MINUTES OF THE 1st MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON ENIVORNMENTAL IMPACT ASSESSMENT OF THERMAL POWER & COAL MINE PROJECTS

The 1st Meeting of the reconstituted Expert Appraisal Committee (Thermal) was held during **September 19-20, 2013** at Tansen Hall, Scope Convention Centre, Scope Complex, Lodhi Road, New Delhi. The members present were:

1. Shri A.S. Lamba - Chairman
2. Dr. C.R. Babu - Vice Chairman
3. Shri T.K. Dhar - Member
4. Shri J.L. Mehta - Member
5. Shri N.K. Verma - Member
6. Shri A.K. Bansal - Member
7. Dr. Ratnavel - Member
8. Dr. S.D. Atri - Member
9. Dr. Asha Rajvanshi - Member
10. Dr.CBS Dutt - Member
11. Dr. Saroj - Member

Secretary

In attendance: Sh. W. Bharat Singh, Deputy Director, MoEF. Shri G.S. Dang and representative of CPCB were absent.

DATE: 19.09.2013

ITEM NO. 1: WELCOME NOTE BY MEMBER SECRETARY AND ADDRESS BY CHAIRMAN, EAC.

The Member Secretary welcomed the Chairman and the members of the newly constituted Expert Appraisal Committee for Thermal and Coal Mine Projects and briefed the Committee about the salient features of the provisions of the EIA notification, 2006 and its amendments and the procedures adopted for appraisal of project proposals. She also informed the members of the various policy decisions particularly w.r.t thermal power taken by the Ministry and issued through various Office Memorandums.

The Chairman in his address highlighted the requirement of maintaining true spirit of neutrality while appraising a project proposal placed before the Committee and felt that in doing so, merit of the case shall be the sole criteria for recommendations by the Committee.

Acknowledging the contributions made by former Chairman, Shri V.P. Raja, members expressed the experiences gathered during the last three years of the deliberations made in the Committee.

Chairman, EAC was pleased to announce that members have unanimously agreed to nominate Dr. C.R. Babu as the Vice-Chairman of the EAC.

The deliberations held and the decisions taken are as under:

ITEM NO. 2: CONSIDERATION OF PROJECTS

2.1 Expansion by addition of 2x300MW SLPP (Station–III) Power Project of M/s Gujarat Industries Power Company Ltd. at village Nani Naroli, Taluka Mangrol, Distt. Surat, Gujarat - *reg. Environmental Clearance.*

The proposal is for consideration for environmental clearance. The project proponent made a presentation along with its consultant M/s Tata Consulting Engineers, Banglore and M/s NEERI, Nagpur and provided following information:

The proposal is for expansion by addition of 2x300 MW Surat Lignite Power Plant (Station –III) at village Nani Naroli, Taluka Mangrol, Distt. Surat, Gujarat. Environmental Clearance for 2x125 MW (Station-I) SLPP was accorded on 26.05.1996 and for 2x125 MW (Station-II) SLPP environmental clearance was accorded on 10.11.2003. The land required for expansion will be 370 acres which is already available within the existing premises. The co-ordinates of the site will be located within Latitude $21^0$24'08.653" N to $21^0$24'31.903" N and Longitude $73^0$06'37.834" E to $73^0$07'19.025" E. Lignite requirement will be 3.75 MTPA. Lignite will be obtained from Mangrol-Valia Captive Mine for which mining lease was granted by Ministry of coal on 31.10.2001. Environmental clearance for the mine was granted on 21.07.2003. The expansion of production capacity of Mangrol-Valia Lignite Mine from 4.2 MTPA to 7.4 MTPA, mining lease application was recommended by Industries & Mines Department, Govt. of Gujarat and forwarded to MoC for prior approval on 20.04.2013 and TOR by MOEF was issued on11.02.2012. Public hearing has been conducted for mine in Surat District on 02.04.2013 and in Bharuch district on 05.04.3013. Ash and sulphur contents in lignite will be 5-20% and 0.2-2.0%

respectively. That sulphur content by using CFBC technology will be reduced to 0.6%. Lime required will be obtained from captive mine. Gross Calorific value of the lignite will be 2900 kcal/kg. Lignite crushing will be done at TPP site. About 0.75 MTPA of fly ash and 0.25 MTPA of bottom ash will be generated. Ash will be supplied for brick manufacturing, road construction etc. and if in case any quantity of flyash left out unutilized will be disposed after mixing with overburden into the captive lignite mines for voids filling. Water requirement of 50.016 MLD will be sourced from the Tapi river through a pipeline at a distance of about 18 km from the project site. HFL of Tapi River is at 25.5 m, located at about 12 kms from the project site. In principle clearance has already been obtained from Narmada water Resources Water Supply & Kalpsar Department, Govt. of Gujarat for drawl of water vide letter dated 29.09.2011. 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 for the power project was held on 12.03.2013. Cost of the project will be Rs.4181 Crores.

M/s GIPCL submitted before the Committee that Bi-Flue stack of 263 m can be installed as AAI has objections for a 275 m stack. That accordingly impact assessment has also been carried out for 263 m stack height.

The Committee noted the request and agreed that based on the results of the exercises carried out for impact assessment, the request for 263 m can be agreed to.

It was also informed that transportation of lignite from mine to TPP site is through dedicated road and being carried out by PAPs only. That ash content in fly ash has gypsum (a binding material) and extensively used for brick manufacturing. The Committee noted that presently 95% of fly ash is being utilized.

A presentation was made on the compliance to the conditions of the existing power project followed by presentation of compliance of the TOR provisions.

The Committee discussed the issues raised in the public hearing and the responses made by project proponent. It was noted that the major issues raised were regarding arrangement for lignite transportation for the proposed plant; demand for flyash generated to be supplied to land loosers and affected people only and flyash quota shall not be given to others; due to the proposed plant there is a possibility of adverse impact on the Environment, human and other live beings; solution for polluted water, likely to be generated from the proposed project; provision of medical services; women employment, growth and literacy etc.

In response to lignite transportation it was stated that transportation shall be done through dedicated road and option of conveyor belt system shall be explored. On the issue of adverse impact on environment due to proposed power plant, it was stated that CFBC technology will be employed using lime injection which will reduce SO_X emission. That blow down water will be used for plantation and after R.O filtration will be used in plant. No polluted waste water will be discharged. With regard to community services it was stated that mobile medical van is being started for surrounding affected villages. For this a financial budget of Rs 25 lakhs for the year 2013-2014 has been made.

The Committee noted that the action plan being presented for implementation of issues raised in public hearing and others are very general in nature with no specific details. The Committee therefore decided that the project proponent shall revise its action plan for implementation of issues raised in public hearing and detailed CSR programme. While doing so it was decided that the project proponent shall indicate financial commitment made for activities planned.

