

MINUTES OF THE 74TH MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON ENVIRONMENTAL IMPACT ASSESSMENT OF THERMAL POWER AND COAL MINE PROJECTS

The 74th Meeting of the reconstituted Expert Appraisal Committee (Thermal) was held during **May 20-21, 2013** at SCOPE Convention Centre, Lodi Estate, New Delhi. The members present were:

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

Member Secretary, CPCB; Dr. CBS Dutt, Dr. K.K.S. Bhatia, Dr. S.D. Attri 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:

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

The minutes of the 72nd Meeting held during April 22-23, 2013 were confirmed with some minor corrections at few items particularly at Item No. 6 of M/s Essar Power (Jharkhand) Ltd. It was noted that there seem to be some typographical error with regard to 1x600 MW for which environmental clearance was accorded on 8.5 2009, which may be suitably amended.

The Committee was also informed of a representation received from M/s CESC Ltd. on the issues of validity of TOR as recommended in the last meeting. Perusal of the representation, the Committee noted that as far as data older than three years is concerned, since the project proponent has reportedly made additional AAQ data collection during December 2009-February 2010, and had gone for public hearing thereafter with the data for the period, the validity of data can be accepted. However, the requisite parameters of PM_{2.5} and PM₁₀ have not been carried out which need a revision. The Committee upheld its earlier recommendations made in the last meeting with respect to validity of TOR and decided that the issue will be settled at the Ministry.

The Committee was also informed of an inadvertent error in Item No. 2.6 pertaining to M/s Essar Power (Jharkhand) Ltd. near Chandwa, Dist. Latehar, in Jharkhand- reg. Change in Source of Coal.

It was informed that the paragraph read as “M/s Essar Power Jharkhand Ltd. has also requested according environmental clearance for its Unit-II of Phase-I i.e 1x600 MW as which was earlier recommended for EC in October, 2010 by the EAC. They have also stated that the imported coal from Indonesia/Australia/South Africa is for an interim period till captive coal block becomes operational”.

The request was for according environmental clearance for Unit-II i.e 600 MW of Phase-I and for Unit-III (1x600 MW) for which appraisal was carried out in October 2010 but recommendation was made by the Committee only for 1x600 MW due to shortage of coal to be then obtained from Chakla Coal Block.

The Committee decided that the corrections can be incorporated while preparing the minutes of this meeting as the item is being taken up at Sl.No. 2.21.

2.1 4000 MW Imported Coal Based UMPP of M/s Coastal Tamil Nadu Power Ltd. at villages Cheyyur Block B, Chitharkadu, Gangadevankupam, Panaiyur, Vedal, and Vilangadu, TalukCheyyur, District Kancheepuram, in Tamil Nadu- reg. Environmental Clearance.

The proposal was earlier considered in the 62nd, 66th and 72nd Meeting held during December 4, 2012, February 5-6, 2103 and April 22-23, 2013 respectively, but was deferred due to shortcomings in the reports/documents submitted.

In the 62nd meeting the project proponent gave a presentation and had provided the following information:

The proposal is for setting up of 4000 MW Imported Coal Based Ultra Mega Power Project at villages Cheyyur Block B, Chitharkadu, Gangadevankupam, Panaiyur, Vedal, and Vilangadu, TalukCheyyur, District Kancheepuram, in Tamil Nadu. Land requirement will be 416.45 ha, out of which 342.62 ha is agriculture land, 9.83 ha is forest land and 64 ha is Poromboke and barren govt. land. Stage-I forestry clearance has been obtained. The co-ordinates of the site are located within Latitude 12°18'15.70" N to 12°19'15.38" N and Longitude 79°57'58.33"E to 79°59'17.91" E. Imported Coal requirement will be 12-14 MPTA at 90 %PLF. Ash and Sulphur contents in coal will be 10-12% and 0.8%. The GCV of coal will be within 5000-6000 Kcal/Kg. Water requirement of 30,575 cum/hr will be sourced from Bay of Bengal through a pipeline at a distance of about 4 to 5 km from project site. Ash dyke area will be 90.36 ha and the co-ordinates of the ash dyke are located within Latitude 12°18'15.70" N to 12°19'15.38" N and Longitude 79°57'58.33"E to 79°59'17.91" E. Coal would be transferred from the Port to the power plant site by closed conveyor system. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere

Reserves etc. within 10 km of the project site. Public Hearing was held on 30.07.2010. Cost of the project will be Rs 20,000.00 Crores.

It was also informed that 40% of the power produced will be given to Tamil Nadu State. That unit configuration may be between 660 MW to 800 MW Super-Critical. That Expression of Interest for fly ash utilization has been floated in newspaper in May, 2011 and major cement producers have been approached.

The Committee in the said 62nd Meeting noted that AAQ data was collected during the period January – March to May, 2009; August to November, 2009; and December 2009 to February, 2010. That TOR was issued on 19.03.2009.

The Committee informed the project proponent that while technical appraisal has been the primary the focus of the Committee, sometimes there are cases of oversight with regard to procedural compliance due to paucity of time. The Committee therefore decided that the project proponent should examine some of the judgments of the National Green Tribunal such as the judgment delivered on 30.05.2012 in the matter of Appeal No. 12 of 2011 viz, OssieFernandes&OrsVsMoEF&Ors, and with due diligence submit point-wise compliance with its observations with regard to the present project as applicable in their case.

The Committee also noted that not only has the marine EIA not submitted, but the project proponent was also not prepared for a presentation on the same, which is essential for assessment of impact on the biological fauna and the social impact on the fishing community, particularly traditional fishing families. The Committee therefore decided that the project proponent shall submit the marine EIA to the Ministry and the members of the EAC for their perusal. It was also decided that the project proponent shall submit detailed survey report of fishermen families in the study area and measures undertaken for their sustainable welfare.

The Committee further noted that about 193 land losers may be impacted due to the power project for which detailed R&R action plan need to have been provided which include details of population indirectly impacted due to loss of land not owned by them but were indirectly dependent on the land for sustenance.

The Committee also desired that the project proponent shall give response in writing to various issues raised in the Public Hearing and formulate Action Plan for implementation of the issues relevant along with responses made (including response to written objections received against the project).

On the issue to cumulative impact assessment, the Committee observed that on perusal of the documents available, neither in the presentation, nor in the EIA Report, there is no indication of the predicted cumulative impact on ambient air, water regime (marine and surface and ground) and soil to have

been carried out. It was therefore decided that cumulative impact assessment of these parameters due to proposed UMPP and other activities in the study area shall be submitted as an addendum to the EIA.

On the issue whether ISC3 1993 Dispersion Model reportedly used for prediction of ambient AAQ is appropriate or not - while some members felt that as pointed out in the previous day while deliberating the item no.1 i.e. 1320 MW Coal based thermal power plant of M/s Sindya Power Generating Company Pvt. Ltd. at villages Perunthottam&Agaraperunthottam, SirkazhiTaluk, District Nagapattinum in Tamil Nadu, the Model adopted by the Project Proponent may not be the appropriate Model for a coastal project of such a nature. The Committee therefore decided that the project proponent shall submit justifications documents to establish that the Model used for prediction of AAQ is appropriate or otherwise rework the AAQ impact assessment and submit it as an addendum to the EIA.

The Committee was also of the opinion that the project proponent does not seem to have fully complied with the requirements of information / study to be carried out as given in the TOR prescribed for the project. The Committee therefore decided that the project proponent shall fulfill the requirements of TOR point-wise and presentation shall be made TOR point-wise during deliberations / appraisal of the project. Accordingly the proposal was deferred for consideration at a later date.

On submission of clarifications, the matter was again placed for re-consideration of the Committee in the 66th Meeting held during February 5-6, 2103.

The Committee in the 66th meeting had observed that the discussions made in the last meeting seem to been still unaddressed and the project proponent seem to be in a hurry to push through without having complied with what has been sought in the last deliberation. That the EIA report seem oblivious of the impact due to the setting up of the UMPP on a large lagoon which is located close by the UMPP site. The lagoon is reportedly a home to a large no. of migratory birds. That while considering the likely impact on water regime in the area, the project proponent seem to have not taken into consideration the impact due to activities associated with the UMPP to the lagoon. It was therefore observed that the project proponent while assessing the impact on the lagoon shall study impact i.e. biological flora and fauna of the lagoon due to setting up of the UMPP and on the social impact of habitations dependent on the lagoon either by fishing or any other activity.

In addition, it was agreed that the project proponent shall prepare and submit primary data of migratory birds and also prepare a conservation plan (with in-built mechanism of monitoring for appropriate implementation) for migratory birds.

On the issue whether grazing land is proposed to be acquired for the UMPP site, the project proponent could not submit detailed land use of the UMPP site.

The Committee therefore decided that land use breakup of the UMPP site as per existing Revenue Records shall be placed before the Committee for its perusal. It was also decided that in case grazing land is being acquired the project proponent shall first identify and develop alternative grazing land for handing over to the community in the area.

The Committee observed that fishermen are traditionally present in the coastal areas and the documents submitted by the project proponent in its present form seem to have missed out on the issue. The Committee therefore decided that the project proponent shall list out villages with fishing community in the study area and shall make an assessment of the impact due to setting up of the UMPP on the livelihood of the fishing community. That while doing so the project proponent shall provide details on traditional fishing and commercial fishing as the case may be and the number of families likely to be affected.

On the issue whether appropriate model has been used for assessment of AAQ, the Committee decided that the project proponent shall also submit AAQ predictions based on coastal fumigation model in addition to the model presently adopted. While doing so, it was observed that, the project proponent shall submit comparative assessments of the predictions using different models shall be also submitted.

While deliberating the issues regarding brine generation in huge volume and the management action plan, the Committee noted that the project proponent needs to also explore possibility of salt manufacturing as some salt pans seem to be located in the area. It was also observed that the desalination plant shall be so designed such that it caters to supplying drinking water needs of the nearby villages in 3-5 kms of the UMPP site. It was further noted that the inlet velocity of sea water shall be so designed such that it does not exceed 0.06 m/s and the inlet is located at depth not less than preferably 10 m.

Deliberating the issues raised in the public hearing the Committee noted that a large number of issues seem to be valid which has been inadequately addressed. The Committee also noted that various representations from NGOs such as Coastal Action Network and Fishermen Groups need to be spelt out and the response and action plan for implementation with details of activities to be carried out shall be submitted. The Committee therefore decided that the project proponent shall list out issues raised, the responses made and the action plan for implementation with committed financial allocation activity wise submitted.

In view of the shortcoming noted above, the Committee had again decided that the proposal in its present form is pre-mature for consideration of environmental clearance. The proposal was accordingly deferred for reconsideration on submission of issues noted above.

In the 72nd meeting, M/s Coastal Tamil Nadu Power Ltd. submitted responses to the observations of the Committee vide its letter dated 08.04.2013, which was again taken up before the Committee for its perusal.

In reply to the Committee's observation on impact to the lagoon due to the UMPP, the project proponent stated that a study of the Cheyyur lagoon has been carried out by Centre for Advanced Study in Marine Biology (CAS), Annamalai University, Annamalai Nagar, Tamil Nadu and the ecological characteristics of Odiyur Lake known as Cheyyur lagoon was undertaken during February, 2013. That representative samples were collected at 16 different locations covering fresh water realm to marine zone. That it was observed that the entire watershed of the lake remains pristine, unpolluted and healthy in nature. That however, this water body does not support any endemic species or invasive species. Also, migratory birds are found to be negligible in this lagoon. Being shallow, this water body is predominantly represented by flora and fauna typical of tropical coastal ecosystems. The livelihood option for the community adjacent to the lake depends primarily from the bio-resources of this lake. Therefore, any developmental activities should have adequate conservation measures besides developing additional / alternative livelihood options. That the CSR Plan for the area encompasses many activities for improvement of quality of life of various habitants in the study area. That further, adequate measures have been taken to ensure negligible runoff of flyash from the Main Plant into the Cheyyur Lake during monsoon.

In reply to the particular issue of fishermen community likely to be affected due to the power project, the project proponent provided the following explanation which is extracted as under:

“Since Tamil Nadu Fisheries Department has data covering entire district and not specific to any village, fisheries data within 10Km radius of the project area has been collected through direct interview with the fishermen of Kadappakkam, Mudaliyarkuppam, Thazrudhalikuppam, PanaiyurPeriyakuppam&PanaiyurChinnakuppam (which are the 5 villages located in the study area) in the presence of some village heads like Mr. Balasubramaniam, Mr. Kathavarayan, Mr. Marimuthu, Mr. Mathiarasan etc.; fishermen belong to six fishery societies (Alambara Fisherman Society, Utthukottai Fisherman Society, Thandumariamman Fisherman Society, Kadappakkam Fisherman Society, Thazrudhalikuppam Fisherman Society, PanayurPeriyakuppam Fisherman Society &PanaiyurChinnakuppam Fisherman Society).

The fishermen operate about 420 number of FRP boats of various outboard engine capacities in addition to 5 trawlers. These crafts were utilized for using different fishing gears like Trawl nets, gill nets, cast nets, hooks & line fishing. The gears like trawl nets of 5 numbers, Gillnets (7 types to catch specific variety of fishes) of 540 nos. are used in this area. The trawlers operate in deeper waters beyond 5Km from which small boats are used to carry the fish to the shore.

The total fish catch total to a maximum of 50 tonnes per month from these villages. Fish species include Groupers, Prawns, Perches, Seer fish, Sharks, Flying fish, silverbellies, Ribbon fish, catfishes, crabs were the contributors. Among these villages around 2000 members are dependent on fishing and 1500 dependent on allied fishing activities like transporting catches to market, auctioning, drying, etc.

It needs to be noted from the cumulative monthly catch is negligible and localized. The fish is primarily used for local consumption unlike other predominant fishing areas along Tamil Nadu coast. The fish species are general in nature and are NOT endemic or rare species.

However, not a single fisherman family will be displaced or affected due to the project. There is no activity in the port that will affect the fish population.

The breakwaters would be of detached type and enclose an area of 1.5 Sq. Km only. The approach trestle is provided on piles and therefore shall not interfere with boat movement beneath. There shall be vessel movement in the navigational channel guided by pilots and therefore any restriction to fishing boat movement would be only during vessel movement. It is also found that breakwaters provide tranquil environment for breeding and nurseries of juveniles of fishes due to the large spaces between the accropode units.

The brine plus cooling water shall be discharged from a submerged outfall in 14m water depths. The entire discharge line shall be embedded within the seabed and therefore shall not interfere with trawl nets. The system is designed to enable meeting the ambient salinity and temperature levels within 500m of the outfall. The large ocean dilution capacity shall aid in this.

An elaborate plan has been designed for the two fishing villages located adjacent to the port area in the CSR plan”.

Regarding grazing land (common land) the project proponent stated that out of total land requirement of 449.89 ha, about 18.64 ha of grazing land has to be acquired in Vilangadu and Gangadevankuppam villages. That in lieu of 18.64 ha of grazing land being acquired for Cheyyur UMPP, an alternate land of 18.64 ha has already been identified at Kokrathangal and Poongunam villages and approved by the Animal Husbandry Deptt. and Govt. of Tamil Nadu. That the project proponent has already been paid reclamation charges of Rs. 2,79,600/- to concerned Panchayat to develop the alternate land into grazing land.

The Committee was informed of a representation received from an organization called *EIA resource & Response Centre*, bearing no registration number and address, on the possible impact due to setting up of the UMPP.

The Committee perused the contents and observed that the same are mostly theoretical materials widely available in the internet and not substantiated with credible factual data. It was later learnt through another letter from the said organization that the organization is based at N-71, Lower Ground Floor, Greater Kailash-I, New Delhi – 110 048.

The said organization in its other letter have submitted that the Ministry is not complying with the order of the Central Information Commission, wherein it is required to place in public domain all relevant information of a project such as Form-I, EIA Report etc. It was clarified that during the past fortnight NIC is carrying out changes in its programme and hence affecting the uploading of information, which NIC representative at the Ministry had informed that the same will be sorted out shortly. The Committee was also informed of the inability to upload a number of CD received from the project proponent on account of technical issues in the format used and furnished. That despite these shortcomings and limited resources both in terms of staff and infrastructure available, there are hardly any major deviations from compliance of CIC order.

