required. Total land requirement for 3240 MW will now be 1945 acres. Bagasse requirement will be 1400 TPD and will be sourced from own sugar plant and nearby sugar mills. No coal will be used as fuel. Water requirement of will be 1099 KLD, which will be sourced from Krishna River. Proposed Boiler capacity will be 140 TPH, Stack of 75 m is proposed. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within ten km of the project site. Public Hearing was exempted while the proposal was considered for TOR and in accordance with the provisions of EIA notification 2006. A combined public hearing was undertaken in 2008 for the sugar plant and expansion of power plant from 38 MW to 58 MW. Cost of the project will be Rs.99.0 Crores.

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 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 water requirement through conservation and harvesting shall be developed within the development of the project and use of ground water shall be not be permitted. The mechanism and status for meeting the water requirement thereafter shall be specified and submitted to the Regional Office of the Ministry.
- iv) A stack of 75 m height with flue gas velocity not less than 22 m/s shall be installed.
- v) Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.
- vi) Green Belt consisting of 3 tiers of plantations of 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%.
- vii) Waste water generated (if any) from the plant shall be treated before discharge to comply limits prescribed by the SPCB.
- viii) 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 Regional Office of the Ministry **within six months**.
- 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. 0.402 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.0.08 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 Regional Office of 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.

**2.16 3x660 MW super critical coal Based Tiruldih PP of M/s Tata Power Company Ltd. Ichagarh Tehsil, in Saraikela Kharswan District, in Jharkhand - reg. Extension of validity of TOR and change in one of the villages and change of one unit of 660MW from IPP to CPP.**

M/s Tata Power Company Ltd. was issued TOR for its 3x660 MW Coal Based TPP to be located at Ichagarh Tehsil, in Saraikela Kharswan Distt., in Jharkhand on 09.09.2010.

M/s Tata Power Company Ltd. now informs that the public hearing earlier scheduled on 18.03.2012 had to be postponed due to issues regarding High Court verdict w.r.t. Chhota Nagpur Tenancy Act. That about 40 % of land has been acquired but now it has been seen that acquisition of some areas falling in Sirkadih will be difficult and hence proposed to acquire part of land from Gundaldih village instead. That the other three villages viz. Chara, Poraka and Kuda will remain the same. That land will now be optimized to 1000 acres.

M/s Tata Power Company Ltd. also informed that they intend to now change one unit of 660MW as a Captive Power Plant (CPP) and will be implemented by a joint venture company (M/s Industrial Energy Ltd.) between M/s Tata Power Co. Ltd. and M/s Tata Steel Ltd.

In view of the above M/s Tata Power Company Ltd. have now sought extension of validity of TOR.

The Committee deliberated the issue and noted that the land use and features of the new area is not available for perusal of the Committee and even though the said area is reportedly contiguous to the other area for the TPP site, the details need to be submitted.

The Committee also observed that in accordance with the new policy directives for IPP, the project proponent need to submit compliance and the issue of

change of one unit as CPP need to be deliberated in the context of EIA notification 2006.

The Committee also noted that on the issue of Tuber Coal Block details may be submitted.

The Committee felt that the request for consideration is premature based on the present form of information available. The Committee therefore decided that the matter can be re-considered only after details on coal block and others as stated above are submitted. Accordingly the matter was [deferred](#).

**2.17 2X660MW Based Thermal Power Plant of M/s NSL Nagapattanam Power & Infratech Pvt. Ltd. at villages Tentulei, Ghantapada, Jagannathapur, Sana Scatland, Bada Scatland, Talcher CD Block, in District Angul, in Orissa - reg. Environmental Clearance.**

The proposal was recommended for environmental clearance in the 54<sup>th</sup> Meeting held during August 6-7, 2012.