It was further decided that details of CSR activities and audited financial expenditures incurred till date shall be submitted. The project proponent was also directed to get a social audit done in respect of CSR activities by a reputed institute in the region.

The Committee noted that the power plant is in existence for quite some years and has been carrying out mine void filling activity which is undesirable irrespective of existing legislation permitting mine void filling. *The Committee therefore decided that the project proponent shall immediately prepare a suitable action plan for undertaking monitoring of ground water for heavy metals in and around mine voids where fly ash filling has taken place and also in and around the existing ash pond area. The Committee also recommended that the project proponent may take the services of reputed institutes who have the capability for undertaking such studies like IIMT, Bhubaneswar.*

The Committee also noted that the project that transportation of lignite is being planned even for the expansion project only through dedicated road, which is not an environmentally sound proposition. The Committee therefore decided that the project proponent shall install closed conveyor belt system for transportation of lignite from the mine to the site (a distance of about 14.0 kms) and road transportation shall ceased with a period of three years.

On the issue of sustainable water availability, the Committee observed that even though the power project has water allocation from the Competent Authority, the analysis of impact on competing sources of water downstream of the project site

need to be examined. It was therefore decided that the same shall be submitted based on flow data of the river for the last 40-50 years.

In view of the missing gaps of information the Committee decided that the proposal is premature for recommendation of environmental clearance. The Committee accordingly decided that the proposal be deferred and shall be taken up once information/study noted in the preceding paragraphs above are submitted.

2.2 Expansion by addition of 1x660 MW Imported Coal Based TPP (Phase-II) of M/s Jhabua Power Co. Ltd. at village Barela and Gorakhapur, Tehsil Ghansore, Distt. Seoni, Madhya Pradesh - *reg. Environmental Clearance.*

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

The proposal is for expansion by addition of 1x660 MW (Phase-II) Imported Coal based TPP at village Barela and Gorakhapur, Tehsil Ghansore, Distt. Seoni, Madhya Pradesh. M/s Jhabua Power Ltd. Stated that the present proposal is only for an interim period until domestic coal is made available for the proposed expansion.

Environmental clearance for 1x660 MW (Phase-I) Imported Coal Based TPP was accorded on 17.02.2010. That 90% construction for Phase-I is completed. The land required for expansion will be 385.80 acres which includes 169.91 acres of single crop agriculture land; 119.20 acres is waste land; 87.60 acres fallow land; and 9.58 acres of forests land. Forests clearance for diversion of 9.58 acres of forests land has been obtained on 07.02.2012. The co-ordinates of the site will be located within Latitude $22^0$43'40" N to $22^0$44'20" N and Longitude $79^0$54'35" E to $79^0$55'35" E. Imported (Indonesia) coal requirement will be 2.85 MTPA. M/s JPL has signed a MoU with M/s Coal Trade Services International Pte. Ltd. having its registered office at 16-01, 1 Finlayson Green, Singapore – 049246, for supply of imported coal. The supplier i.e M/s Coal Trade Services International Pte. Ltd. who is engaged in sale of coal from coal mines owned and operated by PT Adaro Energy Tbk. Ash and sulphur contents in imported coal will be 8% and 0.5% respectively. Gross Calorific value of the imported coal will be 4000 kcal/kg. The Ash pond area will be 95 acres and co-ordinates of the ash pond site will be located within Latitude $22^0$44'4.83" N and Longitude $79^0$55'15.30" E. Flyash generated will be 0.183 MTPA and bottom ash will be 0.045 MTPA. MoU for FLY Ash supply has been signed with M/s

Builtech Building Elements Ltd. and M/s K.P. Cement Mfg. Co. Pvt. Ltd. for 100% Flyash utilization. Bi-flue stack of 275 m proposed forPhase-I unit will be utilised. Water requirement of 15.33 MCM will be sourced from the Bargi Reservoir through a pipeline at a distance of about 10 km from the project site. Permission to draw water has been obtained from the Narmada Valley Development Department, Govt. of Madhya Pradesh vide its letter dated 21.02.2011. Induced draft cooling system will be installed. There are 10 reserved Forests and one protected forest within ten km of the project site i.e. Roto R.F, Barwakchhar R.F, Katori R.F, Dhoma R.F, Diwara R.F, Ghansor R.F, Bhattekhari R.F, Bichhua R.F, Jaitpur R.F, Barela R.F, Partapgarh P.F. and there are five rivers within the 10 km of the project site i.e. Patwara River, Bhagori River, Temur River, Paryat River and Gadheri River. Public Hearing was held on 22.11.2011. Cost of the project will be Rs.3500.0 Crores.

The Committee noted that AAQ Data for the present proposal was collected during October to December, 2010, whereas, TOR was issued (for 1x600 MW) on 08.12.2010 (later reiterated for 1x660 MW on 06.09.2011). The Committee felt that this could be construed as a deviation of the procedure as defined in the EIA Notification, 2006. In response to this, the project proponent stated that during presentation made for the TOR it was requested before the then Committee that they be allowed to use the AAQ and other data which they had started collecting.

The Committee went through the minutes of the meeting wherein TOR was recommended and noted that the same did not indicate the submission now being made and therefore declined to accept the data.

The Committee, therefore, decided that the project proponent shall collected one season AAQ data during October-December, 2013 along with corresponding metrological other relevant data and reassess the impact on AAQ due to the present proposal and other sources of emissions (existing and likely to come up) in the study area and accordingly prepare a comparative analysis of impact based on earlier monitoring data of 2010 and the new data shall be prepared. It was further decided that revised EIA/EMP Report or an Addendum to the same shall thereafter be furnished.

The Committee noted that documents received are silent on the financial viability of the power project based on imported coal from Indonesia. The Committee felt the need for a detailed analysis on the same and decided that it shall be first submitted before the proposal can be placed for re-appraisal. While doing so, the Committee reiterated that the project proponent shall furnish information along with communication from the Port Authority (Dahej/Magdalla) on port handling capacity in the country for the coal proposed to be imported. Thereafter viability of

transportation of imported coal through railways and rolling stock availability needs to be substantiated with information by way of communication from the Ministry of Railways, Govt. of India.

On the issue of water availability, it was stated that firm water allocation from Bargi Reservoir is available. The Committee, however observed that availability of firm water allocation cannot be the final conclusion of firm water availability, especially during lean season. The Committee therefore decided that the project proponent shall furnish details of competing sources of water down steam of the reservoir.