The Committee also discussed a representation dated 15.04.2013, received from one Shri M. Marimuthu, representing fishermen in the villages of PanaiyurPeriakuppam. It was observed that the village fishermen community are aggrieved on account of possible acquisition of common lands used by these fishing villages and the area proposed for the port which are presently used for the fishermen boats to be stationed, dry the fishing nets and dry fish catch.

The Committee decided that a copy of the representation be given to the project proponent for submitting its response.

The project proponent also made an examination with some of the judgments of the National Green Tribunal and the position w.r.t. to the UMPP.

The Committee also noted the responses made to the issues raised in the public hearing and the action plan formulated for compliance of the relevant issues. The issues raised and the responses made are tabulated as under:

S. No.	Issues raised	Responses made
1	<p>Thiru. Maduraiveeran, Ex Panchayat President, Chitharkadu.</p> <p>We are affected due to acquisition of land which is essential for our livelihood. Compensation for the land acquisition to be fixed as per</p>	<p>The Resettlement and Rehabilitation Plan for the project affected families of the proposed thermal power project shall be formulated as per the provisions</p>

S. No.	Issues raised	Responses made
	<p>Market rate instead of Government Guideline value, for which the higher official who take necessary action in this record 90% of the people depending upon agriculture and only 10% educated and being unemployed. Hence employment has to be given to be unemployed educated youths and to provide basic amenities for our livelihood otherwise we will oppose the project.</p>	<p>and/or guidelines as given in the National Rehabilitation and Resettlement Policy, 2007(NRRP – 2007) formulated by Ministry of Rural Development, Department of Land Resources, Government of India.</p> <p>Compensation for land under clause 2.3.3 and Employment under clause 2.3.1 shall be provided as per the rehabilitation and resettlement policy framework proposed for the project</p>
2	<p>Thiru. Sekhar, Edalkazhinadu</p> <p>We learnt that it is a prestigious thermal power project; hence we hope that all the measures will be implemented as per the project report falling which this area will become graveyard, further alternate land to be allotted for the land acquired for the project. Employment to be given to educated as well as qualified persons in the project area.</p>	<p>The site for the proposed Thermal Power Station (TPS) has been selected by Central Electricity Authority (CEA) based on the following criteria:</p> <ul style="list-style-type: none"> i) Availability of suitable and adequate land with least R & R issues ii) Fuel availability and its transportation from the source of availability iii) Water availability within a reasonable distance iv) Road and Railway access v) Acceptability from the Environmental consideration vi) Availability of infrastructural facilities vii) Rehabilitation and Resettlement issues (R&R) viii) Proximity to Grid for Evacuation of Power <p>Compensation for land under clause 2.3.3 and Employment under clause 2.3.1 shall be provided as per the rehabilitation and resettlement policy framework proposed for the project.</p>
3	Thiru. D. Babu, Chairman	

S. No.	Issues raised	Responses made
	<p>Cheyur Village Panchayat</p> <p>We welcome the establishment of the 4000 MW Ultra Mega Power Project at Cheyyur. Since our village is not located either in GST Road or in East Coast Road, no development has been achieved so far. Further I register that this project will lead further development in Cheyyur area as well as overcome the Power deficit in the state in future.</p>	<p>Welcomed the project in the area and expressed hope that it will lead to overall development of the area as well as the state.</p>
4	<p>Thiru. PonRamlingam, Devarajanpuram</p> <p>This National Power Project will overcome the power deficit and lead the growth of many industries in the state. Hence I welcome the project.</p>	<p>Welcomed the project in the area and expressed hope that it will lead to overall development of the area as well as the state.</p> <p>Welcomed the project in the area and expressed hope that it will lead to overall improvement in the power situation.</p>
5	<p>Thiru. M. Jeeva, Coastal Action Network, Chennai – 15</p> <p>We condemn the conduct of village special Gram Sabha meeting in this village during the conduct of public hearing meeting for the project on the same day. Further conduct of public hearing is not correct since the enquiry on land acquisition for the project is under progress and also stated the following.</p> <ol style="list-style-type: none"> 1) Saving of 30% Electricity loss during transmission by TNEB could avoid the setting up of such thermal power project 2) Solar energy may be utilized to generate electricity instead of 	<p>Condemned the conduct of public hearing on the same day of special Gramsabha meeting. The response to the points raised are given as below:</p> <ol style="list-style-type: none"> 4) About 0.39 million tonne per annum of fly ash is to be generated. Fly Ash will be collected at various Hoppers would be conveyed pneumatically to Fly Ash Storage silos. The air would be vented out to atmosphere after passing the same through bag filters to mitigate the Environmental Pollution. The dry Fly Ash collected in Fly Ash Silos would be either disposed off in dry

S. No.	Issues raised	Responses made
	<p>relying on thermal energy.</p> <p>3) Setting up of thermal power plant was technically outdated in the European and American Countries. Hence establishment of such thermal power plants in our country is incorrect.</p> <p>4) During rainy season, ash generated will be washed away and affect the agricultural lands nearby.</p> <p>5) Discharge of waste water into sea will affect the fishing wealth.</p> <p>6) This project will affect the salt pan, fishing, agriculture activities, hence the project should be dropped.</p>	<p>or in wet form.</p> <p>The ash would be transported to the ash pond through ash slurry pipelines. The area identified for Ash Disposal is about 400 Acres which can accommodate around 24 million cu.m of Ash. This quantity can be easily accommodated in the proposed Ash Dyke with height lesser than CEA norms for Coastal Thermal Power Stations.100% utilization of Fly Ash is envisaged within 2-10 years in phases.</p> <p>5) Impact assessment in the 10 Km vicinity of the power plant is estimated and no eco-sensitive zones are found in this region.</p>
6	<p>Thiru. S. Perumal, Pondur</p> <p>Ash generated from the project will affect the agriculture and the environment. Further there are no employment opportunities to the local people. Hence I oppose the project.</p>	<p>Ash generated will be properly collected and disposed. Hence, apprehension about damage to agriculture crops due to ash generated by the project is not envisaged. Employment under clause 2.3.1 shall be provided as per the rehabilitation and resettlement policy framework proposed for the project.</p>
7	<p>Thiru. Kathivel, President, Amanthankarnai Village Panchayat</p> <p>The project affects the bird's life in the Cheyyur marsh area. The project will have an impact on water, air and aquatic system. Further acquisition of grazing land will affect the livestock population and questioned that whether one third of the power generated from this project will be supplied to this area?</p>	<p>Impact assessment in the 10 km vicinity of the power plant is assessed and no eco-sensitive zones are found in this region. Hence, there will be no affect be on avi-fauna in the Cheyyur marsh area and grazing land. As a part of the project, no grazing land is to be acquired.</p>

S. No.	Issues raised	Responses made
	Since the project will degrade the environment, I oppose the project.	
8	<p>Dr. R.S. Paul Mohan, Kanniyakumari</p> <p>Sulphurdioxide emission from the Thermal Power Plant will lead to acid rain, which will affect the agricultural and salt pan activities. Hence the project to be dropped.</p>	<p>As per the norms of minimum stack height for 500 MW units would be 275 metres. A single multi flue stack of 275 m would meet the norms for the power plant has been proposed for effective dispersal of sulphur dioxide. A detailed air quality modelling study has been done and the increase in SO₂ is not expected to lead to acid rain.</p>
9	<p>Thiru. Ponnivalavan, Cheyyur</p> <p>I welcome the project in this area, Ash generated from the project should be handled safely and disposed. Further, employment should be given to each family in this area accounting 60% of the total employment and rest 40% to be given to the public of Kancheepuram District.</p>	<p>Welcomed the project in this area, Ash generated from the project shall be safely handled. The same is described in section 2.13 of Chapter 2 of the EIA report. Employment under clause 2.3.1 shall be provided as per the rehabilitation and resettlement policy framework proposed for the project.</p>
10	<p>Thiru. Dakshinamoorthy, AIADMK Agriculture Association, Devaraiapuram</p> <p>For the sake of power requirement giving false statistics on land acquisition is incorrect. Land acquired for the project should be compensated as per market rate and to be settled in onetime payment. Further insisted to generate hydro power and not relying on thermal energy. Then questioned that whether proper employment will be given to the local public who have given land for the project.</p>	<p>The data on land to be acquired is as per the CEA norms. No false statistics for land acquisition have been given.</p> <p>The Resettlement and Rehabilitation Plan for the project affected families of the proposed thermal power project shall be formulated as per the provisions and/or guidelines as given in the National Rehabilitation and Resettlement Policy, 2007(NRRP – 2007) formulated by Ministry of Rural Development, Department of Land Resources, Government of India. Hydropower generation is not possible in the</p>

S. No.	Issues raised	Responses made
		<p>area, especially 4000 MW, due to slope, topographical, hydraulic head and water availability constraints. Compensation for land under clause 2.3.3 and Employment under clause 2.3.1 shall be provided as per the rehabilitation and resettlement policy framework proposed for the project.</p>
11	<p>Thiru. Raja Devarajapuram, Cheyyur We welcome this project in this area. Employment should be given to Land owners and salt pan workers. The project should be implemented without any impact to environment.</p>	<p>Welcomes the project in this area. A detailed Environmental Management Plan has been formulated to mitigate the adverse impacts on Environment. A detailed Environmental monitoring Programme has been suggested for implementation during project operation phase to foresee any adverse impacts as well. Employment under clause 2.3.1 shall be provided as per the rehabilitation and resettlement policy framework proposed for the project.</p>
12	<p>Thiru. K. Raguraman, Cheyyur Welcomed the project. Employment opportunities are to be given to the educated youths. Fisherman community and proper compensation to be paid to the land owners. Basic amenities to be provided in this area.</p>	<p>Welcomes the project. They suggest employment opportunities to the educated youths and fisherman community apart from basic amenities shall be provided as a part of R&R plan. The Resettlement and Rehabilitation Plan for the project affected families of the proposed thermal power project shall be formulated as per the provisions and/or guidelines as given in the National Rehabilitation and Resettlement Policy, 2007(NRRP – 2007) formulated by Ministry of Rural Development, Department of Land Resources, Government of India. Compensation for land under clause 2.3.3 and Employment under clause</p>

S. No.	Issues raised	Responses made
		2.3.1 shall be provided as per the rehabilitation and resettlement policy framework proposed for the project.
13	<p>Thiru. Tamilini, chitharkadu</p> <p>We object to the project, since the Government is acquiring even small pieces of land from the dalit people for this project.</p>	The project land is to be acquired on a contiguous basis. Specifically small pieces cannot be either deliberately left or acquired.
14	<p>Thiru. Moorthy, Cheyyur</p> <p>Proper employment has to be given to the land owners, educated youths and to the salt pan workers.</p>	Employment under clause 2.3.1 shall be provided as per the rehabilitation and resettlement policy framework proposed for the project.
15	<p>Thiru. V.Veeran, VadaCheyyur</p> <p>Salt Pan Activity will be ruined due to the project.</p>	The effluent generated from various sources in the power plant will be suitably treated prior to disposal. There is no salt pan in and around the main plant area. The nearest salt pan is the Cheyyur. Salt pan located in village Cheyyur at a distance of about 5 to 6 km from the main plant site. Thus, no adverse impact on salt pan activities is envisaged.
16	<p>Tmt. Josphine, Devarajapuram</p> <p>Agriculture, Salt pan, fishing activity will be affected due to this project. Cheyyur area will become another Bhopal when the project is implemented.</p>	The effluent generated from various sources in the power plant will be suitably treated prior to disposal. As mentioned earlier in response to point no. 16, no adverse impacts on salt pan are envisaged. A detailed Disaster Management Plan has been formulated. Apprehension that the project will lead to another Bhopal

S. No.	Issues raised	Responses made
		is unfounded.
17	<p>Tmt. Dillibai, Women Agriculture Union</p> <p>Ash generated from this project will affect the agricultural activity and the discharge of hot water into the sea will affect fishing wealth and hence the project may be dropped.</p>	<p>Ash generated will be properly collected and stored. The Fly Ash is proposed to be collected in Silos and most of it would be utilized/ marketed in dry form. The Fly Ash which cannot be utilized/ marketed would be disposed off to the Ash Dump area in slurry form or disposed by Trucks. The Fly Ash generated in Thermal Power Stations has commercial value because of its usage in Cement and Construction Industries. Fly ash generated from the proposed Power Plant would be commercially utilized to the extent possible.</p> <p>Agriculture area is not expected to be affected as ash generated shall be appropriately disposed in the designated ash disposal area.</p>
18	<p>Thiru. Thiruvankadam, Devarajapuram</p> <p>Welcomed the project, as it will develop this backward area and generate employment for the poor.</p>	<p>Welcomes the project, as it will develop this backward area and generate employment for the poor.</p>
19	<p>Thiru. Chitrarasu, Palaiyur</p> <p>Large extent of land is being acquired for this project in Thannerpanthai. Land should be acquired atleast 500 meter away from the habitation area. Proper compensation has to be given to the land owners. Providing basic amenities like Road, Medical facility, drinking water supply should be done for agriculture community.</p>	<p>The land is being acquired is as per CEA norms for thermal power stations. A distance of atleast 500 meter from the habitation area shall be maintained. The Resettlement and Rehabilitation Plan for the project affected families shall be as per the provisions and/or guidelines as given in the National Rehabilitation and Resettlement Policy, 2007 (NRRP – 2007).Basic amenities have been suggested as a</p>

S. No.	Issues raised	Responses made
		part of R&R plan outlined in the EIA report.
20	<p>Thiru. Murali, Cheyyur</p> <p>The project will be successful one if they provide basic amenities like health, infrastructure, education, water supply facilities for this area.</p>	Basic amenities have been suggested as a part of R&R plan outlined in the EIA report
21	<p>Tmt. Jesuratinam, Coastal Action Network</p> <p>Project Proponent has furnished false data regarding water usage and meteorological data in the Rapid Environmental Impact Assessment. Further EIA is silent on coal handling and port area for import of coal. Hence environmental clearance should not be given to this project and the project may be dropped.</p>	The project proponent has not furnished any false data regarding water usage and meteorological data in the Rapid Environmental Impact Assessment. The data has been collected through detailed scientific studies. The EIA Report has been prepared as per the standard procedures with detailed primary and secondary data collection. The coal handling aspects has been covered in section 2.9, and 2.10 of chapter 2 in the EIA report. A separate EIA report for the port area is under preparation.
22	<p>Thiru. Arunachalam, Environmentalist</p> <p>REIA report was prepared in urgent manner without providing any scientific proof. This project will affect the environment and it is cheating the public.</p>	The REIA report has been prepared as per the standard procedures, with detailed primary and secondary data collection.
23	<p>Tmt. Saslkala, Chennai</p> <p>This project will affect the livestock wealth, fishing activities and hence we oppose the project.</p>	No major impact on livestock wealth, fishing activities is envisaged.
24	<p>Tmt. GowriKadapakkam</p>	

S. No.	Issues raised	Responses made
	<p>This project will affect fishing activities and agricultural activities in the Edaikazhinadu. Hence we oppose the project.</p>	<p>No major impact on fishing activities and agricultural activities in the Edaikazhinadu is envisaged, as effluents shall be properly treated prior to disposal.</p>
25	<p>Thiru. Gowrilingam, Injampakkam</p> <p>This project will have heavy impact on the fisherman communities and lead to sea erosion. Such sea erosion will affect Kalpakkam Nuclear Power Plant area. Hence we oppose the project.</p>	<p>No impact on sea erosion is envisaged as project does not entail any activity which can lead to soil erosion.</p>
26	<p>Tmt. Usharani</p> <p>This project will affect agricultural activities. Hence we oppose the project.</p>	<p>No major impact on agricultural activities is envisaged, as the effluent/solid waste from the Cheyyur TPS shall be properly collected, treated and disposed.</p>
27	<p>Thiru. GopiBannerjee, Pondicherry</p> <p>Ecological sensitive area was selected for locating the project. Sea water intrusion will make the agricultural land infertile. Hence the project has to be relocated. The EIA is silent on the port and coal handling activities.</p>	<p>The site has been selected by CEA as per their norms for selection of sites for power plants. Sea water intrusion is not anticipated due to the project. Coal handling is addressed in section 2.9, and 2.10 of chapter 2 in the EIA report. EIA report for port which was under preparation at the time of public hearing has now been completed.</p>
28	<p>Tmt. Gandhimathi, Coastal Action Net Work</p> <p>This project will affect the Cheyyur back water area which is enroute for the birds to Vedanthangal bird sanctuary and also cause food insecurity to the local people. REIA is silent on the coal handling, port activities and SEZ area hence we oppose the project.</p>	<p>The Vedanthangal bird sanctuary is located about 30 km form the project site. Based on detailed modeling studies for ambient air quality, no impact on the sanctuary is envisaged.</p> <p>Coal handling is addressed in</p>