While the recommendation for environmental clearance has been made in the aforesaid meeting, the Committee had observed that even though cumulative impact assessment over 10 Kms appears to have been carried out, considering that Angul town was not far off and the area was notified as *critically polluted area*, the project proponent need to conduct cumulative impact assessment over a 15 Kms radius as a matter of abundant precaution and take necessary safeguards in the interest of environment. *The Committee accordingly had desired that the project proponent shall submit addendum to EIA report to the Ministry before any action is taken by the Ministry.*

The Committee in the aforesaid meeting had also noted that the social issues raised in the public hearing such as compensation, rehabilitation and control of pollution mitigation measures seem to be adequate and shall be implemented in true spirit as committed by the project proponent. *Accordingly the Committee advised the project proponent to submit an undertaking to that effect along with addendum to EIA report (as mentioned earlier).*

The project proponent submitted the above documents to the Ministry. The Ministry desired that the Committee need to be examined the documents submitted. The matter was accordingly referred back to the Committee.

The Committee noted the observations by the Ministry. The Committee perused through the cumulative impact assessment now purportedly carried out for 15 Km radius. It was noted that the project proponent have taken into consideration seven industries (existing and proposed plants) in 15 km radius

in assessment of predicted AAQ. The resultant concentration of SO<sub>2</sub> is predicted to be maximum 69.9 µg/m<sup>3</sup> at 1.5 kms as against the standard of 80µg/m<sup>3</sup>.

The Committee also observed that the project proponent had listed out issues and action plan formulated for Angul-Talcher critically polluted industrial clusters. The project proponent also informed that there are 184 red category industries out of which 5 are existing thermal power plants.

Some major environmental issues as reported by the project proponent are regarding requirement of restoring water quality of river Brahmani and small streams flowing in the area; contamination of water bodies by hexavalent sodium dichromium from solid waste residue of a closed down Sodium Dichromate Plant; fluoride level in ground water; transportation of goods and raw materials for the industries in the area; non-treated sewage from talcher town flowing into Brahmani River; agricultural land being acquired and used for ash pond; depletion of ground water due to mining activity etc.

*The project proponent committed to adopt 'Zero Discharge' except for periodic storm discharge during monsoon season. It was also committed that the storm water discharge shall not be contaminated by coal ash stock pile, and other waste residue from stored startup oil and grease etc. The Committee noted the commitment and agreed that these shall constitute a part of specific condition for environmental clearance.*

It was also informed that the action plan requires that all thermal power plants (TPPs) to meet the standard of 50mg/m<sup>3</sup> from the ESPs emission which will be adopted by the project proponent for its proposed power plant. It was also informed that all existing thermal power plants which at present has been prescribed at 50mg/m<sup>3</sup> are being issued directions to attain 50mg/m<sup>3</sup> by the State Pollution Control Board.

It was also informed that the action plan requires that all TPPs shall adopt High Concentration Slurry Disposal (HCSD). The other features of action plan as reported include installation of real time ambient air quality; creation of Silos for 2 -3 days dry ash storage etc.

The project proponent have also submitted the required undertaking in a non-judicial stamp paper and duly signed and notarised committing to implement the conditions in the action plan formulated by the State Pollution Control Board point-wise as applicable in their case. *The Committee noted that the same is only in partial consonance with what has been desired and decided that a revised undertaking (signed and notarised) indicating action points stated by the SPCB and relevant in their case shall be submitted to the Ministry and the matter shall not be referred back to the Committee.*

*The Committee further decided that the action points for implementation may be reflected in the specific conditions in the environmental clearance also.*

*The Committee also noted that the moratorium has been lifted based on the action plan formulated by the State Pollution Control Board. That with regard the CEPI value has now come down from 82.09 to 58.25, which is now well below the level of criticality. That if implemented in true spirit the action plan, there is large scope of improvement of environmental quality of the region.*

The Committee also revisited the public hearing issues and responses and action plan for implementation suggested by the project proponent. The issues raised were regarding implementation of measures/information contained in the EIA report; air pollution in Tentuli and measures required; polluting environment unfit for habitation; demand for civic amenities such as roads, power, water supply etc; adequate compensation for land losers; neighbouring power plants track record of environment protection very poor and same should not happen; likely discharge of waste water to nearby stream (Nadira river)likely leading to water pollution; EIA not covers proposed area and details of villagers to be displaced; area already a critically polluted area hence existing need to be first mitigated and then only new project can be considered; fly ash disposal by NTPC and NALCO nearby a huge hazard and similar scene should not be repeated; plan for peripheral development absent in EIA; fly ash an issue in the area; rehabilitation issue to be adequately addressed; proposed project not following guidelines of environment etc.