The Committee also discussed the issues raised in the Public Hearing and the responses made by project proponent. It was noted that the major issues raised were regarding measures taken to reduce the effect due to usage of DG Set; effect on farmers due to increase in temperature and flyash; impact on animals, forests, wild animals and environment due to the proposed project activities; ill-effects on fisheries of Bargi Dam which is closed to the project site; pollution caused by transportation of materials to the power plant; proposed power plant falls under earthquake sensitive area due to which industrial disaster may occur; greenbelt development work is not done; pollution due to pressure; no proper utilization of bottom ash; distance of nala and pond from plant boundary; water conservation plan; impact of flyash and bottom ash on land; impact on Bargi Dam, Narmada River and agriculture; impact on human health; effect on Kanha & Pench National Park due to proposed power plant; ground water is used by the power plant which effects the ground water; the information mention by M/s. JPL in the EIA Report seems not actual; social responsibility work being performed under the CSR by power plant is only for show; road are damaged due to movement of Dumpers & other vehicles; facilities for education /school, veterinary, health centre, employment and drinking water facility for the land losers; local population and tribal population; arrangements for irrigation; electricity shall be provided; compliance of earlier condition by power plant; villagers of Barela needs development instead of detriment etc.

The Committee noted the responses made to various issues raised in the public hearing and observed that while some has been acceptably dealt with, there are still many issues of relevance for which appropriate action plan with budgetry provisions need to be formulated for immediate implementation. As an example: on the issue raised regarding employment of locals, the project proponent stated that preference in employment will be given to project affected families (PAFs) based on qualification and necessity, whereas, the TOR point (xix) states that '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'.

The Committee therefore decided that the project proponent shall submit a detailed Action Plan for implementation of issues of relevance raised in the public hearing and others and resubmit along with financial commitments activity wise.

It was also noted that scheme for tribal welfare and tribal rights identification were not spelt out even though it was prescribed in the TOR.

It was further observed that the project proponent shall submit compliance report on conditions of final clearance under FCA 1980, including status of declaration of equivalent Non Forest Land (CA) under Indian Forest Act as RF.

In view of the missing gaps of information, the Committee decided that the proposal is premature for recommendation of environmental clearance. The Committee accordingly decided that the proposal be deferred and shall be taken up once information/study noted in the preceding paras above are submitted.

2.3 2x660 MW Imported Coal Based TPP of M/s SJK Powergen Ltd. at village Lalapur, in Shahdol Distt., in Madhya Pradesh - *reg. reconsideration of Environmental Clearance.*

The proposal was earlier considered in the 46thMeeting and 64th Meeting held during April 9-10, 2012 and January 7-8, 2013, respectively, wherein it was deferred due to inadequacy of information requisite for appraisal.

The project proponent in the earlier meetings gave a presentation and provided the following information:

"The proposal was earlier proposed based on domestic coal but due to non-availability of the same, it has been decided to go ahead with imported coal from Indonesia for an interim period until domestic coal is available.

The present proposal is for setting up of 2x660 MW Supercritical Imported Coal Based Thermal Power Plant at village Lalpur, in Sohagpur Taluk, in Shahdol Distt., in Madhya Pradesh. Land requirement will be 700 acres, of which 163 acres is Govt. land (chote jhar ka jungle), 527 acres is private land and 10 acres is revenue land. Stage-I forests clearance has been obtained for diversion of 66.294 ha of revenue forest land. The co-ordinates of the site are located within Latitude 23^{0}15'50"N to 23^{0}17'10" N and Longitude 81^{0}28'12" E to

81^0'30'20" E. Imported coal requirement will be 4.72 MTPA at 85% of PLF and will be obtained from Indonesia, Kuansinglnti Makmur (KIM) Coal mines and PT Borneo Indobara (BIB) Coal mines. MoU has been signed with M/s GMR Coal Resource Pvt. Ltd, Singapore. Ash and sulphur contents in imported coal will be 7.5% and 0.59% respectively. Total ash generation will be 0.356 MTPA. Fly ash will be supplied to M/s ACC Keymore Cement Works of Katni, MP. Ash pond area will be 240 acres and co-ordinates of the ash pond site is located within Latitude $23^0$15'50"N to $23^0$16'57" N and Longitude $81^0$29'1" E to 81^0'30'20" E. HCSD is being envisaged for disposal of ash from power plant. Twin flue Stack of 275m shall be provided. Induced Draft cooling system shall be installed. Water requirement of 34.69 MCM will be sourced from the River Son through a pipeline at a distance of about 2.5km from project site. Permission to draw water has been obtained from the Govt. of Madhya Pradesh and the Central Water Commission. Water will be drawn upstream of Bansagar Dam in River Son. Sarphanala (a seasonal nala) is located at 0.2 km distance from the project site. There are nine reserve forest blocks within 10 km of the study area of the project site. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within 10 km of the site. Public Hearing was held on 08.10.2009. Cost of the project will be Rs 8000.0 Crores.

In 46^{th} meeting, the Committee noted that land has been optimized from 950 acres to 700 acres in order to reduce the area of forest land (Jhudpi jungle). It was also informed that proposed ash pond has been relocated further away from the River Sone. That the colony (township) has also been removed.

The project proponent also informed that their intention for installation of Assisted Spray Air Cooled Condensers is under serious examination.

The Committee had also discussed the issues raised in the public hearing held on 18^{th} December, 2009 and the responses provided by the project proponent. The major issues raised were regarding unemployment of local youth and provision of employment especially to land losers and educated youth; pollution due to stone crushers in the area; educational facilities; request for non-disposal of fly ash in Son river or Sarphanallah as these are sources of drinking water for the villagers; regular monitoring of air and water, general pollution, plantation of tees, provisions of drinking water, electricity, hospital and roads. The project proponent also informed that there are no litigation in any court of law pertaining to the project.

The Committee also discussed the reply given by the project proponent to the written communication received during the public hearing.

The Committee noted that even though water allocation appears to be in place, a detailed analysis on the water availability during lean season, taking into account the flow available in Sone river, (considering the riparian needs) and the storage capacity for meeting the lean season period, need to be submitted.

The Committee also noted that transportation of coal and associated impacts including coal handling at ports and railway rolling stocks availability etc. need to be substantiated with available study reports /materials / data etc.

It was also observed that the study area has Schedule–I species including Sloth Bear for which conservation plan should be prepared for immediate implementation.

In view of the missing gaps and requisite information sought as above, the Committee decided to defer the project for reconsideration on receipt of following information:

i) Detailed Action plan for implementation on relevant issues / concerns raised in Public Hearing along with response made and the rough budgetary allocation shall be prepared.
ii) Geological map of the plant area shall be furnished;
iii) Location of additional ash pond details shall be provided;
iv) MoU for Fly Ash Utilisation signed with contracting parties shall be submitted;
v) Transportation of coal and associated impacts / barriers, including coal handling capacity at Ports and railway rolling stocks availability shall be studied and report submitted;
vi) A copy of R&R plan to be submitted.
vii) CSR Action Plan shall be revised and financial break up activity wise along with firm commitment shall be submitted;
viii) Detailed analysis on the water availability during lean season taking into account the flow available in Son river (considering the riparian needs) and the storage capacity for meeting the lean season requirement shall be prepared and report submitted; and
ix) Wildlife Conservation Plan drawn in consultation with the office of the Chief Wildlife Warden for immediate implementation shall be prepared and submitted.