S. No.	Issues raised	Responses made
		section 2.9, and 2.10 of chapter 2 in the EIA report.EIA report for port which was under preparation at the time of public hearing has now been completed.
29	<p>Tmt. Vennila, Kancheepuram</p> <p>During the execution of the project, dredging will be carried out in the sea which will have impact on the fishing community hence we oppose the project.</p>	Dredging may be required in the port area. However, adequate measures, if required will be formulated as a part of EIA report for the port. EIA report for port which was under preparation at the time of public hearing has now been completed.
30	<p>Thiru. R.K.Elango, Kancheepuram</p> <p>This project will affect the agricultural activities. Hence we oppose the project.</p>	No major impact on agricultural activities is envisaged, as the effluent/solid waste from the Cheyyur TPS shall be properly collected, treated and disposed.
31	<p>Thiru. ArungnamVinayagam</p> <p>This project will affect the salt pan activities and agricultural activities in Edaikazhinadu. Acquisition of grazing land will affect the livestock wealth. Hence I request to execute the project in Kovalam area in Chennai. Since the project is affecting the environment, we oppose the project.</p>	No major impact on agricultural activities is envisaged, as the effluent/solid waste from the Cheyyur UMPP shall be properly collected, treated and disposed. <i>The site has been selected by CEA as per their norms for selection of sites for power plants.</i>
32	<p>Thiru. Ramesh, Devarajapuram</p> <p>Welcomed the project and requested to execute the project without affecting the environment.</p>	A detailed Environmental Management Plan has been formulated to mitigate the adverse impacts on Environment. A detailed Environmental monitoring Programme has been suggested for implementation during project operation phase to foresee any

S. No.	Issues raised	Responses made
		adverse impacts as well.
33	<p>Thiru. Saravanan, Cheyyur</p> <p>We the local people welcome the project, only outsiders are objecting the project and requested to give job opportunity to local people.</p>	<p>The project is welcomed by locals whereas outsiders are objecting to the project.</p>
34	<p>Thiru. Sundaramurthy</p> <p>We welcome the project and requested to provide food, alternate shelter to make livelihood comfortable.</p>	<p>Welcomes the project</p>
35	<p>Thiru. Ramalingam, Vedal</p> <p>Adequate compensation has to be given to the land owner and while acquiring temple land, suitable alternate land has to be allotted.</p>	<p>The Resettlement and Rehabilitation Plan for the project affected families of the proposed thermal power project shall be formulated as per the provisions and/or guidelines as given in the National Rehabilitation and Resettlement Policy, 2007(NRRP – 2007). Compensation for land under clause 2.3.3 shall be provided as per the rehabilitation and resettlement policy framework proposed for the project.</p> <p>No temple is being acquired in the project area.</p>
36	<p>Thiru. Senthil, Edalkzhinadu</p> <p>Welcomed the project as it is giving employment</p>	<p>Welcomes the project as it is giving employment</p>

On the issue raised by the NGO viz. Coastal Action Network regarding Gram Sabha meeting and date of public hearing coinciding, the Committee advised the project proponent to examine the notice of Gram Sabha meeting and other details such as subject listed, venue and time, in order to establish prima

facie that people affected by the UMPP is not in a dilemma to attend which of the meetings.

The Committee observed that the action plan for implementation of relevant issues raised in the public hearing need to be separately spelt out and shall be submitted.

The Committee noted that there seem to be a channel blocked not by the project proponent but by some agencies over a period of time which may have affected the natural drainage system. It was decided that the project proponent shall restore the channel which seem to have been blocked and ensure that sustainable management of natural drainage system is maintained.

The Committee also recommended that while floating tender for its imported coal, the project proponent shall ensure that the coal characteristics shall be in accordance with the Circular issued by the Ministry of Environment & Forests on February 5, 2013.

In view of the aforementioned shortcomings still observed despite clarification on issues raised earlier, the Committee deferred the proposal for re-consideration in the next meeting.

On submission of clarification sought in the 72nd meeting, the matter was again taken up.

The Committee revisited the issues raised in the public hearing and the action plan contemplated by M/s Coastal Tamil Nadu Power Ltd.

On the issue of R&R plan, it was informed that a meeting of the District Level Committee was convened on 22.06.2012 to assess the value of land and the recommendation was forwarded to the State Level Committee for approval based on land transaction records available for determining market rate. That the R&R plan and CSR plan has already been submitted to the Govt. of Tamil Nadu for approval. That an amount of Rs 27.84 Crores is earmarked for R& R plan and Rs 100.60 Crores as one time capital expenditure and Rs 20.0 Crores per annum as recurring expenditure are earmarked for CSR activities.

The issue of conduct of public hearing on the same day as that of Gram Sabha meeting was duly clarified and M/s Coastal Tamil Nadu Power Ltd. submitted a letter from the District Revenue Officer stating that Collector had already programmed the public hearing on 10.06.2010 at 11:00 AM, whereas the Gram Sabha meeting was scheduled at 10:00 AM, which ended before 11:00 AM. That the Collector after having ended the Gram Sabha meeting attended the Public hearing which was held just a few distance of about 500 m away.

Regarding impact on Vedanthangal Bird Sanctuary it was stated that the sanctuary is located more than 30 kms from the site and that based on detailed modeling exercise carried out no impact is envisaged.

The Committee also deliberated the response provided by M/s Coastal Tamil Nadu Power Ltd. on various representations received against the project, including the one submitted by Shri M. Marimuthu & Sh. R. Mathikarasu.

Regarding location of power plant and its ancillary facilities, it was informed that the harbour is detached type and shall not interfere with the coastline. The coal stockyard at the port is solely for emergency stacking only. That the stockyard will be covered with bubble top to prevent any fugitive dust and coal shall always be stored in wet condition. All runoff in the port area shall be collected and treated and not disposed in the sea.

The Odiyur lake shall be maintained pristine in its present condition as the designs ensure 'zero' runoff from the Main plant and ash pond located 5 km and 8km respectively away from the Odiyur Lake. There shall be no negative impact on the health and livelihood of the people in this area.

The land allocated for the port area has 700m coastline and lies between the two fishing villages of Panaiyur Periyakuppam and Panaiyur Chinnakuppam. This land has been allocated after scrutiny by various stakeholder departments of the Govt. of Tamil Nadu. All boats belonging to the two fishing villages were found to be parked in the beach/coastline adjoining the respective villages. The harbor enclosed a 1.5 sq.km area only where trawling is not possible. However, the areas in front of both the villages are not utilized for any port operations. The outfall is located 2.7km away from the HTL in 14m water depths and shall not interfere with fishing operations. The outfall pipeline is embedded into the seabed and shall not interfere with trawl nets. The Odiyur Lake which is a shallow water lake (0.5m water depth) is located 5 km away from the main plant and 8 km away from the ash pond. The design of ash handling system shall ensure that there shall be 'zero' discharge from the operations. The lake shall be maintained pristine in its present form by adopting conservation measures. Periodic monitoring shall be conducted to assess the efficiency of conservation measures and need for any additional measures.

In response to the representation received from EIA Resource & Response Centre the project proponent stated that the UMPP would be deploying Super Critical Technology which will require lesser coal per MW generation as compared to conventional sub-critical TPP. The Plant will be based on imported coal wherein the average quantity of ash would be 10% with a maximum ash content of 12%. In a typical ash analysis, the Hg in Ash is of the order of <0.002mg/kg. The 20% of the Ash generated would be extracted from the furnace bottom as Bottom Ash. The balance 80% would be Fly Ash of which 99.98% shall be arrested by the highly efficient Electrostatic Precipitators (ESPs) and only 0.02% would be getting emitted through the Chimney. The flue gas emission from the chimney shall be such that the

total particulate matter exhausted from the ESPs shall be a maximum of 50mg/Nm³. This is dissipated in the atmosphere by the chimney at the height of 275m. The plume height of the flue gas will dissipates it at further higher level. Therefore, Hg release in the environment would be of the order of less than 1.1mg/day at such a height. The ground concentration of the same would be almost nil. Hence, there will be no cause of apprehensions of impacting damage to human body by such insignificant amount of Hg in the environment.

The Committee was also informed that CRZ clearance is being challenged in the NGT, Chennai Bench and the same has been disposed of as non-maintainable.

The Committee revisiting the validity of model used for AAQ impact assessment noted that the UMPP is 6 kms away from the shore and observed that fumigation effect could not take place at such a distance.

The Committee also recommended that M/s Coastal Tamil Nadu Power Ltd. shall set up the power UMPP as a model plant where ecology and development co-exists in harmony.

Based on the information and clarifications provided the Committee recommended *environmental clearance for the proposed UMPP* subject to stipulation of the following specific conditions over and above the observation made by the Committee above besides the recommendations made by the Sub-Committee in its site inspection report:

- i) CRZ clearance for permissible activities in CRZ area shall be obtained.
- ii) Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation shall be submitted periodically.
- iii) A stack of 275 m height shall be provided with continuous online monitoring equipments for SO_x, NO_x and PM_{2.5}& PM₁₀. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.
- iv) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³. Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.
- v) The project proponent shall regenerate degraded water body (if any) located nearby within 5.0 km atleast.
- vi) COC of 1.25 shall be adopted.
- vii) 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.
- viii) The leveling in plant area 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/nallah etc. Major canals should not be altered but their bunds should be strengthened and desilted.
 - ix) Degenerated mangrove located in the study area (if any) shall be adopted and regenerated in consultation with the concerned Dept. of the State Govt.
 - x) Additional soil for leveling of the sites should be generated within the sites in a way that natural drainage system of the area is protected and improved.
 - xi) Well designed acoustic enclosures for the DG sets and noise emitting equipments to achieve the desirable insertion loss viz. 25 dB(A) should be provided.
 - xii) 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
 - xiii) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry. Mercury and other heavy metals (As,Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.
 - xiv) 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.
 - xv) Long term study for radio activity and heavy metal in coal and fly ash, shall be carried out through institutes like AMD, Hyderabad, Central Power Research Institute, Bangalore, Mangalore University etc. and report submitted to R.O of the Ministry from time to time.
 - xvi) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself . As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.
 - xvii) At least three nearest village (particularly fishing villages) shall be adopted and basic amenities like development of roads, drinking water supply, primary health centre, primary school etc shall be developed in co-ordination with the district administration.

- xviii) 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 100.60 Crores** as one time investment shall be earmarked for activities to be taken up under CSR during construction phase of the Project. Recurring expenditure for CSR thereafter shall be **Rs 20 Crores** per annum till the life of the plant. Social Audit by a reputed University or an Institute shall be carried out annually and details to be submitted to MOEF besides putting it on Company's website.
- xx) Continuous monitoring of Cheyyur Lagoon water quality shall be undertaken regularly and records maintained
- xxi) 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.
- xxii) Continuous monitoring of marine biology shall be undertaken by an institute of repute.
- xxiii) A **Fishermen Endowment Welfare Fund** of Rs. One Crore should also be created not only to enhance the quality of life of fishermen community 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.
- xxiv) 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 wards necessary preventive measures for spillage from pipelines, such as lining of guard pond used for the treatment of outfall before discharging in to the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because in the areas around the projects boundaries there may be fertile agricultural land used for paddy or other crop cultivation.
- xxv) An Environmental Cell comprising of atleast one expert in environmental science / engineering, occupational health and social scientist, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the head of the organization who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.

2.2 2x20 MW Imported Coal Based Captive Thermal Power Plant of M/s MCC PTA India Corpn. Pvt. Ltd. at village Bhumaraichak, Tehsil Sutahata, Town Haldia, District Purba Midnapore, in West Bengal-reg. Environmental Clearance.

The proposal is for consideration for environmental clearance. The project proponent made a presentation along with its consultant [M/s Envirotech East Pvt. Ltd.](#) and provided the following information:

The project proponent stated that the present proposal is for imported coal as interim arrangement until firm domestic coal is made available. That while impact assessment has been studied, the option of both domestic and imported and blended coal has also been carried out.

The proposal is for replacement of Furnace Oil based by Coal as fuel for a CPP 2x20MW at village Bhumaraichak, Tehsil Sutaahata, Town Haldia, District Purba Midnapore, in West Bengal. Existing CPP has two units Phase-I (25 MW) which are DG Sets 5x5 MW and 1x 0.5 MW Black-start DEG and Phase-II (4x6 MW) i.e 24 MW DG sets. The replacement of Furnace Oil Based CPP by Coal Based CPP is required due to likely non-availability of furnace oil from IOCL, BPCL after 2013 as the refineries are slowly shifting to lighter distillate. Besides it will have a better improvement in environmental quality over Furnace Oil. The land required for CPP will be 20 acres, which is available within 324.08 acres of the existing chemical plant premises of the company. The co-ordinates of the site are located within Latitude 22°04'40.68" N to 22°05'23.67" N and Longitude 88°09'35.14" E to 88°10'32.96" E. Imported coal requirement will be 0.18 MTPA. MoU for imported coal supply have been signed with M/s Anand Carbo Pvt. Ltd. Ash and sulphur contents in imported coal will be 8% and 0.5% respectively. Gross Calorific value of the coal will be 6000 kcal/kg. About 11,361 TPA of fly ash and 2,840 TPA of bottom ash will be generated. MoU for ash utilization have been signed with M/s Marshall Corporation Ltd. and M/s Green Concretex Cement Pvt. Ltd. Ash pond area will be 4 acres only for emergency ash storage and will be provided with proper lining system to prevent leaching. The co-ordinates of the ash pond site is located within Latitude 22°05'4.39" N to 22°05'10.31" N and Longitude 88°09'56.63" E to 88°10'2.97" E. Two Single-flue Stacks of 72m of height will be provided. Water requirement of 3108m³/day will be sourced from the existing plant reservoir, which receives it from Haldia Development Authority (HAD), through existing pipeline at a distance of about 24 km from the project site. Water cooled condenser will be installed for cooling system. 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 25.02.2013. Cost of the project will be Rs.195.62 Crores.

M/s MCC PTA India Corpn. Ltd. informed that they are the largest producer of Purified Terephthalic Acid (PTA) in India and is the largest financial investment by Mitsubishi Corpn. outside of Japan.

The Committee deliberated the issues raised in the Public Hearing and the responses made by the project proponent. The major issues raised were regarding impact on air pollution due to flyash loading and transportation through roads by dumpers, measures adopted to control the emission of No_x

and SO₂ from the activity etc. The project proponent informed that there were no litigation pending pertaining to the power project.

The Committee noted that the baseline AAQ Date provided is for the period during October-December, 2011, whereas TOR was prescribed only on 08.10.2012. The project proponent clarified that they had applied for TOR way back in July, 2011 and the Committee had recommended TOR in its 30th Meeting held during August 8-9, 2011, but the Ministry could issue TOR only in October, 2012.

The Committee noted the submission of the project proponent and agreed that the baseline AAQ can be considered subject to collection of one more appropriate season data and revised impact assessment carried out. It was also observed that while collecting AAQ data, the project proponent shall ensure collection of metrological, water quality and soil data also. That subsequently cumulative impact assessment shall be carried out taking into consideration all sources of pollution in the study area. That accordingly the EIA need to be revised or an addendum to EIA submitted.