The Committee while deliberating the issues raised in the public hearing in the 54<sup>th</sup> meeting had noted that people are aggrieved with the existing management particularly of fly ash disposal by neighbouring power plants like NTPC, Nalco etc. and observed that the project proponent need to do an extra mile and ensure that utilisation of fly ash shall be 100% **from day one of the operation of the plant** and accordingly plan their management of fly ash. The Committee had also noted in the said 54<sup>th</sup> meeting that the social issues raised such as compensation, rehabilitation and control of pollution mitigation measures seem to be adequate and shall be implemented in true spirit as committed in their presentation and clarification provided. *Accordingly the Committee had advised the project proponent to submit an undertaking to that effect along with addendum to EIA report.*

The Committee noted that the undertaking submitted has committed that the project proponent have earmarked Rs 41.25 Crores as one time capital investment for CSR programme. It was also noted that Rs 6.37 crores per annum as recurring expenses for maintenance of CSR programme has been committed.

*In view of the observations and assessment made above, the Committee upheld its earlier recommendation for environmental clearance of the proposed power project made in the 54<sup>th</sup> Meeting held during August 6-7, 2012.*

**2.18 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.**

The proposal was considered for environmental clearance in the 52<sup>nd</sup> Meeting held during July 2-3, 2012 and the Committee had recommended environmental clearance subject to specific conditions.

*While recommending environmental clearance the Committee in the said 52<sup>nd</sup> Meeting had desired that the project proponent needs to submit the following:*

- i) Documents to the Ministry to establish 100% coal availability for the 1x660 MW unit.
- ii) Implementation programme and schedule for retrofitting/ installation for ESPs of the old units to control particulate emission below 50 mg/Nm<sup>3</sup>.
- iii) Action plan for sound rehabilitation and closure of abandoned ash pond ensuring ecological restoration.
- iv) Response to issues raised by MP on environmental impact associated with the development of the Bhusawal Thermal Power Plant (notably fishery issue).
- v) 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) 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 Ministry has decided that the clarification / information sought as above need to be examined by the Committee. Accordingly the proposal was referred back to the Committee.

The Committee noted the observations by the Ministry. The clarification point-wise sought was deliberated.

The Managing Director of M/s MAHAGENCO along with his technical team was also present.

On the issue of coal availability for 660 MW, Managing Director of M/s MAHAGENCO informed that as stated earlier, LoA for 1.0 MTPA is available and remaining coal requirement will be obtained from other units of M/s MAHAGENCO which are being shut down. That the Bhusawal TPS is linked with Machakata Coal Block.

The Committee also perused the submissions submitted by M/s MAHAGENCO to the Ministry and point wise clarifications made were presented.

*Based on the clarifications submitted and presentation made, the Committee upheld its recommendation for environmental clearance for the power project made in the 52<sup>nd</sup> Meeting held during July 2-3, 2012.*

*The Committee also decided that a sub-group (to be decided at a later stage) may visit the thermal power stations of M/s MAHAGENCO at Bhusawal, Koradi and Chandrapur to oversee the ash handling management system and a report submitted.*

### **2.19 2x250 MW Coal Based Captive Thermal Power Plant of M/s NALCO, in District Angul, in Orissa – reg.**

The proposal was considered for prescribing Terms of Reference (TOR) in the 52<sup>nd</sup> Meeting held during July 2-3, 2012 and the Committee had recommended TOR.