On submission of the clarification, the matter was again placed before the Committee during the 64th meeting of EAC.

The project proponent informed that imported coal from own mine in Indonesia will be brought to Vizag Port, and transported to TPP site by rail, which is about 900 Kms.

The project proponent informed that a barrage will be constructed at a distance of about 2 Kms from the TPP site. It was however clarified that the barrage will entail no submergence as such as the same is being proposed on high banks of the river for holding excess monsoon water for use of TPP during lean season and that mean minimum flow of river required will be maintained. It also stated that Bansagar Reservoir is located at about 150 Kms downstream.

The Committee observed that more detail information such as impact on other competing sources of water downstream of the proposed barrage and detail water availability for the proposed TPP need to be established along with detail analysis on the adverse impact due to water storage (barrage) on fauna flora. The Committee also decided that the project proponent shall satisfy the Committee that Barrage will have no significant adverse impact on livelihood of people downstream. It was also decided that approval of the CWC, as may be applicable, shall also be submitted for records.

The Committee also noted that the information provided on land use pattern in the study area shall be revisited; preferably using IRSA satellite maps and R&R plan shall be submitted. That while formulating CSR, the methodology adopted and the issues and activities studied/ examined shall be clearly indicated.

In view of the shortcomings as pointed above, the proposal was deferred for re-consideration at a later stage. It was also decided that in the information as stated above may be furnished timely, so that the matter can be placed in the fourth coming meeting for re-consideration".

On submission of the above, the matter was again taken up.

The project proponent stated water from Sone river is not proposed to be drawn during non monsoon months i.e October to May. That the area dependant on Sone River downstream of proposed Barrage is about 252 sq.km. Total Catchment area of Sone River and its tributaries upto Banasagar Reservoir is about 12159 sq.km. Catchment area of Sone River upto proposed Barrage location is about 5091 sq.km. Balance of catchment area from downstream of Barrage upto Banasagar is about 7068 sq.km. Thus, out of 7068 sq.km of Catchment below the Barrage, an area of 6816 sq.km is taken care of by the various major rivers flowing into Sone River. The remaining area is 252 sq.km (i.e 7068 sq. km – 6816 sq.km).

Out of 252 sq.km, about 112 sq.km is covered by reserved forests and no agricultural or other activities are permitted in these areas. The balance land is about 140 sq.km allowing for villages/homesteads, open shrubs etc. The cultivable area may work out to say 80 sq.km, that is 8000 Ha. The terrain being rocky in nature, not more than one crop is raised, that too availing the rains.

As per the latest census figures village wise the population count in this area of 140 sq.km is 32000. Thus for a population of 32000, adopting a domestic water requirement of 50 litre per capita per day, the quantum for the three dry months will work out to 450000 litres (450 cum). Whereas, it is programmed to release 0.26 MCM per month downstream of barrage to cater to the drinking water as well as any agricultural needs for the village clusters in the 140 sq.km area. This figure has been considered in the simulated reservoir routing carried out for 10 years using the inflow hydrological data available.

With regard to information on land use of the area downstream of the Barrage, it was stated that the extent of land area downstream of the proposed Barrage, depends on water sourcing from Sone River. The classification of the total area of land in the District Shahdol between various uses is summed up as: Total Geographical area is about 5,61,000 ha. Out of this total area forest cover is about 2,27,800 Ha (constitutes 40%). Out of this balance area is about 3,33,200 Ha. Whereas, land for non-agriculture uses is about 44,600 Ha. Barren and un-cultivable land is about 9,300 Ha. Permanent pastures & other grazing land is about 6,500 Ha. Land under misc. trees, crops & groves is about 700 Ha. Uneconomical patches of land are about 17,700 Ha. Total is 78,800 Ha. It was also stated that Shahdol district has a good area under food and non food crops during the Kharif season- nearly 190,000 Ha. However, during Rabi season, the area dwindles to a meager 14,000 Ha. Thus, as it is the area does not draw much water from the flow in Sone River.

Water source wise irrigated area was also presented and it was stated that in Shahdol district the source wise irrigated area is as below:

By Canal – 4,400 Ha; By Tank-2,400 Ha; By Tube wells -1,300 Ha; By Open wells-3,800 Ha; From other source-8,900 Ha. Thus the total area irrigated is about 20,800 Ha. This is very low compared to other district in the Rewa Division. District wise, this area of 20,800 Ha constitutes to a meager 6% of the Rewa Division.

Shahdol district has a distinctly large area under Paddy-1,08,000 ha. Out of total area of 1,62,000 ha. That the land can be put to cultivation in Sadhol District is only about 45 % of total area and is predominantly one crop only.

Out of the total area of 1,72,800 ha, area actually sown is only 20,800 Ha (12%). Even such irrigated land mostly depends on tanks, tube wells etc. and irrigation provided by Canals is for a meager 4,400 Ha.

As a further check on the viability of the reservoir operation for routing the inflows vis-à-vis the reservoir storage position month wise has been considered. Such an exercise will confirm the availability of water for ensuring the upstream & downstream committed allocations & usages taking into account various losses etc.

It was further stated that with data of observed daily flow in the River Sone being available, an attempt has been made to come out with a working table for operation of the Reservoir to be formed behind the proposed Barrage structure on the River near Shahdol (village Lalpur) for routing this flow. The daily flow data collected for the years 1993-1994 to 1998-1999 at the Phapund gauging station maintained by CWC have been considered for this purpose. The value of the daily flow has been proportionately reduced to that at Shahdol by applying the factor of 0.42 arrived at by comparing the catchment area drained by the River at the two locations. That having fixed the FRL at EL 458.00, the entire boundary of the reservoir was surveyed & marked with the erection of pillars (totaling nearly 440 numbers) for identification and physical verification ensuring no adverse submersion. In view of the above references, the project proponent stated that provision of barrage will entail no adverse impact on competing recipients.

It was further stated that in view of the proposed barrage drinking water for Shadol town will be greatly benefitted and people residing upstream of the barrage will also be benefitted due to availability of water all round the year.