The Committee observed that the MoU for imported coal is highly improper and inadequate for consideration as firm coal linkage. It was further observed that as firm coal and water availability is a primary requirement for consideration for appraisal for an environmental clearance the present proposal is premature for consideration.

The project proponent stated that imported coal will be brought through Haldia Port, which is located at about 12 kms from the project site. That the coal will be transported by trucks.

The Committee observed that the issues of impact due to coal transportation by road does not seem to have been appropriately addressed. It was observed that the incremental increase in ambient air pollution due to road transportation need a detailed assessment and either the EIA Report need a revision or an addendum to the EIA submitted. While doing so it was observed that the traffic density and the capability of road for handling additional trucks for coal transportation need to be explicitly explained.

The Committee further observed that only mechanically covered compact trucks shall be used for road transportation and the project proponent shall submit details of such mechanically trucks to be deployed submitted along with photographs. It was observed that no tarpaulin covered trucks carrying coal shall be permitted to pass through an area whose AAQ is critically polluted.

The project proponent informed that cooling water blow down will be entirely re-used. On the issue of brine from R.O System, the Committee observed that the project proponent shall ensure that these are disposed of by tying up with TSDF. That accordingly a detailed action plan shall be submitted.

The Committee agreed that since moratorium is still in existence in the area and as the consideration for taking up the case is on account of purportedly keeping the bilateral interest between Japan and India, the project proponent need to first establish that the proposed change is more environmentally better than the existing. That accordingly a detailed analysis separately shall be prepared and submitted.

In view of the shortcomings noted above the Committee observed that the present proposal is pre-mature for recommendation of environmental clearance in its present form. Accordingly the proposal was deferred. It was also decided that since the above exercise will take some time, the proposal may be delisted from the pending list for environmental clearance.

2.3 Expansion by addition of 19.8 MW Bagasse based co-generation Power Project of M/s Shri Vithal Shakari Sakhar Karkhana Ltd. at village Venunagar, Post- Gursale, Taluka Pandharpur, District Solapur, in Maharashtra-reg. Environmental Clearance.

The proposal is for consideration for environmental clearance. The project proponent made a presentation along with its consultant [M/s MITCON Consultancy & Engineering Services Ltd., Pune](#) and provided the following information:

The proposal is for expansion by addition of 19.8 MW Bagasse Based Co-Generation Power Project at village Venunagar, Post- Gursale, Taluka Pandharpur, District Solapur, in Maharashtra. Existing bagasse based co-generation power plant is of 10 MW capacity. The land required for proposed expansion will be 8.0 acres, which is available within the existing plant premises of the company. The co-ordinates of the site are located within Latitude 17°43'59.88" N to 17°44'34.81" N and Longitude 75°18'52.75" E to 75°19'40.48" E. No col will be used. Bagasse required during season i.e. For about 160 days for 29.8 MW will be 269633 MT. Bagasse required during off-season i.e. about 120 days, wherein only 10 MW is proposed to be generated will be 62773 MT. Single flue stack will be 74 m of height. Water requirement during season (160 days) 0.146 MCM and during off-season (120 days) 0.047 MCM will be sourced from the river Bhima through a pipeline at a distance of about 1.5 km from the project site. Induced natural draft cooling system will be installed. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within ten km of the project site. Public Hearing was held on 12.02.2013. Cost of the project will be Rs.90.58 Crores.

The Committee discussed the issues raised in the Public Hearing and the responses made by the project proponent. The major issues raised were regarding mitigation measures for flyash emission from stack, benefits of shareholders due to the proposed activity, measures taken for air and water pollution, how many people will get employment and measures taken for

green belt development etc. The project proponent informed that there were no litigation pending pertaining to the power project.

Based on the information and clarifications provided the Committee recommended *environmental clearance for the proposed UMPP* subject to stipulation of the following specific conditions over and above the observation made by the Committee above besides the recommendations made by the Sub-Committee in its site inspection report:

- i) A stack of 74 m height shall be provided. Exit velocity of flue gases shall not be less than 22 m/sec.
- ii) 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.
- iii) Well designed acoustic enclosures for the DG sets and noise emitting equipments to achieve the desirable insertion loss viz. 25 dB(A) should be provided.
- iv) 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
- v) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.
- vi) An amount of **Rs 1.10 Crores** as one time investment shall be earmarked for activities to be taken up under CSR during construction phase of the Project. Recurring expenditure for CSR thereafter shall be **Rs0.22 Crores** per annum till the life of the plant. Social Audit by a reputed University or an Institute shall be carried out annually and details to be submitted to MOEF besides putting it on Company's website.
- vii) An Environmental Cell comprising of at least one expert in environmental science / engineering, occupational health and social scientist, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the head of the organization who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.

2.4 Expansion by addition of 20 MW Bagasse Based Cogeneration Power Project of M/s. Gangakhed Sugar & Energy Limited. at village Makhani, Taluka Gangakhed, District: Parbhani, in Maharashtra - reg. TOR.

The proposal was considered for determination of Terms of Reference (TOR) for undertaking EIA/EMP study as per the provisions of EIA Notification, 2006. The project proponent gave a presentation along with its consultant M/s MITCON Consultancy & Engineering Services Ltd., Pune and provided the following information:

The proposal is for expansion by addition of 20 MW Bagasse Based Cogeneration Power Project at village Makhani, TalukaGangakhed, District Parbhani, in Maharashtra. The existing bagasse based co-generation power plant is of 30 MW. Land requirement for the proposed expansion of power plant will be 6 acres and same is already available in the premises of existing power project. The co-ordinates of the site are located in between Latitude 18°54'11.01" N to 18°54'28.43" N and Longitude 76°43'21.60" E to 76°43'59.29" E. Bagasse required during season i.e about 160 days for 50 MW will be 3,62,880 MT. Bagasse/ Coal/ Cane Trash either of them will be used to run the plant during off-season i.e 120 days.Coal use in worst case shall now exceed 15%. Water requirement during season i.e 160 days will be 0.385 MCM and during off-season i.e 120 days will be 0.116 MCM, which will be sourced from Masuli Dam, through a pipeline at a distance of about 1.5 km from the project site.There are no National Parks, Wildlife Sanctuaries, and Tiger/Biosphere Reserves etc. within 10 km of the site.

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 applicable) at **Annexure-A1** for undertaking detailed EIA study and preparation of EMP.

- i) Status of compliance to the implementation of issues raised in the public hearing for the Phase-I project shall be submitted.
- ii) Certified compliance report with respect to environmental clearance conditions for existing thermal powerproject from RO of the Ministry (as applicable) shall be submitted.
- iii) Detailed alternative source of water availability study shall be prepared indicating various measures like water harvesting schemes, development of check dams (as feasible) in the study area etc.
- iv) Break up of fuel specified and submitted.

2.5 3x660 MW Coal Based Thermal Power Plant of M/s Talwandi Sabo Power Ltd. at village Banawala, in District Mansa, in Punjab- reg. Extension of validity period of EC.

The request of M/s Talwandi Sabo Power Ltd. for extension of validity period of the environmental clearance accorded for its 3x660 MW Coal Based

Thermal Power Plant at village Banawala, in District Mansa, in Punjab on 11.07.2008, was discussed in the 72nd Meeting held during April 22-23, 2013.

In the said meeting M/s Talwandi Sabo Power Ltd. had informed that the construction work of power project is in full swing but project is getting delay due to uncertainty of fuel supplied by M/s Coal India Ltd., which provides only 80% of LOA coal quantity in contradiction to commitment earlier given. That the terms and conditions of FSA are in contradiction with PPA signed with PSEB. M/s Talwandi Sabo Power Ltd. had also informed that LoA has not been translated into FSA due to ownership clause in the FSA.

The Committee in the said 72nd meeting noted that the project proponent shall submit copy of PPA and desired that any issue pending with the Regulatory Commission shall be also submitted. It was further decided that the matter can be taken up in the next meeting.

On receipt of the same the matter was again taken up.

M/s Talwandi Sabo Power Ltd. informed that they are protected by Escrow cove as per PPA and that 100% PPA has been signed with the Punjab Govt.

Based on the deliberations held the Committee recommended that extension of validity period of environmental clearance can be granted in accordance with the provisions of EIA Notification 2006, as substantial progress has been achieved and the issue of FSA held up is in public domain for which appropriate resolution is expected soon.

2.6 4000 MW Tilaiya Ultra Mega Power Project of M/s. Jharkhand Integrated Power Ltd. at Village Tilaiya, Distt-Hazaribagh, Jharkhand -reg. Extension of validity period of EC

M/s. Jharkhand Integrated Power Ltd. was accorded environmental clearance for its 4000 MW Tilaiya Ultra Mega Power Project at Village Tilaiya, Distt-Hazaribagh, Jharkhand on 07.04.2008.

M/s. Jharkhand Integrated Power Ltd. has informed that the project is under development phase and land acquisition is in an advance stage. The main plant area, which has some forest land, has also been handed over by Government of Jharkhand, after both Stage-I&II forests clearance has been obtained, for commencement of construction activity. M/s. Jharkhand Integrated Power Ltd. also informed for the linked coal block i.e. Kerendari B&C, public hearing has been cancelled and need to be re-conducted. M/s. Jharkhand Integrated Power Ltd. has therefore requested for extension of validity period of the environmental clearance for a period of further five years.

The request was placed before the Committee for its views.

The Committee noted that the issue of UMPPs problem are well known and is in public domain, deliberated at different forum. The Committee felt that as the delay occurred cannot be attributed to the project proponent alone, the request can be considered. The Committee therefore recommended that the extension of validity period of environmental clearance can be granted in accordance with the provisions of EIA Notification 2006.

2.7 1320 MW (2x660 MW) Coal based TPP of M/s Mirach Power Ltd. at village Pokhrawan & Lai, Taluk Surajgarha, Distt. Lakhisarai, Bihar -reg. Extension of validity period of TOR.

M/s Mirach Power Ltd. was prescribed TOR for its 1320 MW (2x660 MW) Coal based TPP at village Pokhrawan & Lai, Taluk Surajgarha, Distt. Lakhisarai, Bihar on 30.03.2011. M/s Mirach Power Ltd. has now informed that due to non-availability of firm coal linkage, final EIA/EMP report could not be submitted to the Ministry. M/s Mirach Power Ltd. has therefore requested the Ministry for extension of validity of TOR for one year.

The matter was placed before the Committee for its consideration.

The Committee noted that the issue of coal is a matter in public domain and the project proponent cannot be held responsible for matters not in their control. The Committee therefore recommended that the Ministry may extend validity of the TOR for further period of one more year.

2.8 2x660 MW Super critical Coal based Thermal Power Plant of M/s Welspun Urja India Ltd. at village Kokadi, Gobari, Bhatchaura and Minikchouri, Taluka Masturi, Distt. Bilaspur, Chhattisgarh - reg. Extension of validity period of TOR.

M/s Welspun Urja India Ltd. was prescribed TOR for its 2x660 MW Super critical Coal based Thermal Power Plant at village Kokadi, Gobari, Bhatchaura and Minikchouri, Taluka Masturi, Distt. Bilaspur, Chhattisgarh on 26.05.2011. M/s Welspun Urja India Ltd. has now informed that due to non-availability of firm coal linkage, final EIA/EMP report could not be submitted to the Ministry. It was also informed that out of 1100 acres of land, about 200 acres has been acquired. M/s Welspun Urja India Ltd. has therefore requested the Ministry for extension of validity of TOR for one year.

The matter was placed before the Committee for its consideration.

The Committee noted that the issue of coal is a matter in public domain and the project proponent cannot be held responsible for matters not in their control. The Committee therefore recommended that the Ministry may extend validity of the TOR for further period of one more year.

2.9 1320 MW coal based Thermal Power of M/s Atlas Power India Pvt. Ltd. at Village: Kadechur, Taluka & Distt. Yadgir, in Karnataka- reg. Extension of validity period of TOR.

M/s Atlas Power India Pvt. Ltd. was prescribed TOR for its 1320 MW coal based Thermal at village Kadechur, Taluka & Distt. Yadgir, in Karnataka on 20.05.2009. M/s Atlas Power India Pvt. Ltd. has now informed that due to delay in water allocation and land allotment from the State Govt., final EIA/EMP report could not be submitted to the Ministry. M/s Atlas Power India Pvt. Ltd. has therefore requested the Ministry for extension of validity of TOR for one year.

The matter was placed before the Committee for its consideration.

The Committee noted that TOR was prescribed on 20.05.2009 and the project proponent is yet to get public hearing conducted, leave alone submit the final EIA Report to the Ministry for consideration of environmental clearance.

The Committee further noted that the Office Memorandum/Circular issued by the Ministry on 22.03.2010 states that , for cases where TOR has been issued prior to 22.03.2010, the EIA/EMP should be submitted after public consultation where so required, no later than four years from the grant of TORs, with primary data not older than three years.

In view of the policy decision taken at noted above, the Committee declined the request of M/s Atlas Power India Pvt. Ltd. and decided that M/s Atlas Power India Pvt. Ltd. shall apply afresh for TOR.

2.10 Expansion by addition of 2x250 MW (Stage-II) Bhilai Coal Based Thermal Power Plant of M/s. NTPC SAIL Power Company Pvt. Ltd. NSPCL at Distt. Durg, in Chhattisgarh -reg.Extension of validity period of TOR.

M/s NTPC SAIL Power Company Pvt. Ltd. was prescribed TOR for its expansion by addition of 2x250 MW (Stage-II) Coal based Thermal Power Plant at village Bhillai, near Bhillai Steel Plant, in Durg Distt., in Chhattisgarh on 27.04.2011. The TOR letter was mistakenly issued for 4x250 MW (Stage-II) against 2x250 MW (Stage-II). M/s NTPC SAIL Power Company Pvt. Ltd. has now informed that due to compelling reasons the public hearing still could not be conducted as finalization of ash disposal site is still to be done. M/s NTPC SAIL Power Company Pvt. Ltd. has therefore requested extension of validity period of TOR.

The matter was placed before the Committee for its consideration.

The Committee noted that the request of the project proponent can be considered and recommended that the Ministry may extend validity of the TOR for further period of one more year.

2.11 2x660 MW Thermal Power plant of M/s. RSB Energy Pvt. Ltd. at village Bodsara, Hathitikra, Markhadih & kapan, Distt. Janjgir-champa, Chhattisgarh- reg. Extension of validity of TOR

M/s. RSB Energy Pvt. Ltd. was prescribed TOR for its 2x660 MW Thermal Power plant at village Bodsara, Hathitikra, Markhadih & kapan, Distt. Janjgir-champa, Chhattisgarh on 18.04.2011. M/s. RSB Energy Pvt. Ltd. has now informed that due to delay in land acquisition and coal linkage, final EIA/EMP report could not be submitted to the Ministry. M/s. RSB Energy Pvt. Ltd. has therefore requested the Ministry for extension of validity of TOR for one year.

The matter was placed before the Committee for its consideration.

The Committee noted that the request of the project proponent can be considered and recommended that the Ministry may extend validity of the TOR for further period of one more year.

2.12 2x660 MW Super Critical coal based Thermal Power Plant of M/s Sudama Mahavir Power Pvt. Ltd. at village Bajakheda, Singhpur, Marapurva, Mukharra, Tattam, in Taluk Maharajpur, Distt. Chhatarpur, Madhya Pradesh- reg. Extension of validity of TOR.

M/s Sudama Mahavir Power Pvt. Ltd. was prescribed TOR for its 2x660 MW Super Critical coal based Thermal Power Plant at village Bajakheda, Singhpur, Marapurva, Mukharra, Tattam, in Taluk Maharajpur, Distt. Chhatarpur, Madhya Pradesh on 13.05.2011. M/s Sudama Mahavir Power Pvt. Ltd. has now requested the Ministry for extension of validity of TOR for one year.

The matter was placed before the Committee for its consideration.

The Committee noted that the request of the project proponent can be considered and recommended that the Ministry may extend validity of the TOR for further period of one more year.