*However, while processing the file for approval of TOR it was noted that the minutes of the meeting with respect to this item inadvertently mentions the following:*

*“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”.*

The above observation of the Committee seem to indicate that the recommendation mentioned in the Sub-groups report need to be first complied with before TOR is prescribed, which was not the case. Accordingly it was decided in the Ministry that a clear view of the Committee shall be taken.

The matter was accordingly placed before the Committee.

The Committee noted that the language in the minutes is flawed and should have been read as under:

*“The Committee accepted the report of the Sub-Group and recommendation TOR for the proposed expansion. However the TOR shall contain a specific point that the project proponent shall fulfill / submit compliance to the point-wise observation of the report of the Sub-group”.*

*The Committee further decided that a specific TOR point shall now be added as follows:*

- *The project proponent shall submit point-wise compliance to the action plan formulated for Angul –Talcher critically polluted area by the State Pollution Control Board for along with its EIA/EMP Report.*

Accordingly the matter was disposed of.

#### **2.20.1 Discussion on social and environmental aspects of issues associated with submergence of land for barrage for supply of water for TPP – requirement of EC or otherwise – reg.**

The matter could not be discussed as the Committee felt that substantive issues and reports need to be examined and circulated in advance for perusal of the members.

#### **2.20.2 Discussion on report of Independent Fact Finding Team on UMP of M/s Coastal Gujarat Power Ltd. at Mundra in Gujarat – reg.**

The report of the Independent Fact Finding Team on UMP of M/s Coastal Gujarat Power Ltd. at Mundra in Gujarat circulated in advance to the members for their perusal was placed before the Committee.

The Committee was also informed that the Ministry have sent a copy to the Regional Office of the Ministry and requested that a site inspection be carried out and submit a report. That the Ministry have also sought comments of the M/s Coastal Gujarat Power Ltd. which has been received but observed to be only a general comment with no specific rebuttal of the findings of the aforementioned report or explanation on the issues raised.

The Committee decided that in the absence of a point-wise clarification from M/s Coastal Gujarat Power Ltd. the discussion would be incomplete. Accordingly the matter was deferred.

## **2.21 Presentation by Prayas Energy Group on large scale expansion and subsequent operation of thermal generation capacity- issues and challenges.**

A presentation was made by Prayas Energy Group on the topic 'Large scale expansion and subsequent operation of thermal generation capacity- issues and challenges'.

Representative of Prayas Energy Group informed that as per information compiled by them, the Ministry of Environment & Forests have accorded environmental clearances to a large number of coal and gas based power plants whose capacities totals about 192,913 MW. It was also stated that about 508,907 MW generation capacity are at various stages in the environmental cycle i.e. either they are awaiting environmental clearance or granted TOR and or awaiting TOR.

It was emphasized that the above information translates that around 701,820 MW capacity of coal and gas based thermal power plants are waiting to be set up in the coming years. That out of this coal based TPP comprises about 84% of those in pipeline and that even in this case, many of the projects will be geographically concentrated in a few areas only. That the generation capacity of all these TPPs in pipeline are 6 times the existing thermal capacity (113,500 MW); 7 times the proposed total addition (not just thermal) in 12<sup>th</sup> Plan (100,000 MW) and 3 times the total thermal capacity addition needed by year 2032 accordingly to the Planning Commission's IEP's High Efficiency, High Renewable Scenario) (230,000 MW).

It was also pointed out that many TPPs are still coming up in critically polluted areas as under:

<b>Critically Polluted Areas (As per MoEF Classification)</b>	<b>Proposed Capacity Addition in MWs in the District</b>
Angul, Orissa	18,000
Bharuch, Gujarat	16,000
Singrauli, M.P.	15,000
Cuddalore, Tamil Nadu	10,000
Jharsuguda, Orissa	9,000
Chandrapur, Maharashtra	8,000



Korba, Chhatisgadh	7,500
Visakhapatnam, A.P.	4,500

It was also emphasized that the projects in pipeline are likely to have severe social and environmental impacts. That in the existing system of appraisal and approval of developmental projects including thermal power plants, social cost benefit analysis is not being carried out but concentrated on financial cost benefit analysis. It was also stated that it is extremely rare for a thermal power plant to be denied environmental clearance.