On the issue of R&R plan it was stated that Madhya Pradesh Govt's. R&R Policy has been taken into account wherever applicable. Regarding CSR activities the project proponent made a presentation and informed that sustained activity began from June, 2010 in Lalpur and Chhata Gram Panchayat of Sohagpur Block. That an amount of Rs 80.62 lakhs has been incurred till date on activities such as health care, education, sanitation, community development etc. That during the year 2013-2017, it is proposed to take up establishing an English Medium School; infrastructural upgradation of all Govt. Schools and Anganwadis; support for bright students of Navadoya and Sainik Schools; establishment of 8 bedded hospitals with ambulance facilities in core village; installation of hand pumps etc.

The Committee noted some of the good work done by the project proponent in social sector but in the instant case it was observed that the claims of CSR

activities appears to be an exaggeration in the absence of specific evidences – documentary or otherwise to substantiate the claim. It was also observed that the activities having declared as having been carried out since June, 2010 were not supported with any financial expenditure statement. Regarding proposed CSR programmes the Committee noted that these are general statements with no specific details and commitments. The Committee therefore decided that the project proponent shall submit a detailed Action plan and a firm commitment of implementation of the CSR activities (based on need based assessment) proposed to be carried out along with financial budget allocation.

In view of the observation made above, the Committee decided that the proposal be deferred and shall be taken up once information/study noted above are submitted.

2.4 2x660 MW Imported Coal Based TPP of M/s MB Power (Chhattisgarh) Ltd. at villages Birra, Siladeshi and Gatwa, in Bamnidhi Taluk, Distt. Jangir Champa, in Chhattisgarh - *reg. reconsideration of EC.*

The proposal was earlier considered in the 50th Meeting held during June 25-26, 2012, wherein the project proponent along with its consultant M/s GIS Enabled Environment & Neo Graphic, Ghaziabad gave a presentation and provided the following information:

The proposal is for setting up of 2x660 MW Imported Coal Based TPP at villages Birra, Siladehi and Gatwa, in Bamnidhi Taluk, in District Jangir Champa, in Chhattisgarh. Land requirement will be 925 acres, out of which 743 acres is single crop agriculture land; 138 acres is waste land and 44 acres comprises of abandoned minor canals. Green belt will be raised in an area of 160 acres. The co-ordinates of the site are located within Latitude $21^0$45'57.77" N to $21^0$46'14.69" N and Longitude $82^0$44'24.92" E to $82^0$45'56.38" E. Imported coal requirement will be 5.7 MTPA at 90% PLF. Imported Coal will be obtained from Indonesia. FSA has been signed with M/s PT. Mitra Setia Tanah Bumbu. Ash and sulphur contents in imported coal will be 15-25% and 0.1-0.4% respectively. Imported coal will be brought from Indonesia to Dhamra Port and thereafter by train to plant site. About 0.94 MTPA of fly ash and 0.24 MTPA of bottom ash will be generated. Ash pond area will be 190 acres and will now be located within the plant boundary. Bi-flue Stack of 275m shall be provided. Induced Draft cooling system will be installed. Water requirement of 36 MCM will be sourced from Mahanadi River. Water Resource Department, Chhattisgarh has planned to construct a barrage (Mironi Barrage) on Mahanadi River. An amount of Rs 22.6 crore has been already paid to WRD, Govt. of

Chhattisgarh for construction of the barrage. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. are within 10 km of the project site. Public Hearing was held on 21.10.2011. Cost of the project will be Rs.7890Crores.

The project proponent has also informed that a petition has been filed in High Court at Bilaspur by some of the land owners challenging the procedure adopted for land acquisition by Govt. of Chhattisgarh. The case is pending for disposal.

The Committee noted that baseline AAQ data has been mentioned in the EIA Report collected during October to December, 2009, whereas, TOR was issued on 04.12.2009. The project proponent clarified that while consideration for TOR, the proposal had gone twice to the Committee and permission for using data for post monsoon period of September – December, 2009 was sought and agreed to during the deliberation of the EAC meeting held in October, 2009.

The Committee also noted that the site is very close to Hasdeo River. It was also noted that the site being in conformity to guidelines on siting criteria i.e. 500 m from HFL of river etc. was an issue while the proposal was deliberated during considering for TOR in the meeting held in September, 2009. That a specific TOR provision at item (iii) was therefore prescribed to this effect and while deliberations in September, 2009 was asked to come with this confirmation with support of IRSA satellite imagery.

The Committee further noted that a network of canals appeared in the plant site which requires diversion and also some water bodies' vicinity. It was also observed that the proposed ash pond location was not appropriate and needed relocation.

It was observed that the report on R&R Plan, in particular the chapter on implementation arrangement and costing contains no specific commitment and action plan for implementation of various schemes devised. It was also noted that AAQ assessment appeared to be very ideal data and needed to be rechecked after carrying the modeling and data which should be resubmitted after rechecking.

The Committee discussed the Public Hearing issues and the response made by the project proponent. The major issues raised were regarding compensation for land; demand for educational and civic amenities; provision of employment to locals; adoption of village Birra; afforestation; medical facilities; opposition to acquisition of land; preservation of village ponds; protection of local deity (18th

century Shivnarayan temple); impact due to pollution from power plant; marginalization of farmers due to loss of livelihood etc.

The Committee on perusal of the issues raised in the Public Hearing noted that the project may entail marginalization of farmers particularly landless farmers and therefore decided that implementation of R&R shall include formulation of special schemes for landless farmers whose sustenance was dependent on the land proposed to be acquired for the power project. The Committee therefore suggested that the project proponent shall identify such category of landless farmers and accordingly revise R&R plan.

The Committee observed that there are gaps in the information and therefore decided that the project is too premature for consideration in its present form and would be taken up on submission of the following additional details:

i) Documentary evidence that the site is in conformity with the guidelines on siting criteria of thermal power plants and is atleast 500 m away from HFL of river. IRSA satellite imagery superimposing HFL authenticated by concerned agency (WRD/Irrigation Deptt.) should be submitted;
ii) Water availability especially during lean season keeping into consideration the riparian needs of Mahanadi/Hasdeo River and details of downstream competing sources shall be submitted;
iii) Action plan for implementation of issues raised in Public Hearing along with activity-wise committed expenditure for proposed CSR activities submitted;
iv) Identification of marginalized section of community and formulation of scheme for their welfare. The R&R Plan to be revised suitably;
v) Prior approval of Archaeological Survey of India (ASI) or a copy of application or NOC from ASI for setting up the power plant nearly 18^{th} century temple located in study area;
vi) AAQ assessment to be redone and resubmitted;
vii) Ash pond location shall be revised and new location with co-ordinates on a topo-sheet submitted;
viii) Identify institute for carrying out long term study on radio activity and heavy metals contents on coal to be used, ensuring that a mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) is also put in place; and
ix) Submit soft copies of Form-I, Feasibility report, EIA/EMP report and its addendum, Public Hearing proceedings, MoU/FSA for fuel etc.(if not already done).

Accordingly the proposal was deferred for re-consideration at a later stage.