2.13 6x660 MW Super Critical Coal Based Thermal Power Plant of M/s. Yeswanth Industrial Infrastructure Project Pvt. Ltd. at village Vempadu, Nellipudi, Kagitha & DL Puram, Mandal Nakkapalli, Distt- Visakhapatnam, Andhra Pradesh- reg. Extension of validity period of TOR.

M/s Yeswanth Industrial Infrastructure Project Pvt. Ltd. was prescribed TOR for its 6x660 MW Super Critical Coal Based Thermal Power Plant at village Vempadu, Nellipudi, Kagitha & DL Puram, Mandal Nakkapalli, Distt-Visakhapatnam, Andhra Pradesh on 30.03.2011. M/s Yeswanth Industrial Infrastructure Project Pvt. Ltd. has now informed that due certain legal actions by farmers in regard to APIIC allocation very near to the site, which has gone into the litigation at High Court of Andhra Pradesh which has also issued a stay on the acquisition of the lands by APIIC. M/s Yeswanth Industrial Infrastructure Project Pvt. Ltd. has therefore requested the Ministry for extension of validity of TOR for two year.

The matter was placed before the Committee for its consideration.

The Committee noted that the request of the project proponent can be considered and recommended that the Ministry may extend validity of the TOR for further period of one more year.

2.14 Expansion by addition of 2x426 MW (Stage-IV) Gas based combined cycle power plant of M/s. GVK Industries Ltd. at village Jegurupadu/kesavaram, in Taluk Kadiyam/Mandapet, Distt. Godavari, Andhra Pradesh- reg. Extension of validity of TOR.

M/s. GVK Industries Ltd. was prescribed TOR for expansion by addition of 2x426 MW (Stage-IV) Gas based Combined Cycle Power Plant of at village Jegurupadu/kesavaram, in Taluk Kadiyam/Mandapet, Distt. Godavari, Andhra Pradesh on 30.03.2011.

M/s. GVK Industries Ltd. has informed that due to non-availability of natural gas the project is getting delayed and has therefore requested for extension of validity of TOR.

The matter as placed before the Committee for its views.

The Committee noted that the issue of natural gas availability particularly the issue of gas production from KG-D6 basin is in public domain and the request can be considered and recommended that the Ministry may extend validity of the TOR for further period of one more year..

2.15 2x660 MW Coal based thermal power plant of M/s. KU Projects Private Ltd. at village Pitamahul, Taluk Birmaharajpur, Distt. Sonepur, Odisha- reg. Extension of validity period of TOR.

M/s. KU Projects Pvt. Ltd. was prescribed TOR for its 2x660 MW Coal Based Power Plant at village Pitamahul, in Sonepur Distt., in Orissa on 18.04.2011.

M/s. KU Projects Pvt. Ltd. has informed that the project public hearing was already conducted on 01.09.2012 but finalization of EIA/EMP after public hearing is getting delayed and has therefore requested for extension of validity of TOR.

The matter as placed before the Committee for its views.

The Committee noted that the request of the project proponent can be considered and recommended that the Ministry may extend validity of the TOR for further period of one more year.

2.16 Modernization of 70 MW Lakwa Power project (LRPP) of M/s. Assam Power Generation Corporation Ltd. at Village: Mybella, Tehsil Lakwa, Distt. Sivasagar, Assam- reg. Environmental Clearance.

The proposal is for consideration for environmental clearance. The project proponent made a presentation along with its consultant [M/s Ramky Enviro Engineers Ltd., Hyderabad](#) and provided following information:

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

The proposal is for modernization of 70 MW Lakwa Power project (LRPP) at village Mybella, in Tehsil Lakwa, in Distt. Sivasagar, in Assam. Existing capacity of the plant is 157 MW (4x15 MW + 3x20 MW+ 1x37 MW [WHRB]) and the proposed replacement of 4x15 MW Gas turbine units with 10x7 MW Open cycle gas engine. The total capacity after modernization and expansion will be 167 MW. The existing land of Lakwa Thermal Power Station is 212 acres and 7 acres is needed for proposed replacement which is within the existing APGCL complex. The co-ordinates of the site are located within Latitude 26°59'02.93" N to 26°59'09.69" N and Longitude 94°55'42.82" E to 94°55'51.34" E. Natural Gas requirement will be 0.36 MMSCMD. Water requirement of 3108m³/day will be sourced from the existing plant reservoir, which receives it from Haldia Development Authority (HAD), through existing pipeline at a distance of about 24 km from the project site. Water cooled condenser will be installed for cooling system. There are 3 Reserve Forests (RF) i.e. Chala RF which is 1.6 KM North-west from the project site, Abhaypur RF 3.6 Km from the south of the project site, and Singphan RF is 4 km south adjacent to Abhaypur RF. Public Hearing was held on 11.02.2013. There are no wildlife sanctuary/national parks, tiger reserve etc. within 10 kms of the project site. Cost of the project will be Rs.263 Crores.

The Committee discussed the issues raised in the Public Hearing and the responses made by the project proponent. The major issues raised were effect on nearby paddy fields due to discharge of wastewater from the plant, effect on noise level, human health hazards associated with project, effect on

Reserve Forests located nearby, any existence of Tigers in the study area, Singphan RF is situated at 10 km radius and was proposed to declare as wildlife sanctuary etc. The project proponent informed that there were no litigation pending pertaining to the power project.

On the issue of effluent generated and impact on nearby paddy field, the project proponent stated that no waste water will be discharged into nearby fields as the effluent generated from service water and engine cooling will be treated in existing ETP. It was also stated that there are no tigers in the study area and the same was confirmed by local villagers.

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

- i) The project proponent shall regenerate degraded water body (if any) located nearby within 5.0 km atleast.
- ii) COC of 5.0 shall be adopted.
- iii) 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.
- iv) The leveling in plant area should be minimum with no or minimal disturbance to the natural drainage of the area.
- v) Well designed acoustic enclosures for the DG sets and noise emitting equipments to achieve the desirable insertion loss viz. 25 dB(A) should be provided.
- vi) 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
- vii) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself . As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.
- viii) 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.
- ix) An amount of **Rs 1.0 Crore** as one time investment shall be earmarked for activities to be taken up under CSR during construction phase of the Project. Recurring expenditure for CSR thereafter shall be **Rs 0.20 Crores**per annum till the life of the plant. Social Audit by a reputed University or an Institute shall be carried out annually and details to be submitted to the Ministry besides putting it on Company's website.

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

2.16 Modernization of existing unit -6 (500 MW) by change of fuel from LSHS/LSFO to imported Coal of M/s. The Tata Power Company Ltd. at Trombay Thermal Power Station at Mahul Road, District Chembur, Mumbai- reg. Environmental Clearance.

The proposal was placed for consideration for environmental clearance as per provisions of EIA Notification, 2006. The project proponent along with its consultant [M/s TCE Consulting Engineering Services](#) gave a presentation and provided the following information:

The proposal is for modernization of existing Unit No.6 at Trombay Thermal Power Station (TTPS) by change of fuel from LSHS/LSFO to Imported Coal. The power station is located at village Mahul, in Kurla Taluk, in Mumbai Distt., in Maharashtra. No additional land is required for the proposed modernization of existing Unit No.6. The Trombay TPS is in operation since 1956 and Units-1, 2 & 3 have been decommissioned in early 1990's. Unit No.4 (150 MW) is based on gas which is presently kept as standby. Unit No.5 (500 MW) is coal based and is in operation since 1984. Unit No.6 (500 MW) became operational in 1990. Unit No.7 (180 MW) is a combined cycle gas based, commissioned in 1993 and Unit no. 8 (250 MW) is coal based commissioned in 2009. The co-ordinates of the Unit no. 6 lies between Latitude 19°00'12.66"N to Longitude 72°53'51.60" E. Imported coal requirement for modernization of Unit No.6 will be 2.0 MTPA. Unit No.6 is PF Boler and cannot fire petcoke. Ash and Sulphur contents in imported coal will be 4.5% and 0.28% respectively. GCV of the coal will be not less than 5000 Kcal/Kg. About 216 MT/day fly ash and 54 MT/day bottom ash will be generated. Ash utilization of 100% from day one of commercial operation of Unit no.6 will be achieved. No additional water is required. Unit No. 5 and 8 has FGD's installed. It is proposed to install FGD for Unit No.6 as well. There are no National Parks, Wildlife Sanctuaries, Heritage sites, tiger/Biosphere reserves etc. within 10 km of the site. Public hearing was held on 15.01.2013. Cost of the project will be Rs. 1174.0 Crores.

The Committee noted that while the proposal was considered for TOR in its 38th Meeting held during December 12-13, 2012, it was deliberated that while the present modernization proposal by change in fuel will be environmentally better as compared to Oil fired power generation, the

project proponent need to address the issues of environmental impact due to coal transportation both inland and at sea. The Committee observed the logistics of coal transportation has been studied by the project proponent and noted the percentage contribution in traffic (ship movements) due to coal requirement for Unit No.6 will be 0.71% as against 0.70% without Unit No.6 coal requirement i.e an increase of only 0.01%.

The Committee also discussed the power generation in Mumbai and the embedded power to Mumbai to cater to the increasing power demand of Mumbai. It was observed that 2377 MW is embedded generation for Mumbai and the present peak demand is about 3391 MW. It was observed that owing to transmission bottle necks in Mumbai Metropolitan Region (MMR), the necessity of power generation in Mumbai itself is a necessity to cater the growing demand of Mumbai power consumption.

On the possibility of gas based power generation it was noted that as on date about 8500 MW Gas Based Power Projects are stranded due to unavailability of gas. That since 2008 M/s Tata Power Ltd. has been perusing with the Ministry of Power for gas allocation for Trombay Power Station. It was also noted that the Ministry of Power vide its letter dated March 14, 2012 has advised developers against planning power projects based on domestic gas till 2015-2016 as Ministry of Petroleum & Natural Gas has indicated that no additional domestic gas is available till 2015-2016.

The Committee noted that AAQ baseline data was collected for the period March-May, 2102and TOR was prescribed on 25.01.2012. Thereafter after the site visit of the sub-group of the EAC, additional TORs were also prescribed on 24.08.2012.

The Committee deliberated the implications due to modernization and noted that as against the Oil fired Unit no.6, the Coal fired option seem to benefit the environment as under:

Scenario	SO₂ (µg/m³)	NO_x (µg/m³)	PM (µg/m³)
Existing Oil Fired Unit No.6	3.91	4.58	2.24
Modernization using coal as fuel	3.85	4.43	1.94
Change	-0.06 (-1.5%)	-0.15 (-3.3%)	-0.3 (-13.4%)

The Marine Impact Assessment has been carried out by Central Marine Fisheries Research Institute (CMFRI), Mumbai and the report indicates no evidence of any major environmental damage to the marine environment due to existing operations of coal berth which is already in use for unloading coal for the plant as well as operation of barges to carry coal to the coal berth. The approach velocity of water was noted as less than 0.11 m/s and

screens (25 mm) have been introduced at the intake point to prevent sucking of juveniles of marine animals.

A study has been carried out by M/s Indomer Coastal Hydraulics (P) Ltd. to assess why sea water around intake point is muddy in color with high suspended particulate matter and whether it is due to sea erosion or sea dumping. The study report indicates that the strong flood and ebb tidal currents agitate the finer fractions of silt and clay and increase in the concentration of suspended particle which is a typical natural phenomenon for nay tidal mud flat morphology. That the possibility of dredge sediments of the disposed spoil getting deposited in the intake region is very limited.

CRZ mapping has been carried out by Centre for Earth Science Studies, Thiruvananthapuram, Kerala.

It was informed that the proposed FGD for Unit No.6 will be using sea water, which after treatment will be discharged in the existing cooling water channel. That an area of 0.2 ha will be required for construction of outfall point in the existing cooling water discharge channel. To bring down water temperature, a series of surface aerators has been installed in the discharge channel. An area of 0.7177 ha of mangrove area consisting of about 520 mangrove plants will be required to be cleared to help better cooling of sea water. Application for the same has been made to the Forests Department for diversion of mangrove area. Alternatively a much larger mangrove plantation has been identified in consultation with the State Forests Department.

It was further informed that Bombay Natural History Society (BNHS), Mumbai has carried out study for mangrove conservation and development of the area and has suggested that a mudflat located in the South East side of Trombay, which is an ecosystem in itself, should not be disturbed and mangroves around need to be conserved. That existing mudflats are required to be conserved being an important feeding area of large congregations of waders and flamingos.

The Committee noted the above and recommended that over and above the alternative site identified for mangrove plantation, the project proponent shall identify degraded mangrove sites within 10 kms radius of the power station and regenerate the same. Accordingly, the project proponent shall submit an action plan for carrying out such an activity.

It was also informed that action plan has been prepared for green belt / shelter belt consisting of bamboos and native species of trees and shrubs around coal berth, coal yard and open areas within Trombay. That additional 1445 nos. of shrubs and 395 nos. of creepers have been planted so far to reduce fugitive dust emissions. That based on survival rate, re-plantation exercise will be carried out. That grassing of the area has been carried out to prevent dust emission.

It was reported that leachability test carried out through MoEF approved laboratory indicates that no heavy metals are present in the ground water near the ash pond.

The Committee also viewed the videos recordings of the public hearing and noted that people gathered for public hearing seem be present with premeditated intension of disrupting the public hearing proceedings and not allowing to the proceedings further. It was noted that some political workers reportedly present in the said meeting were shouting slogan constantly to wind up the public hearing. The Chairman of the Public Hearing Panel was seen requesting people to maintain calm and to allow the proceedings. Later due to continuous disturbances of slogan shouting the Chairman announced that all objections, suggestions, complaints and comments etc are being recorded and videography is being carried out and any person may raise issues and objections. Finally as the situation was not improving the Chairman announced the public hearing as closed.

It was noted that the Maharashtra State Pollution Control Board (MSPCB) have furnished the proceedings of the public hearing along with objections from different quarters for perusal and necessary action of the Ministry. It was further observed that notwithstanding the objections (505 nos.) received, a larger representation of support letters (637 nos.) for the proposal has been also forwarded by the MSPCB.

The issues raised and objections received and the response made by the project proponent is tabulated under:

Issues raised	Response made	Action plan proposed
<ul style="list-style-type: none"> • Transportation of coal from Mumbai Port Trust to the Tata Power Plant in open trucks is being made without any safety norms • Shivdi, Wadala and Chembur are facing the ambient air and public health impacts from blowing coal dust 	<ul style="list-style-type: none"> • No coal is being transported by trucks presently to Trombay Tata Power Plant. Coal is transported from captive jetty by closed/pipe conveyor. Present system will be strengthened for better environment management • The ambient air is monitored regularly near coal storage area, jetty and 2 other ambient air quality monitoring stations. This is also being monitored through automatic ambient air quality as well as by 3rd party (MoEF Recognised Lab). The emissions from Tata Power are well within the stipulated standards and there is no adverse impact of Tata Power operation on AAQ in Mumbai region. GLC details as given in EIA confirms the same. • For existing coal based units, ESPs are already installed & coal dust suppression system in coal yard is in place. (Please refer Photographs, AAQM (Jun'12 – April'13) details attached). 	<ul style="list-style-type: none"> • It is planned to install additional screw un-loader, stacker reclaimer & piped conveying system for Unit # 6 modernization by change of fuel • High Efficiency ESP (50 mg/Nm³) will be provided for Unit # 6 to further minimize the impact of PM emission.