On the issue of ash disposal, it was stated that even though MoEF notification mandates 100% ash utilization in 4 years, the questions remain about capacity and preparedness in the cement, construction and other sectors to ensure the full utilisation of this ash and of MoEF to monitor it effectively remains unaddressed. That meanwhile, ash disposal in ponds or dumps continues to create serious pollution and health problems for local communities. That the other pollutants (like Mercury) are likely to be a concern, especially in areas with high concentration of thermal power plants.

Over 70% of ECs granted TPPs are located inland and the need to watch for potential conflicts of competing sources of water, over-allocation of water etc. are concerns which are being faced and will only multiply. Therefore the need for some basins study for water sources such as Wainganga, Wardha, Irai, Mahanadi, Brahmani are needed.

It was also stated that the proposed capacity addition seems to have little linkage with the needs of the power sector on the parameters as under:

- Sub-optimal allocation of resources like land, water, fuel, finances
- Optimal transmission planning affected
- Excess capacity will not serve “public purpose”, so use of Land Acquisition Act for such projects not justified
- High social and environmental impacts, especially cumulative impacts of TPPs in clusters.

The question therefore whether market can weed out excess and inefficient capacity and even if it does, it could be littered with incomplete projects - stranded assets of plants and transmission; displaced communities; changes in land titles etc. need a conscious decision. That the cost of weeding out may be borne by local communities and common people. That the possibility of fuel, land and water allocation for projects being diverted for other uses or for speculative activities (private gain by capturing difference between high market

value of resources and virtually a pittance paid to gain the control) cannot be ruled out. It was therefore expressed that governance need to be set right and interventions are required which may be by way of setting criteria such as:

- Assessing and addressing impacts of existing and operational plants
- Minimizing cost to the power sector, social and environmental impacts (of new and existing plants)
- Checking regional concentration, making optimal use of water, land and other resources.

Prayas Energy Group also suggested that a comprehensive Regional Carrying Capacity and Cumulative Impact Studies be first carried out and water and fuel allocation be rationalized. That water allocation may be made only through a proper, participatory River Basin Plan is done and no allocation shall be made unless public purpose is established.

It was further suggested that immediate moratorium on any further environmental clearances to thermal power plants be imposed pending the above. That considering the capacity already granted environmental clearance and/or under construction, such a moratorium and review can be carried out without jeopardizing the power needs of the country in the next decade.

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

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**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, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of fill material required; its source, transportation etc. shall be submitted.
  - xiii) A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land to be acquired is developed alternatively and details plan shall be submitted.
  - xiv) A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on economically feasible mineable mineral deposit shall be submitted.
  - xv) Details of 100% fly ash utilization plan as per latest fly ash Utilization Notification of GOI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash.
  - xvi) Water requirement, calculated as per norms stipulated by CEA from time to time, shall be submitted along with water balance diagram. Details of water balance calculated shall take into account reuse and re-circulation of effluents which shall be explicitly specified.
  - xvii) Water body/nallah (if any) passing across the site should not be disturbed as far as possible. In case any nallah / drain has to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of diversion required shall be furnished which shall be duly approved by the concerned department.
  - xviii) It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc.
  - xix) Hydro-geological study of the area shall be carried out through an institute/ 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-conducive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two years shall be conducted with an excellent follow up plan of action wherever required.
- xxxv) One complete season site specific meteorological and AAQ data (except monsoon season) as per MoEF Notification dated 16.11.2009 shall be collected and the dates of monitoring recorded. The parameters to be covered for AAQ shall include SPM, RSPM (PM10, PM2.5), SO<sub>2</sub>, NO<sub>x</sub>, Hg and O<sub>3</sub> (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.

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**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.

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