On submission of the above the matter was again taken up.

The project proponent reiterated that the proposal based on imported coal is only for an interim period until domestic coal is made available. Whereas the EIA study has been done based on domestic coal which has worst coal characteristics compared to the present proposal on imported coal from Indonesia.

The issue of water availability and needs for riparian rights was again discussed. It was noted that HFL of Hasdeo river is stated to be at 649 m from plant boundary. The project proponent also presented a superimposed map indicating HFL of the river over IRSA satellite imagery.

On the issue of water balance study during lean season keeping into consideration the riparian needs of Mahanadi/Hasdeo and downstream of competing sources, it was stated that 2000-2001 was the leanest year of water flow in the river. That the lean season flow for 100% dependable year has been considered for assessment of meeting the downstream riparian needs as well as other downstream competing sources after meeting the upstream requirement. That based on the analysis, it has been found that downstream riparian needs including requirement of competing sources are fully met with both Basantpur and Mironi Barrages. That water for the plant will be drawn u/s of Basantpur Barrage, being constructed by WRD, Govt. of Chhattisgarh.

The Committee noted that as per information provided by the project proponent Basantpur Barrage has committed annual water requirement for KSK Mahanadi Thermal Power Plants; NTPC Lara TPP; Jindal India Thermal Power Plant; Sona Power TPP; Govt. of Chhattisgarh, Irrigation scheme, the total requirement for which is 218 MCM. And the downstream flow for competing users and riparian needs is 7551.89 MCM. Whereas, committed annual water requirement from Mironi Barrage are for Athena Chhg TPP; NTPC Lara TPP; Shyam Century Ltd; and Govt. of Chhattisgrah, Irrigation Scheme, the total of which is 117.6 MCM. And the downstream flow for use by downstream competing users and riparian need is 7434.29 MCM. The distance between Basantpur and Mironi Barrages is 19.5 Km.

The Committee also revisited the issues raised in the public hearing and the response and action plan for implementation prepared by the project proponent. With regard to marginalized farmers, it has been noted that about 334 farmers have been identified as marginalized out of 831 project affected families (PAFs) due to land acquired for the project. It has been stated that

each of these farmers will be employed in the project. It was further committed that a comprehensive development plan for Birra and other villages as part of CSR will be implemented. An amount of Rs 31.00 Crores as one time cost and Rs 6.0 Crores has been committed for CSR activities.

The Committee noted that the revised AAQ impact assessment need to be examined by representative of IMD and thereafter its findings be conveyed to the Ministry. It was also noted that the status of pending High Court matter and the issues thereon are unavailable.

The issue of procedural deviation w.r.t AAQ and other data collected prior to issue of TOR was also raised. It was informed that perusal of the minutes of the project wherein TOR was recommended does not seem to indicate the Committee having conceded to the purported plea of using data already collected. *The Committee therefore decided that in addition a one season AAQ data (including metrological and others) shall be collected and impact assessment in the form of an addendum to EIA submitted.*

The Committee also informed the project proponent to submit confirmation from the Port and Railway Authorities on availability of capacity for handling their imported coal and transportation from port to site

In view of the observation made above, the Committee decided that the proposal be deferred and shall be taken up once information/study noted above are submitted.

2.5 Farakka Super Thermal Power Project of M/s NTPC at Farrakka, District Murshidabad, in West Bengal- *reg. Amendment of EC due to change in mode of transport and other issues.*

M/s NTPC Ltd. was accorded environmental clearance for Farakka STPP, Stage-I and Stage-II by the Department of Science and Technology, Govt. of India as early as 28.03.1978. Later environmental clearance for Farakka STTP, Stage-III was also accorded on 07.02.2007 by the Ministry. All units of Farakka STPP are operational. The plant is located in Murshidabad District, in West Bengal and comprises of Stage-I: 3x200 MW; Stage-II: 2x500 MW; and Stage-III: 1x500 MW. The total Capacity is 2100 MW.

M/s NTPC Ltd. provided the following information:

Presently, the coal requirement for Farakka STPP (Stage-I, II and III) is about 16.4 Million Tons Per Annum (about 45000 MT/day) which is met from the coal mines of Eastern Coalfields Limited. However, in order to supplement the

shortfall in supply of coal to the project, it is proposed to blend the domestic coal with imported coal. With a blending ratio of domestic coal and imported coal as 70 (domestic): 30 (imported), the requirement of imported coal is estimated at about 5 Million Tons Per Annum (MTPA).

The imported coal is proposed to be sourced from Indonesia/ Australia and transported to India through sea route at Kolkata Port. From Kolkata Port, it is proposed to transport the coal to Farakka STPP through National Water Way No. 1.

The coal shall be transported from Sand Heads/ Konica Sand Heads of Kolkata Port through the enclosed Barges to Farakka STPP and transferred to the Coal Stock Yard through totally enclosed Coal Conveying System (equipped with Advanced Dust Suppression System and Coal Slurry Disposal System) with the help of Grab Cranes to be installed on a Civil Service Platforms.

M/s NTPC Ltd. and Inland Water Way Authority of India (IWAI) have entered into a Memorandum of Understanding (MOU) to explore the possibility of the use of inland water ways as a viable supplementary mode for transportation of coal for Farakka STPP. As per MOU, IWAI shall maintain the waterway and provide a guarantee for navigability of channel. However, execution and implementation of the coal transportation project shall be done through a private operator, which would be responsible for the investment, development, operation and maintenance of the logic infrastructure.

Accordingly a tripartite agreement amongst NTPC, IWAI & M/s JINDAL ITF LTD. (JITFLTD) was signed on 11.08.2011. As per tripartite agreement M/s JITFLTD would be responsible for unloading the coal from the ocean going vessel and thereafter hauling the coal on totally enclosed barges using National Water Way-1 and ensuring delivery of coal at the coal stack yard of the Farakka STPP by utilizing the unloading infrastructure through grab crane on a civil service platform on Design, Finance, Build, Operate & Transfer (DFBOT) basis on the land made available by M/s NTPC at the water front of Farakka. It is pertinent to mention here that the unloading structure (to unload the coal from Barges to conveyor belt system) constructed on Farakka Feeder Canal near Farakka STPP does not qualify as Ports/ Harbours/Backwaters and it is not meant for dredging. Therefore, it does not require environmental clearance as per EIA Notification dated 14.09.2006.

The GCV of imported coal (5800-6500 kcal/kg) is much higher than the GCV of domestic coal (2850 kcal/kg) while the ash content of imported coal (12%) is much lower than the ash content of domestic coal (40%). Therefore, the use of blended coal will significantly reduce the ash generation (from 40% to 31.6%).