	These reports are being submitted to MPCB regularly.	
<ul style="list-style-type: none"> The hot water released from this plant which is going to directly and indirectly affect the air and water quality of the sea and the locality as well as the environment and sea life due to various hazardous contents in coal and will directly affect the fishing on which livelihood of the Koli community is depend. And will be an clear cut violation of CRZ norms 	<ul style="list-style-type: none"> Tata Power is maintaining the discharge water temperature below 7^o C which is well below the MPCB specified limit. Marine impact assessment carried out by CMFRI reveals that there is no adverse impact on marine life due to proposed modernization. The length of the discharge is approx 1.2 km from the discharge point and fishing zone is beyond this limit Due to environmental management while handling the coal at coal berth and during unloading from ship to barges, no contamination of sea water is envisaged due to mechanised equipment There is no violation of Coastal Regulation Zone (CRZ) norms by Tata Power. 	<ul style="list-style-type: none"> To reduce the temperature of discharge water beyond compliance agitators are installed in the channel (Please refer photographs attached in additional ToR presentation) Tata Power will provide screw un-loader for coal unloading at coal berth Tata Power will obtain due permission from MCZMA for the activities falling in CRZ area
<ul style="list-style-type: none"> There is no program by either government or by the company regarding the access to the health care, Plantation, Nutrition, Employment, and the formation of Monitoring committee involving the 50% local residents 	<ul style="list-style-type: none"> As a part of CSR activities Tata Power is carrying out various health check-up camps in nearby villages. Tata Power is also doing plantation within the plant area and also in the nearby villages. The Companies in the area have formed a Forum (MARG) to deliberate on any such issues and concerns and already offered to include community leaderships into this Forum 	<ul style="list-style-type: none"> These activities are part of Tata Power CSR plan (Please refer CSR Plan which is included in this PPT and also refer Annexure – XVII of EIA report)
<ul style="list-style-type: none"> There will be generation of 216 Metric Tones / Day of Fly Ash & this will further add to the already existing suspended particulate matter (SPM), which will further aggravate the pollution levels & cause higher respiratory ailments and terminal life threatening diseases like 	<ul style="list-style-type: none"> The ash will be stored in closed silos & transported in closed bulkers which does not contribute to any dust emissions. Trombay has already achieved 100 % fly ash utilisation for exiting units. The ash generated after proposed modernisation will also be consumed 100% from the date of commissioning. This will not create any pollution and fly ash utilization plan is in accordance with fly ash notification of MoEF. Presently air pollution control equipments are installed with all the existing stack. An ESP will also be installed with modernization to keep SPM emission below the stipulated standards. 	<ul style="list-style-type: none"> Total fly ash generation after modernization will be 450 MT/Day & demand of Fly ash for RMC from various vendors FY 12 was approx. 630 MT/Day against our present generation of 200 MT/Day. Tata Power has already explored for disposal/ utilization of fly ash with various vendors. Due to installation of ESP and keeping emission well below the

<p>Cancer to the surrounding poor inhabitants of the Trombay Plant</p>	<ul style="list-style-type: none"> • TISS findings on health is attached 	<p>stipulated standard, no health impacts are envisaged.</p>
<ul style="list-style-type: none"> • The EIA has been conducted during the summer season. However, for proper evaluation air pollution impacts, monitoring and data collection should be done during winter also. Therefore, given the sensitive nature of the project site, and the location of project site 10 densely populated area of Mumbai city, a rapid EIA with one-season data collection is insufficient • EIA says that no additional land will be required and within existing facility, various installations will be created to utilise the ash and coal storage. However, it is known fact that setting up any installation requires CRZ clearance for coastal city Mumbai. The EIA is silent about how this will be ensured 	<ul style="list-style-type: none"> • EIA was carried out as per ToR issued by MoEF. One season monitoring data is sufficient as per the requirement of EIA notification. GLC is calculated considering a worst case scenario. This GLC is 1.94 $\mu\text{m}/\text{m}^3$ in SE direction at 4.5 km and this is not going to have significant impact on Mumbai city • No additional land is required. Though the activities (coal storage & conveyor) falls in CRZ notified area. However, these are within the existing Tata Power land. The permission from MCZMA shall be obtained for the activity falling in CRZ area. The application for the same has been already submitted to MCZMA 	<ul style="list-style-type: none"> • ESP is proposed in Unit #6 for control of SPM emission • FGD is proposed for control of SO_2 emission from Unit #6 • Advance design burners are considered for control of NO_x emission. • Proposed modernization with these APCE reduces the impact of Unit #6 on the exiting AQ level. This has been recorded in EIA study. • Modernization activity will be started only after obtaining necessary permissions from regulatory authorities
<ul style="list-style-type: none"> • What were the orders passed by the Bombay High Court when the environmental clearances to Units 5, 6 & 7 were challenged in the Bombay High Court • What type of FGD units are 	<ul style="list-style-type: none"> • Bombay High Court had ordered for decommission & dismantle unit 1,2&3. These units were decommissioned & dismantled in 1993. • The conditions accorded by Dept. of Environment, GoM for granting EC for Unit #6 have been complied with. • TTPS has sea water based FGD for removal of SO_2 from flue gas. Technology is proven and working satisfactorily in developed countries including Japan. There is no generation of solid waste 	<ul style="list-style-type: none"> • Action completed as per Bombay High Court order • Though we have studied different types of FGDs for proposed modernization however, sea water based FGD will be best choice for Unit #6, Trombay as this does not generate solid waste as in scrubbing

<p>operational in the existing units? What is their performance been in removing sulphur emissions from the stacks? How is the solid waste from the FGD disposed off</p>	<p>form sea water based FGD plant. SO₂ emission from station is always maintained within the stipulated limits of MPCB</p>	<p>type FGD.</p>
<ul style="list-style-type: none"> • Please explain how the Tata Power Ltd has been permitted to divert gas allocated for unit 6 for running Unit 7. Please furnish copies of all the correspondence in this regard. • What is the requirement for green belt as prescribed by the MoEF/ EAC? Please provide a detailed map showing the green belt. • What other measures have been taken by Tata Power to minimise the damage and death of marine organisms 	<ul style="list-style-type: none"> • There is no diversion of gas from Unit #6 to Unit #7. In fact Unit #6 is based on Oil/LNG & the proposed modernization & change of fuel is from Oil to low Ash & Low Sulphur imported coal. • The requirement is 33% and Tata Power has allocated this area for plantation, horticulture & green belt. green belt / plantation details are provided in EIA report. (Please refer annexure XVI of EIA report) • TTPS has adequate measures to prevent impingement, entrainment and entrapment of marine life • Water intake velocity of 0.11m/s is maintained to avoid impact on marine life 	<ul style="list-style-type: none"> • No action is required. • The area have been identified around the periphery of coal yard and berth for further plantation. Approx. 1500 saplings have already been planted in 2012 in this area (Please refer photographs given in EIA & this presentation) • Further, mesh size of the nylon net has been reduced since Sept. 12 from 40 mm to 25 mm openings provided at the intake to avoid entrapment of marine life. • Silt curtain is under experimentation will also help to avoid entrapment of marine life
<ul style="list-style-type: none"> • What will the impact of the additional emissions on the birds in Thane Creek and the wildlife in SGNP. 	<ul style="list-style-type: none"> • The air quality modelling carried out shows that there is no additional emissions due to modernisation of Unit #6. Also GLC suggests the worst scenario is 1.94 ug/m³ at 4.5 km in SE of the plant. It clearly shows that there will be no impact on the SGNP which is 14 km away. Further, the installation of APCE as suggested in Action plan will minimize the environment impact 	<ul style="list-style-type: none"> • ESP is proposed in Unit #6 for control of SPM emission • FGD is proposed for control of SO₂ emission from Unit #6 • Advance design burners are considered for control of NO_x emission. • Proposed modernization with these APCE reduces the impact of Unit #6 on the exiting air quality level. This has been recorded in EIA study.
<ul style="list-style-type: none"> • What is the radioactivity, Selenium, Arsenic and Mercury 	<ul style="list-style-type: none"> • Radioactivity analysis of Fly Ash and coal has been carried out by BARC. Mercury, Arsenic and selenium etc. analysed by recognised laboratory and these results 	<ul style="list-style-type: none"> • Will continue to monitor radioactivity and other elements in fly ash & coal

<p>content of fly ash bricks</p> <ul style="list-style-type: none"> • Was the existence of mangroves at the Tata Power site at Trombay disclosed in the earlier EIA Reports prepared for these projects 	<p>are included in EIA report at Annexure – V and XIV. Fly ash is used in construction industry including bricks & cement & is in line with fly ash notification of MoEF.</p> <ul style="list-style-type: none"> • There is presence of mangroves near TTPS of Tata Power. These are reported in EIA prepared for Unit # 6 modernisation by change of fuel project 	<ul style="list-style-type: none"> • TTPS will preserve/ transplant/ undertake new plantation of Mangroves as per the need and suggestion of MCZMA while granting clearance for CRZ activities.
<ul style="list-style-type: none"> • Mercury emission from coal burning are concentrated as they work their way up the food chain and are converted into methyl mercury, a toxic compound which harms both wildlife and people who consume freshwater fish. Coal burning is a key source of methyl mercury in the environment. "Power plants are responsible for half of the mercury emissions in the United States 	<ul style="list-style-type: none"> • Heavy metal analysis for coal and fly ash has been carried out. All the characteristics are within the prescribed standards. (Refer Annexure V of EIA report) 	<ul style="list-style-type: none"> • Will continue to monitor Mercury in stack emission
<ul style="list-style-type: none"> • The EIA says that low ash coal will be used to reduce the quantum of fly ash generation however, the same cannot be avoided in any thermal plant, which in case of the project would be more as the project has proposed to use imported coal with ash content of 4% to 5% against the preferable imported coal of ash content 3% (i.e., coal with such ash content is suppose to control the fly ash and bottom ash yield). 	<ul style="list-style-type: none"> • The imported coal containing low ash & low sulphur will be utilized for the proposed modernization project. The ash content of the coal will be approx. 5%. 	<ul style="list-style-type: none"> • Tata Power will ensure to use coal maximum 5% ash content. Bottom ash will be utilized for brick manufacturing within Trombay unit
<ul style="list-style-type: none"> • The EIA has also completely ignored 	<ul style="list-style-type: none"> • Tata Power is committed to reduce its carbon footprint and the strategic intent 	<ul style="list-style-type: none"> • Tata Power will continue to report to CDP, UK as

<p>CO₂ emissions from the proposed plant. This is not acceptable, as the thermal power sector contributes 11 per cent of total CO₂ emissions, 65 per cent of the industrial greenhouse gas emissions</p>	<p>is to generate 20-25% generating capacity from noncarbon emitting sources such as Hydro, Solar, Wind and waste heat etc. We are calculating CO₂ emission across Tata Power & reporting to CDP, UK</p>	<p>well maintain strategic intent to generate 20-25% generating capacity from non carbon emitting sources (NCES) such as Hydro, Solar, Wind and waste heat etc. Present installed capacity in Wind is 376 MW, Solar is 29 MW and Hydro is 447 MW</p>
<ul style="list-style-type: none"> • Tata Consulting Engineers (TCE) is a Tata Group company owned by Tata Sons. How can you agree to the project EIA report prepared by in-house consulting firm of Tata Group Company? Neither public opinion is taken nor NGO is consulted for the preparation of EIA report. Drawbacks are not considered while preparation of the report. Why Mumbai's power deficiency is not met by importing power from Shahapur? Dahanu village is declared as Eco Sensitive Zone just because there is production of Chickoo, then why Chembur is not declared as Eco Sensitive Zone due to presence of human being. 	<ul style="list-style-type: none"> • TCE is an accredited consultant by NABET (a wing of Quality Council of India (QCI)) as a consultant for conducting EIA studies. This is as per the requirement of MoEF. • It should be noted that Trombay Power plant is at Chembur for more than 50 years now. The present project is only change of fuel from oil to coal by ensuring that there is no addition to the pollution level. • The feasibility of importing power was explored by Tata Power, but it was not feasible due to high transmission and distribution losses and other infrastructural problems in the city of Mumbai. 	<ul style="list-style-type: none"> • EIA report prepared as per the ToR given by MoEF
<ul style="list-style-type: none"> • Will TPC guarantee that the power produced in Trombay Plant will be given only to poor suburban consumers • What are the health impacts 	<ul style="list-style-type: none"> • Power is given to only Mumbai consumers. It is contracted with BEST and Tata power on long term basis. • The environmental management practices adopted by TTPS has resulted better environment within the plant and surrounding area and no health impacts have been reported. TISS has carried out independent survey in 2011-12 for 	<ul style="list-style-type: none"> • Tata Power, in line with it's PPA will continue to supply power to Mumbai consumers • Adequate emission control measure as proposed for the modernization project to avoid adverse health

likely as a result of burning additional coal at Trombay.	health status in M (East) ward. Findings are attached.	impact.
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The Committee observed that recommendation for conduct of second public hearing may not be the right solution as there seems no indication to suggest that the same outcome will not be repeated. It was felt that even if a second public hearing is conducted, the chances of disruption by the same elements seem inevitable and no purpose could seem to be solved. The Committee therefore decided that the objections received in the Ministry shall be duly addressed by the project proponent and its reply submitted, which seem to have been already done.

Observing that Municipal Councilors, MLAs etc. seem to be objecting to the modernization project, despite the fact that the proposed modernization may be partially better off environmentally, the Committee decided that the issues raised and the reasons of the objections need to be duly detailed out by the project proponent for sake of brevity.

In the course of the deliberation it was also noted that the project proponent while presenting their case has confined to the Addl. TOR point-wise compliance even though the EIA Report seem to have been prepared in accordance with the TOR issued on 25.01.2012 and the Addl. TOR issued on 24.08.2012. The Committee therefore desired that the project proponent make a presentation in accordance with point-wise compliance (as applicable) of TOR issued on 25.01.2012 and Addl. TOR issued on 24.08.2012.

The Committee also informed the project proponent, of a representation received from one Shri Debi Goenka, of an organisation called 'Conservation Action Trust (CAT), a copy of which was already earlier furnished to the project proponent for their response. The project proponent furnished their reply and the issues raised were deliberated. The Committee advised the project proponent that the response given by them may be forwarded also to Shri Debi Goenka for his information.

The Committee further observed a lot of old issues raised at different forum (including the Bombay High Court) seems to be surfacing again and again and prima facie could not find much material evidence to suggest malafide disregard for environmental conservation by the company. The Committee therefore advised the project proponent to bring all such material information in public domain so that concerned citizens are informed of the reality rather than being made to flow with the perception of wrong doing allegations.

In view of the above, the Committee decided that the proposal be deferred and shall be reconsidered after submission compliance to the observations made above.

2.27 2x800 MW Udangadi Super Critical Imported Coal Based TPP of M/s Udangudi Power Corporation Ltd. (now owned by M/s TANGEDCO) at village Udangudi, in Thiruchendur Taluk, in Thoothukudi district, in Tamil Nadu - reg. Environmental Clearance.

The proposal of 2x800 MW Udangadi Super Critical Coal Based Thermal Power Project of M/s TANGEDCO (earlier it was to be implemented by M/s Udangudi Power Corporation Ltd. a joint venture between BHEL and TANGEDCO) was recommended for environmental clearance by the Committee in its 69th Meeting held during April 30-May 01, 2010. Earlier the proposal was appraised as blended coal in the ratio 70 (domestic) : 30 (Imported). Later the project proponent changed the blending ratio to 30 (domestic) : 70 (Imported) for which documents to substantiate firm coal linkage was unavailable and the Ministry declined to accord environmental clearance pending revision of EIA/EMP reports and firm coal documents.

The Committee while appraising the proposal first in the 62nd meeting had sought the following information:

- i) Confirm coal linkage and coal analysis report based on confirmed source of coal supply.
- ii) Authenticated map of CRZ demarcation map from the Competent Authority.
- iii) Detailed study of impact on fishery.
- iv) Primary survey data of flora and fauna shall be submitted along with authenticated list of flora & fauna from the competent authority in the state govt.
- v) Detailed study on the impact on river/marine ecology (as applicable) due to the proposed discharge of treated wastewater into the river/creek shall be submitted.
- vi) Land use based on satellite imagery or authenticated map indicating drainage, cropping pattern, water bodies (rivers, nallahs, ponds etc.), location of **nearest villages, creeks, rivers, reservoirs, national parks, wildlife sanctuaries, tiger reserves, biosphere reserves, heritage sites etc** in the study area shall be provided. Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden.
- vii) A detailed CSR plan with time bound and in-built monitoring mechanism incorporating scheme for upliftment of fishermen community in the area while also addressing the need based civic amenities of the villages in the area.