However, as the sulphur content of imported coal (0.8%) is higher than that of the domestic coal (0.36%), the use of blended coal will marginally increase the emission of SO_2 in stack from 1.716g/sec/MW to 1.786g/sec/MW.

That Ganga-Bhagirathi-Hooghly river system from Allahabad to Haldia was declared as National Waterway No.1 vide National Waterway (Allahabad-Haldia stretch of the Ganga Bhagirathi- Hooghly river) Act 1982 (49 of 1982). It became operative from 27th Oct 1986 after the formation of the Inland Waterways Authority of India (IWAI). Development of Inland Waterways is not included in the Schedule of EIA notification and hence, does not require prior environmental clearance as per EIA Notification dated 14.09.2006.

Inland Waterways Authority of India (IWAI) was constituted in 1986 through an Act of Parliament (82 of 1985) for development and regulation of Inland Waterways of the country for Shipping and Navigation. Every National Waterway is also declared by individual Acts of Parliament for specific purposes of Shipping and Navigation.

Shipping and Navigation on Inland Waterways is carried out all over the world for various types of cargo, coal being one of the cargoes moving in large quantities through Inland Waterways all over the world including USA, Europe, China etc. In India also Inland Navigation on Ganga, Brahmaputra and other Rivers had been taking place since centuries and fishing as an activity and fishing community as well had been partners for mutual benefits all along. Central Inland Water Transport Corporation (CIWTC) had been operating big barges (flotilla upto 1500 ton cargo carrying capacity) on Ganga and Brahmaputra with various cargoes including coal. They used to have about 150 cargo vessels till 1990's for transportation on these rivers. There operations however have considerably reduced in the last 5 to 10 years.

The unloading structure (to unload the coal from Barges to conveyor belt system) constructed on Farakka Feeder Canal near Farakka STPP also does not qualify as Port/ Harbour/ Backwater and it is not meant for dredging. Therefore, it also does not require environmental clearance as per EIA Notification dated 14.09.2006. Further, this activity (construction of unloading structure and movement of coal through National Waterways) have not been included in any of the EIA Manuals brought out by the MOEF.

National Waterway-1 has already been established and is being used by tourism vessels, Over Dimensional Cargo Carriers, IWAI vessels etc. Only a part of it (Sagar to Farakka, about 560 km. out of total length of 1620 km.) is intended to be used for coal transportation. The details of various pollution control systems being provided at Barges as well as Coal Unloading/ Conveyor

structure have already been discussed during the meeting. With the pollution control systems being provided, there will be no significant impact on the water quality or aquatic ecology of the waterway.

The waterway from Haldia to Farakka covers a distance of 560 kms. The Hooghly river portion of the waterway from Haldia to Nabadwip is tidal. Sea going vessels navigate up to Calcutta (140 kms) and the fairway up to Calcutta is maintained by the Calcutta Port Trust. From Calcutta up to Tribeni there is no restriction for navigation by inland vessels of a loaded draft up to 4m. From Nabadwip to Jangipur the waterway is formed by Bhagirathi river, which is a regulated river because of the Barrages at Farakka and Jangipur. With the controlled discharge from the Farakka Barrage and limited river conservancy work a navigable depth of 2.5 m is maintained in this route throughout the year.

That in this stretch, a fairway of 45 m bottom width with 3.0/ 2.5 m least available depth is being provided while the width of the river channel is about 2 km. Haldia to Farakka stretch has very few shoals (shallow areas), which are being attended by bandalling (a conventional method of erecting bamboos and bamboo mats) to divert the flow to the main channel. Based on the presentation following issues were flagged:

(i) National Waterway No.-1 has already been declared and maintained by IWAI since 1986 and it is already being used by various users. No new facility is being created and only a part of it is intended to be used.
(ii) The transportation in Inland vessels except coal transport is not a new activity and similar activities have been regularly taken place on these rivers without adversely affecting fishing activities or fishermen.
(iii) Facilities being developed such as Transhshipper, Barges, Unloading Structures etc. are not covered under EIA Notification and EIA Manuals. Else, a detailed study would have been undertaken in advance.
(iv) The transport of coal by inland water ways and use of imported coal is likely to have advantages rather than disadvantages. The advantages such as increased availability of coal, reduction in congestion in ports and railway system, reduced generation of ash at Farakka STPP, etc.

IWAI, with the help of Directorate of Fisheries have already undertaken a survey of fishing activities in Sagar – Farakka stretch in 2013. IWAI agrees to take all precautionary measures for the protection of fishes as well as fishing community in consultation with Directorate of Fisheries, Govt. of West Bengal.

As already agreed by M/s NTPC, a study is being undertaken to assess the likely impacts of coal transportation through National Waterway No. 1 from

Haldia to Farakka on river ecology, flora and fauna (specially fisheries) and fisheries and fishing community. It was informed that they have already contacted CIFRI, Barrackpore and would be contacting NIO, Goa and NIOT, Chennai for the study.

In view of the above M/s NTPC has requested for carrying out the following amendment in EC.

(a) Use of blended coal (Domestic: Imported at 70:30 ratio) in Farakka STPP, Stage-I, II and III.
(b) Transportation of imported coal from Sand Heads, Kolkata Port Trust to the project through Inland waterway No. 1.

M/s NTPC also informed the existing transportation bottlenecks w.r.t railways and ports.

The Committee noted the request and observed that while there may be merits in inland water transportation, as presented by M/s NTPC, but the likely impact on fishery (particularly fish migration) is an issue which needs to be examined. It was also noted that M/s NTPC would initiate a study (high resolution bathmetry) and Disaster Management Strategy including fire and oil spill by an reputed institute like NIO on impact on marine ecology due to proposed inland waterway transportation.

The Committee in view of the limited information available decided that as a pilot project the request could be agreed to only for an interim period of one year not to be extended further, by which time the study report shall be submitted and further consideration for continuance of inland waterways transportation can be examined.

2.6 Expansion by addition of 2x660 MW (Phase-II) Supercritical TPP of M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd. at village Kalisindh and Nimoda, Tehsil Jhalarapatan, Distt. Jhalawar, in Rajasthan - *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 and provided the following information:

The proposal is for expansion by addition of 2x660 MW (Phase-II) Supercritical TPP at Nimoda, Tehsil Jhalarapatan, Distt. Jhalawar, in Rajasthan. Environmental clearance for 2x600 MW (Stage-I) Coal Based TPP was accorded on 26.02.2009. Stage–I is under constructional stage and likely to be

synchronized soon. Additional land required for expansion will be 134 ha which is an agricultural land, out of which inly 67 ha will be required to be additionally acquired. The co-ordinates of the site are located at Latitude $24^0$31'31.26" N and Longitude $76^0$06'13" E. Coal requirement will be 5.04 MTPA. It is proposed to use domestic and imported coal in theratio 70:30. Water requirement of 42 cusec will be sourced from Kalisindh Dam through a pipeline at a distance of 12 km from the project site. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within 10 km of the project site.