On receipt of the compliance of the observations made in the 62nd meeting, the matter was again taken up for re-consideration for environmental clearance in the 69th meeting held during April 30-May 01, 2010, wherein,

*the proposal has been revised to 30 (domestic) :70 (Imported).*M/s Udangudi Power Corporation Ltd. (M/s UPCL) had provided the following information:

The proposal is for setting up of 2x800 MW Udangudi Super Critical Coal Based TPP at village Udangudi, in Thiruchendur Taluk, in Thoothukudi district, in Tamil Nadu. Land requirement will be 939 acres. Domestic and Imported coal in the ration 70:30 shall be used. Coal linkage for domestic coal is yet to be obtained. Domestic Coal requirement will be about 1.547 MTPA (30%) and will be obtained from Mandakini Coal Block. Imported coal of about 3.61 MTPA (70%) will be obtained from Indonesia through MMTC. Imported Coal will be transported from Captive Coal Jetty by closed conveyor belt system over a distance of about 9.0 km. Bay of Bengal is at 1.2 Km in the East. Gulf of Mannar is at about 45 Kms in the north east. Average ash content in blended coal will be 29 %. Sulphur content in imported coal will be maximum 0.6 % and domestic coal 0.2 %. Source of water will be sea water. Water requirement will be about 13790 cum/hr. A 275 m high stack will be provided. Exit velocity of gas will be 22 m/s. There are no wildlife sanctuary, national parks, heritage site etc. with 10 kms of the site. Public hearing was conducted on 07.02.2009. Cost of the project will be Rs. 8500.0 Crores.

The Committee had also discussed the issues raised in the public hearing, the written objection received and the responses made by the project proponent. The main issues raised in the public hearing were regarding fodder for domesticated animals; development of secondary school; health care facilities; drainage; employment of locals; construction of check dams; drinking water facility; return of excess land acquired by the company; development of roads; right of way through SEZ area; salinity ingress as a result of cooling tower blow down release; development of gaucher land; management of fly ash etc.

Based on the information and clarifications provided then, the Committee *recommended* the project for *environmental clearance* subject to stipulation of the few specific conditions as recorded in the proceedings of the 69th Meeting of the Committee.

The project is now to be implemented by M/s TANGEDCO only and BHEL and TANDEGCO have entered into a share transfer Agreement on 22.03.2013, for all shares held by BHEL in M/s UPCL. It is also now proposes to change the coal to 100% imported coal from Indonesia with coal characteristics having Ash content not exceeding 8%; Sulphur content not exceeding 0.6%; and GCV of 6000 Kcal/Kg. MoU has been entered into with M/s MMTC (A Govt. of India undertaking) for supply of 4.50 MTPA of imported coal. The plant will be located within the co-ordinates 8^o25'20.50" N to 8^o26'49.26" N and 78^o03'05.85" E to 78^o04'13.07"E. The elevation of the site is 4.0 m above MSL. CRZ clearance for the captive jetty for the power project has been obtained. The power project will be located 1.4 kms from the sea shore. Coal will be transported by closed conveyor belt from the jetty.

The Committee discussed an objection against setting of the power plant received through e-mail which states that the location where the plant is to be located is not suitable for establishment of a power project as it is a low lying area and is the natural drainage of a lot of streams situated in the area. That the company even before environmental clearance and consent to establish has been accorded has made material changes in the land by filling up the land upto a height of 2m in violation of MoEF norms and guidelines. That these would later the natural drainage for eternity. That the public hearing was conducted more than three years ago and while conducting the public hearing coal characteristics like sulphur, ash, heavy metal contents etc. were not specified. That the plant is proposed less than 500 m from state highway neglecting the citing guidelines.

The issues raised were deliberated and M/s TANGEDCO stated that the project area is notified as 'Thiruvai Poramboke' in Revenue records and these are govt. land which can be alienated for development activities. That the area is a low lying area and filling up the area would alter the natural drainage of the area has no basis, on account of the following:

a) That while allotting the land to the project, Government of Tamil Nadu consulted Chief Engineer, Public works Department (PWD) and the Local Panchayat of the area. The Chief Engineer, PWD in its letter dated 28.11.2007 has stated that "a portion of the project site is adjacent to the Ellappanaicken tank surplus course. The Ellappanaicken tank is getting water from South Main channel under Thambiraparani irrigation system. After the water reaching the full tank level it surpluses through the surplus course channel and travel to Kulasekarapattinam tharuvai kuttam and then it enters into sea". The chief Engineer has recommended the lands can be alienated to the project with a condition that necessary surplus course channel to be formed so that the surplus water from Ellappanaicken tank as well as self-catchment water drain in Kulasekarapattinam tharuvai. The Local Panchayat has also given consent in their meeting held on 27.02.2009. That the Govt. of Tamil Nadu accepted the recommendations of the Chief Engineer, PWD and issued orders alienating the land to the project vide G.O. NO. 125, dt. 29.02.2008 and G.O. No 81, dated 23.02.2010 and directed the project authorities to form a peripheral drain to drain off the above surplus water and the rain water from the catchment area to Kulasekarapattinam Kuttam.

b) That accordingly, a detailed Area Drainage Study was carried out through Anna University and the peripheral channel design has been done through them to carry the surplus water and rain water in the catchment area and drain it to the Kulasekarapattinam Kuttam. The report has already been submitted to the Ministry of Environment & Forests.

With regard to the issue raised regarding filling up the land before obtaining environmental clearance M/s TANGEDCO clarified that in accordance with the flood protection and area drainage study of the area conducted by the

Anna University, the safe grade elevation of the site is fixed as 2.45m above MSL. It was necessary therefore that project area be leveled/filled.

That at that time, in the farmer's grievance meeting chaired by the District Collector represented to District Collector that the desilting of irrigation tanks have not been done for quite a long time and wanted the District authorities to arrange desilting of tanks. In this connection, the District Administration suggested to the then M/s Udangudi Power Corporation Ltd for desilting of tanks for filling up the site. In order to have cordial relationship and goodwill of the local community and also since the project site is required to be graded, the project proponents decided to make utilize the earth from the desilting the tanks instead of identifying other lands for borrow earth. That in order to address this issue, in the Farmers Grievance Day Meeting held on 19.08.2010 chaired by the District Collector, the District Collector also informed about the proposal to the Farmers. That M/s UPCL had accordingly desilted the tanks at its own cost and 6.23 lakh m³ of silt has been removed from the Ellappanaickan Tank and Aavudaiyar Tank and had filled up in the project site. *That this has benefitted the local population greatly by improving the water storage in the above tanks and has improved the agriculture operations of the surrounding area. That consequently the drinking water supply to the surrounding areas of the tanks also improved.* That since the project site was uneven due to this filling, additional borrow earth was obtained and a portion of the site only was leveled. *That the Project Proponent has not started the project work as alleged and the site filling has been done only because the local public and Panchayats wanted desilting and the project proponent did it to have goodwill of the public.*

Regarding change in fuel to 100 % imported coal as having not informed the public the project proponent stated that the public hearing was conducted on 09.02.2009 and that in the Public Hearing, it was informed that imported coal to the extent of 30% will be utilized and as the coal is imported from foreign countries provisions for space is made for the flue gas desulphurization in the power station. Since the domestic coal linkage was not sanctioned to the project by Ministry of Coal/ GoI since December 2007, the GoTN proposed to use 100 % imported coal for the project. The Project Proponent has carried out revised EIA Study for the 100 % imported coal and has confirmed that all the emission factors viz. PM₁₀, SO_x and NO_x are within the limits prescribed by MoEF. As such there will not be significant impact in the project area due to the change in fuel.

It was further stated that with regard to coal characteristics as Imported coal supply will be from M/s MMTC (A Govt. of India organization) and M/s TANGEDCO is already importing coal for running their existing plants through MMTC, there is no problem in getting guaranteed quality and quantity of the coal. That M/s TANGEDCO, will periodically test the coal samples for ensuring the quality.

On the issue that the site is less than 500m from the State Highway, the project proponent informed that the main plant and other infrastructure of the plant have been located 500m away from the State Highway.

M/s TANGEDCO informed that fishing activity takes place at about 7 km away from the site and there will be no impact on their vocation.

In view of the clarifications made and information provided the Committee upheld the environmental clearance earlier recommended.

2.19 3x 660 MW North Karanpura Thermal Thermal Power Project of M/s NTPC Ltd. at village Tandwa, in Chatra District, in Jharkhand – Revalidation of EC reg.

M/s NTPC Ltd. was accorded environmental clearance on 29.11.2004 for its 3x660 MW North Karanpura Thermal Thermal Power Project proposed to be located at village Tandwa, in Chatra District, in Jharkhand. Stage-I Forestry clearance for diversion of forest land involved was also accorded on 08.06.2009 and environmental clearance for Garhi Reservoir, from where proposed TPP was to meet its water requirement, was also accorded on 09.09.2005.

It was informed by M/s NTPC that although they have started various activities, M/s Central Coalfields Ltd. (CCL) and M/s Central Mine Planning & Design Institute Ltd. (CMPIDL) requested m/s NTPC to relocate the power project and ash disposal areas elsewhere, as the power project and ash pond area was found to be on coal bearing areas. Several meeting between NTPC, CCL, CMPDIL and CIL were held and it was agreed that NTPC shall shift to a site where coal reserves are at a depth between 300-500 m and accordingly Feasibility Report was updated and approved in December, 2005.

Meanwhile the Ministry of Coal in 2008 and in 2009 raised the issue of location of the site in a coal bearing area. Subsequently M/s NTPC Ltd. again revisited the re-examined various alternative sites along with CEA and CIL but no alternative site was found suitable site. The TPP layout was revised and total land requirement was reduced to 970 acres only from the initially proposed area of 2300 acres.

The matter was referred to the Group of Ministers (GoM) of the Union of India, constituted on 03.02.2011, to consider all issues relating to reconciliation of environmental concerns emanating from various development activities including those related to infrastructure and mining. The Cabinet Secretariat vide its Memo dated 15.04.2011 mandated this GoM to deliberate also on the issues relating to relocation of North Karanpura Thermal Power Station of M/s NTPC Ltd. The GoM in its meeting held on 20.09.2011 constituted a Committee headed by Shri B.K. Chaturvedi, Member (Energy), Planning Commission and comprising of the secretary, Ministry of Power and the Secretary, Ministry of Coal as members.

The Chaturvedi Committee Report recommended that the power plant be set up at the present site with safeguards or NTPC had over the site to CIL but to also explore alternative site like Patratu and Tengughat in Jharkhand.

While the Ministry of Power has agreed to the recommendation of the Chaturvedi Committee, the Ministry of Coal has not agreed.

The GoM in its 6th Meeting held on 01.03.2012 decided that the TPP will be set up at the proposed site with safeguard, reduced land of 970 acres where coal is at 300-500 m depth. It was also decided that the TPP will run only for 35 years, after which the land will be given back to CIL for mining.

The matter was also referred to the Cabinet Committee on Investment (CCI) and the CCI in its meeting held on 20.02.2013 has decided that power plant shall be constructed at the proposed site. CCI has also recommended 'in-Principle' approval for restoration of original coal linkage granted for the power project with the stipulation that coal supply will commence during the 13th Five Year Plan.

M/s NTPC has now therefore submitted an application to the Ministry for revalidation of the environmental clearance issued in 2004.

The Committee noted the information provided and observed M/s NTPC cannot be faulted for non-implementation of the power project in view of the information furnished. The Committee further observed that the continuation of North Karanpura Thermal Power project has the approval of the Cabinet for the site. The Committee was therefore of the view that the environmental clearance accorded may be re-validated and extension for validity period by five years may be given. The Committee further recommended that while revalidating the environmental clearance, the Ministry may stipulate specific conditions which were earlier not prescribed but relevant now.

2.20 2x500 MW (Stage-I) Mauda Thermal Power Project of M/s NTPC Ltd. at District Nagpur, in Maharashtra- reg. Amendment in EC

The matter was earlier discussed in the 72nd Meeting held during April 23-23, 2013, wherein, M/s NTPC Ltd. informed the following:

Environmental clearance for 2x500 MW (Stage-I) Mauda Thermal Power Project at District Nagpur, in Maharashtra on 25.01.2008. Stage-I (2x500 MW) one unit has already been commissioned and trial operation is in progress and the other unit is ready for commissioning. It was also stated that the coal Linkage for stage-I is from Ib Valley Coalfields and to be transported through rail only. That the coal transportation system envisaged for Mouda STPP, Stage-I consists of the following:

1. From Ib Valley Coalfields to Chacher Railway station (located at about 9 km. from the project) by Indian Railway System- Howrah Mumbai Main Line.
2. From Chacher railway station to Mouda STPP Plant through NTPC Railway Network System.

It was also stated that the implementation of NTPC Rail Network System is in progress and more than 90% of the track laying works is completed. That however, due to new safety issues raised by Commissioner of Railway Safety, Kolkata (In January, 2013), a stretch of about 100 meters track linking and inter-connection with main railway network is held up at Chacher railway yard. That as this completion of this work is likely to take another four to six months. That after completion of NTPC Rail Network System, the regular coal supply to the plant will be taking place through railways and NTPC Rail Network System.

Further, it was stated that as the NTPC Rail Network System is not ready for use, NTPC Mouda has arranged coal initially from Gondagaon Mines of WCL through e-auction mode. Now NTPC Mouda has arranged alternate source of coal from Kamptee mines of Western Coalfields Limited (through MOU route) located at about 35 km. from the project and adopted coal transportation by roads for trial operations of Unit-I. The coal is loaded directly inside the mine area and unloaded in the plant coal stock yard area only. NTPC has taken all measures to ensure that there is no fugitive dust emission during road transportation of coal by taking action like wetting of coal before transportation and covering of open surface appropriately.

The first unit of Stage-I (500 MW) has been commissioned and trial operation is in progress. Due to delay in completion of NTPC Rail Network, the CERC was approached for grant of extension for declaration of commercial operation of Unit No.1. CERC vide its order dated 08.02.2013 has extended the time for declaration of commercial operation up to 28.02.2013 only. This necessitates NTPC Mouda (Unit-I) to start commercial production from 28.02.2013. NTPC has also committed to Government of Maharashtra and to western region states to start sustained production from unit No.1 of Mouda from 28.02.2013 onwards to fulfill power demands during incoming summer.

That the second unit of Stage-I is being made ready for commissioning by March, 2013. The coal linkage for the second unit has now been granted by Coal India Limited from Western Coalfields Limited.

In view of the above, M/s NTPC Ltd. has requested that an amendment to the environmental clearance of Mouda STPP, Stage-I may please be accorded for the following:

1. Sourcing of coal for NTPC Mouda from Kamptee Mines of Western Coalfields Ltd. located at a distance of about 35 km., by road transportation as a contingency measure, till the completion and

stabilization of NTPC Rail Network System for a period of four to six months.

2. Change in coal source for Unit No. 2 to Western Coalfields Ltd. of Coal India Ltd. in place of Ib Valley Coalfields.

M/s NTPC Ltd. also informed the Committee that Unit-I has achieved COD on 13.03.2013. That as stated in their letter to the Ministry coal will now be from WCL for both Unit-I and Unit-2.

The Committee had noted that there seem to some mismatch of information and desired that the matter can be taken up in the next meeting. Accordingly the matter was deferred.

The matter was again taken up and M/s NTPC stated that eventhough both units have now been commissioned, the units cannot be put under sustained operation due to non-availability of coal on account oof non-completion of small portion of Railway siding from Chacher Railway Station to the Plant site. That as an alternate arrangement to rail transportation, M/s NTPC has explored the transportation of coal from nearby WCL mine to the project site by road. That implementation of the railway siding is in advance stage and about 90% of the track laying work has been completed. That due to safety issues raised by the Commissioner of Railway Safety, Kolkata, a stretch of about 100 m track linking is held up at Chacher Railway yard and is likely to take few months to complete. That after completion of the railway siding, regular coal supply to the plat will be taking place by rail only.

The Committee noted the information provided and recommended that both issues i.e change in coal source and road transportation of coal for an interim period can be agreed and the Ministry may carry out the needful amendment in the environmental clearance letter.

2.21 2x600 MW (Unit-I& II of Phase-I) and 1x600 MW (Phase-II) of 1800 MW Coal based STPP of M/s Essar Power (Jharkhand) Ltd. near Chandwa, Dist. Latehar, in Jharkhand- reg. Change in source of coal.

The matter was discussed in the last meeting i.e 72nd meeting held during April 22-23, 2013, wherein, it was decided that it will be taken up in the following meeting.

M/s Essar Power (Jharkhand) Ltd. had originally planned 2000 MW Pit Head Coal Based Thermal Power Plant at site i.e at Chandwa, in Lathehar Distt., in Jharkhnad. The plant was to be executed in two phase viz. 2x600 MW (Unit-I&II) in Phase-I and 1x800 MW in Phase-II. Later it was decided to change the unit configuration for the Phase-II unit i.e 1x800 MW to 1x600 MW in order to have better operational and maintenance advantages. The

change in unit configuration from 800 MW to 600 MW was agreed to by the EAC in its meeting held in October, 2010.

Environmental clearance for the 1x600 MW (Unit-I) Coal Based TPP of Phase-I was accorded on 08.05.2009. The source of coal for this unit was to be obtained from Chakla Coal Block, which is located at about 4 kms. Coal is to be transported by closed conveyor belt.

Environmental clearance for the second unit of 1x600 MW of Phase-I was recommended by the EAC in its meeting held on October 19, 2010. The proposal then placed before the EAC was for 1x600 MW for the second unit of Phase-I and 1x600 MW for Phase-II. The EAC had recommended environmental clearance only for the second unit of Phase-I i.e 1x600 MW (Unit-II), as Chakla Coal Block can cater to only Phase-I units. For the Phase-II unit of 1x600 MW, Coal was to be obtained from Ashok Karkata Coal Block.

M/s Essar Power (Jharkhand) Ltd. have informed the Ministry that the EC for Chakla Coal Block was recommended but is kept pending for issuing for want of stage-I clearance of Forests Clearance (FC). That the said FC has been stuck because of 'Go-No Go' area issues. That due to delay in grant of FC for the Coal Block, M/s Essar Power (Jharkhand) Ltd. have now requested the Ministry for allowing to go ahead with the project (1x600 MW Unit-I of Phase-I) based on imported coal from Indonesia/Australia/South Africa for an interim period till captive coal blocks becomes operational. M/s Essar Power Jharkhand Ltd. further have also requested according environmental clearance for its Unit-II of Phase-I i.e 1x600 MW as earlier recommended for EC in October, 2010 by the Committee and for inclusion of 3rd Unit of 600 MW of Phase-II based on the same source of imported coal. It was also informed that the EAC had appraised the proposal for both 600 MW Units of Phase-I and Phase-II in the meeting in October, 2010 but recommendation had been made only for 1x600 MW of Phase-I as mentioned above, as coal from linked mine can cater to only Phase-I units. They have also stated that the imported coal from Indonesia/Australia/South Africa is for an interim period till captive coal block becomes operational.

As stated above, the matter was deliberated in the 72nd meeting held during April 22-23, 2013 and the Committee had observed that with regard to Chakla Coal Block, there seem to be surmountable problem with regard to forest clearance and is unlikely to be resolved in the early future. The project proponent however stated that unlike Mahan Coal Block, where, forests cover constitutes about 70% of the coal block, the Chakla Coal Block has only about 40% forests cover and the likelihood of getting forests clearance is largely certain.

The Committee also noted that the MoU for imported coal submitted seem to have been entered into a trading company and need to be examined in depth.

The Committee therefore advised the project proponent to furnish a copy to Shri J.L. Mehta, Member, EAC for his perusal and observations.

The Committee had also noted that the project was conceived with coal to be sourced from Chakla Coal Block and the project is located Latehar District, in Jharkhand. That the viability of the project based on imported coal does not seem to be convincing and therefore advised that a scenario building exercise shall be carried out and presented taking into accounts all possible bottle necks.

On the issue of uncertainty in coal (including imported coal from Indonesia), the Committee observed that in order to avoid dis-service to financial institutes by creating stranded assets, the issue of firm fuel and water availability not only need to be deliberated at length but also need to be confirmed to its satisfaction. It was therefore decided that the project proponent shall make due diligence in studying the viability of the project based on imported fuel source for running the power project (2x600 MW Unit-I & II of Phase-I).

The issue of coal transportation from the country of origin to the TPP site and the bottle necks of Port and Railways were also noted as a concern. The Committee therefore decided that details on the same as submitted to the Ministry and the members of the Committee, need due diligence by the project proponent. It was also decided that the project proponent shall list out the details on account of delay in COD and its impact, in a tabular form for the perusal of the Committee. It was also decided that PPAs entered into shall be submitted, which was duly done during the course of the deliberation.

In view of the missing gaps of information the Committee decided that the project proponent can come up with details sought above and present their case in the next meeting. Accordingly the matter was deferred.

On receipt of revised MoU for imported Coal and PPA copies the matter was again taken up in this meeting.

It was noted that two MoU have been entered into viz. one with HMS BERGBAU AG (“HMS”) having its registered office in Berlin, Germany and other with RUDHRA MINERALS PTE LTD. (“RUDHRA”) having ist registered office in Singapore. For the imported coal to be supplied by “HMS”, the specifications will be: Ash content will be from 2.5 to 12 % (Indonesia) and 15 to 18 % (Australia); sulphur content will be 0.5 to 0.8 % (Indonesia) and 0.6 to 0.8 % (Australia). GCV will be 3800-5800 (Indonesia) and 4800-5800 (Australia). For the coal to be supplied by RUDHRA the specification will be: Ash content will be from 2.5 to 12 % (Indonesia) and 12 to 30 % (South Africa) and 15-18% (Australia); sulphur content will be 0.5 to 0.8 % (Indonesia); 0.6-0.8% (South Africa) and 0.5 to 0.8 % (Australia). GCV will be 3800-5800 (Indonesia); 4800-5800 (South Africa) and 4800-5800 (Australia). Also letter of commitment from M/s Coal Orbis AG, Switzerland for import of 2.4 million tons/ annum is available, having coal charateristics as: Ash content will be from 2.5 to 12 % (Indonesia); 20-30 % (South Africa)

and 15 to 18 % (Australia); sulphur content will be 0.5 to 0.8 % (Indonesia); 0.5-0.7% (Australia) and 0.6 to 0.8 % (South Africa). GCV will be 3800-5800 (Indonesia); 4800-5800 (South Africa) and 4800-5800 (Australia). That maximum of the coal (about 85 to 90%) to be imported will be from Indonesia. It was stated that the company have made arrangement of import of about 6.5 MTPA from the above three sources. Imported coal will be brought to either Paradeep or Dhamra Port and from there by rail to Mahuamilan Railway siding and thereafter by road to the Coal Stock yard / Crusher at Chakla Coal Block, a distance of about 3 kms, by 20 tonnes mechanized closed trucks and thereafter by conveyor belt to the power plant site.

It was stated that under the PPA executed between BSEB and EPJL there is also a provision for payment security and BSEB is required to open escrow account as security. That in case of a default in payment, a provision for third party sale while still receiving capacity charges from BSEB, is permitted in the PPA.

M/s Essar Power (Jharkhand) Ltd. (EPJL) made a detailed presentation on the financial viability of the power project based on imported coal and provided the following information:

The existing village road from the railway siding to the thermal power plant site of about 3.0 km will be strengthened and maintained by M/s EPJL and application has been submitted to the State Govt. for strengthening and for allowing coal transportation on same. The same is in advance stage of approval. From the Power Plant to the Coal Handling Plant (CHP), which is a distance of about 3 km the existing traffic density is presently about 491 PCUs/day.

Feasibility Study for transportation of imported coal transportation from Paradeep/ Dhamra ports by rail to the Mahuamilan Railway Siding, has been carried out through RITES (A govt. of India undertaking) and it is reported that the railway system can take up 4.8 MTPA imported coal without any difficulty. In principle approval on Feasibility Study Report (FSR) has been obtained from ECR, Hajipur. At Mahuamilan Railway Siding, infrastructure facilities will be developed by EPJL and is expected to be commissioned by March 2014. The road handling capacity and future load calculation anticipated is as under:

Sections	Road length (km)	Road Type	Existing PCUs/d	Addl. PCUs/d	Road capacity (PCUs/d) existing	Road capacity (PCUs/d) after development	Spare capacity (PCUs/d)
Mahuamilan siding to Mahuamilan	3	Vill. Road	491	5412	6000	17250	11347

n (Batching plant – adjacent to site)							
Mahuamilan (Batching plant) to Chalka coal stock yard	3	ODR (to be developed)	--	5412	--	17250	11838

Greenbelt will be developed along the route (~ 6km) of coal transportation based on the Guidelines for Developing Greenbelts, CPCB (March 2000), at a cost of about Rs. 14 lakhs.

The Committee noted the information provided and recommended that the request of the project proponent for change in source of coal for the 1st Unit of 600 MW of Phase-I, for which EC has been accorded in May, 2009 can be agreed. The Committee also upheld the recommendation of environmental clearance made in October, 2010 for the second Unit of 600 MW of Phase-I. Further, it was recommended that since appraisal had been carried out for both units of 600 MW viz. one unit of Phase-I and one unit of Phase-II, each consisting of 600 MW, recommendation can be made for third unit of Phase-II also for environmental clearance. It was also recommended that specific conditions not recommended earlier but relevant now shall be stipulated and road transportation can be permitted only for an interim period of three years.

2.22 2x150 MW + 1x350 MW (Phase-I) Coal Based TPP of M/s. Meenakshi Energy Private Limited. at Mandal Chillakur, in Distt: SPSR Nellore, Andhra Pradesh- reg. Extension of validity period of EC.

M/s Meenakshi Energy Pvt. Ltd. was accorded environmental clearance on 02.07.2008 for 4x135 MW (540MW) in (Phase-I), Coal based Thermal Power Project at Thamminapatnam, in Nellore Distt., in Andhra Pradesh. Later the unit configuration was changed to 2x150 MW + 1x300 MW (600 MW) and approval for change in unit configuration was accorded on 03.06.2009. Subsequently the unit configuration of 300 MW was changed to 350 MW and approval for change from 300 MW to 350 MW was accorded on 20.08.2010.

M/s Meenakshi Energy Pvt. Ltd. has now informed that both unit of 2x150 MW of Phase-I are commissioned but the construction work of 350 MW Unit of Phase-I is still underway. That financial closure of 350 MW could only be achieved in July 2011 and construction sand availability was hampered due to restriction on sand mining resulting in work getting delayed. M/s Meenakshi Energy Pvt. Ltd. has therefore requested extension of validity period of environmental clearance for Phase-I.

The request was placed before the Committee for its views.

The Committee noted the information provided and agreed that no purpose could be served by impeding implementation of an already progressing project and recommended that in accordance with the provisions prescribed in the EIA Notification, 2006 the extension can be granted. The Committee also recommended that specific conditions earlier not prescribed but relevant now may be additionally stipulated while granting the extension.

2.23 1x350 MW (Phase-II) Coal Based TPP of M/s. Meenakshi Energy Private Limited at Village: Thamminapatnam, Mandal: Chillakur, Distt- Nellore, Andhra Pradesh- reg. Extension of validity period of EC.

M/s Meenakshi Energy Pvt. Ltd. was accorded environmental clearance on 19.10.2009 for 1x300 MW in (Phase-II), Coal based Thermal Power Project at Thamminapatnam, in Nellore Distt., in Andhra Pradesh. Later the unit configuration was changed to 300 MW to 350 MW and approval for change in unit configuration was accorded on 20.08.2010.

M/s Meenakshi Energy Pvt. Ltd. has now informed that whereas the Phase-I units comprising of 2x150 MW have been commissioned, construction work of 350 MW Unit of Phase-I and 350 MW Unit of Phase-II is still underway. That financial closure of these 350 MW Units could only be achieved in July 2011 and construction sand availability was hampered due to restriction on sand mining resulting in work getting delayed. M/s Meenakshi Energy Pvt. Ltd. has therefore requested extension of validity period of environmental clearance for Phase-I.

The request was placed before the Committee for its views.

The Committee noted the information provided and agreed that no purpose could be served by impeding implementation of an already progressing project and recommended that in accordance with the provisions prescribed in the EIA Notification, 2006 the extension can be granted. The Committee also recommended that specific conditions earlier not prescribed but relevant now may be additionally stipulated while granting the extension.

2.24 4x660 MW Super Critical coal based Thermal Power Plant of M/s. N C Energy Ltd. at village Adiyakurichi, Taluk Tiruchendur, Distt-Thoothukkudi, Tamil Nadu- reg. Extension of validity period of TOR.

M/s NC Energy Ltd. was prescribed TOR on 15.06.2011 for 4x660 MW Super Critical Coal Based Thermal Power Project at village Adiyakurichi, Taluk Tiruchendur, Distt- Thoothukkudi, Tamil Nadu.

M/s NC Energy Ltd. informed that out of 990 acres of land required for the power project, about 475.28 acres have been acquired till date and NOC from village Panchayat has been received. In-Principle approval to draw sea water has been accorded by the Tamil Nadu Maritime Board. Various studies for the project such as Detailed Project Report, Marine EIA, Coal transport analysis by rail etc. have been carried out. The project was conceptualized on blended (domestic : imported) coal with option of 100% imported coal and as the domestic coal availability is an uncertainty, there has been delay in project preparedness. M/s NC Energy Ltd. has therefore requested for extension of validity period of TOR.

The request was placed before the Committee for its views.

The Committee noted the information provided and recommended that in accordance with the policy decision taken by the Ministry an extension of one year can be given. The Committee therefore recommended that the Ministry may carry out the needful.

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

Terms of Reference (TOR) :

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

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

- quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.
- xxii) Detailed plan for carrying out rainwater harvesting and its proposed utilisation in the plant shall be furnished.
 - xxiii) Feasibility of zero discharge concept shall be critically examined and its details submitted.
 - xxiv) Optimization of COC along with other water conservation measures in the project shall be specified.
 - xxv) Plan for recirculation of ash pond water and its implementation shall be submitted.
 - xxvi) Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals.
 - xxvii) Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out by a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of local communities.
 - xxviii) Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
 - xxix) If the area has tribal population it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
 - xxx) A detailed CSR plan along with activities wise break up of financial commitment shall be prepared. CSR component shall be identified considering need based assessment study. Sustainable income generating measures which can help in upliftment of poor section of society, which is consistent with the traditional skills of the people shall be identified. Separate budget for community development activities and income generating programmes shall be specified.
 - xxxi) While formulating CSR schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CSR details done in the past should be clearly spelt out in case of expansion projects.
 - xxxii) R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.

- xxxiii) Assessment of occupational health as endemic diseases of environmental origin shall be carried out and Action Plan to mitigate the same shall be prepared.
- xxxiv) Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conducive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two years shall be conducted with an excellent follow up plan of action wherever required.
- xxxv) One complete season site specific meteorological and AAQ data (except monsoon season) as per MoEF Notification dated 16.11.2009 shall be collected and the dates of monitoring recorded. The parameters to be covered for AAQ shall include SPM, RSPM (PM10, PM2.5), SO₂, NO_x, Hg and O₃ (ground level). The location of the monitoring stations should be so decided so as to take into consideration the pre-dominant downwind direction, population zone, villages in the vicinity and sensitive receptors including reserved forests. There should be at least one monitoring station each in the upwind and in the pre - dominant downwind direction at a location where maximum ground level concentration is likely to occur.
- xxxvi) A list of industries existing and proposed in the study area shall be furnished.
- xxxvii) Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the Model used and the input data used for 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.
- xliv) 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.
- xlv) 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.
- xlvi) 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.
- xlvii) 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.
- xlviii) 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.
- xlix) 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.
- xlx) Corporate Environment Policy
 - a. Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
 - b. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
 - c. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring

compliance with the environmental clearance conditions. Details of this system may be given.

- d. Does the company has system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.

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

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

Additional TOR for Coastal Based TPPs:

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

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

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