The Committee noted that a sanctuary seem to be located in the region and therefore decided that an authenticated map (superimposed on Topo Sheet) indicating distance of the boundary of the proposed TPP site from the boundary of the sanctuary shall be obtained from the Office of the concerned Chief Wildlife Warden.

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) An authenticated map (superimposed on Topo Sheet) indicating distance of the boundary of the proposed TPP site from the boundary of the sanctuary shall be obtained from the Office of the concerned Chief Wildlife Warden.
ii) Detailed water availability of the proposed unit and the impact on downstream recipients (from the source of water for the power plant) of other competing sources shall be submitted.

2.7 2.7 MW Coal Based Captive Power Plant of M/s Saint Gobin Gyproc India Ltd. at village Nare and Vadvalli, Tehsil Wada, Distt. Thane, in Maharashtra- *reg. TOR.*

The Committee noted that neither the project proponent nor its representative were present in the meeting. The matter was accordingly deferred for re-consideration at a later stage.

2.8 15 MW coal based co-generation Power Plant of M/s Gayatrishakti Paper & Boards Ltd. at GIDC Vapi, Taluk- Pardi, District- Valsad, in Gujarat- *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 is situated within the 10 kms of UT boundary and hence taken up at the centre.

It has been informed to the Committee that moratorium has now been imposed in Vapi on September 17, 2013 and therefore the proposal was dropped. It was also decided that the same shall now be de-listed from the pending list of TOR.

2.9 2x250 MW Coal Based thermal power plant of M/s NMDC Power Ltd. (Gonda Power Project) at village Yankapur, Distt. Gonda, in Uttar Pradesh- *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. MECON Ltd., Ranchi and provided the following information:

The proposal is for setting up of 2x250 MW Coal Based thermal power plant at village Yankapur, Distt. Gonda, in Uttar Pradesh. *It was informed that the present proposal is proposed to be implemented as a joint venture with M/s IL&FS Ltd.* Land requirement will be 600 acres which is an agricultural land. The co-ordinates of the site are located within Latitude $27^0$05'30" N to $27^0$06'37" N and Longitude $82^0$07'48" E to $82^0$09'44" E. Coal requirement will be 1.988 MTPA at 85 % PLF. Domestic coal will be sourced from Northern coal fields Ltd. (70%) and from Shahpur East and West coal blocks in M.P (30%). Water requirement will be 1800 m^3/hr, which will be sourced from River Saryu through a pipeline at a distance of 35 km from the project site. There are two reserve forests namely Tikari RF and Randuara RF. There is no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within ten km of the project site. There will be around 600 project affected families (PAFs).

The Committee noted that the project proponent have presented alternative sites which are itself not acceptable to themselves and have come up with justification for pushing through the chosen site. It was also noted trying to justify the present site as suitable for setting up of a TPP with no data on land use of the proposed site was certainly unacceptable.

The Committee further noted that Gonda District is known for fertile agricultural land and therefore advised the project proponent to explore alternative acceptable

sites beyond Gonda. While doing so, they could seek help of NRSA if they felt it would help them.

In view of the above the proposal was deferred for re-consideration at a later stage and it was recommended that that the Ministry may de-list it from the pending list as exploration of alternatives sites may take a long time.

DATED: 20.09.2013

2.10 2x660 MW Coal Based TPP of M/s Punjab State Power Corpn. Ltd. at village Sandhwal, in Hoshiapur Distt., in Punjab – *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 and provided the following information:

The proposal is for setting up 2x660 MW Coal Based TPP at village Sandhwal, in Hoshiapur Distt., in Punjab. The land requirement will be 1200 acres which is an agricultural land. The co-ordinates of the site are located within Latitude $31^0$58'45" N to $32^0$0'17" N and Longitude $75^0$42'15" E to $75^0$44'0" E. Coal requirement will be 7.66 MTPA. Ministry of coal, Govt. of India has allocated 229 MT of coal from Deocha-Pachami coal block in West Bengal on 06.09.2013. Water requirement will be 100 cusecs and will be sourced from Mukerian Hydel Channel (MHC) through a pipeline at a distance of 3-4 km from the project site. There is no Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within 10 km of the project site.

The Committee noted that the site has been approved by CEA and while choosing so the environmental criteria required seem to have been taken into consideration. It was also noted that the HFL of the river Beas is 266.89 m. It was also noted that the land is not under PLPA.

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) Detailed water availability for the proposed power project and the impact on downstream recipients (from the source of water for the power plant) of other competing sources shall be submitted.

ii) R&R for PAFs (as applicable) shall be prepared and action plan for implementation shall be submitted.

iii) Copies of letter of concerned DFO clarifying that land for TPP site is not under PLPA shall be submitted for record along with references.

2.11 2x300 MW coal based thermal Power Plant of M/s Periyar Energy Ltd. at Village Melmendai, Taluk- Vilathikulam, District- Tuticorin, in Tamil Nadu- *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. Amba Recycler Pvt. Ltd., and provided the following information:

The proposal is for setting up 2x300 MW Coal Based Thermal Power Plant at village Melmendai, in Taluk Vilathikulam, in District Tuticorin, in Tamil Nadu. The land requirement will be 538 acres (including ash pond – 30 acres, township and reservoir) which is single crop agricultural land. The co-ordinates of the site are located within Latitude $9^0$4'54.14" N to $9^0$6'5.66" N and Longitude $78^0$17'4.42" E to $78^0$17'36.56" E. Coal requirement for 100% domestic coal will be 2.66 MTPA; and for 100% imported coal will be 2.33 MTPA. Option of blended coal (60 % imported and 40 % domestic coal) will be 2.45 MTPA. Pulversied FBC Boilers will be adopted. Water requirement is will be 7000m^3/hr and will be sourced from Bay of Bengal through a pipeline at a distance of 6.5 km from the project site. River Vaippar and Vembar flows within 10km of the project site. Gulf of Munnar Biosphere reserves is loacted within 10 km of the project site. There will be around 300 land oustees.

It was also informed that the eco sensitivity area is in the process of being notified.

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) Prior approval from the Competent Authority for setting up of the power project close to Gulf of Munnar shall be obtained and submitted along with the application for environmental clearance.

ii) R&R for PAFs (as applicable) shall be prepared and action plan for implementation shall be submitted.

iii) Status of land proposed for the power project as per the Revenue Department's record indicating detailed entries of land holders name and survey nos. etc. shall be submitted.

2.12 1x660 MW Super critical Power Plant of M/s JSW Energy (Bengal) Ltd. at Salbani, District- West Medinipur, West Bengal - *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. Ghose Bose & Associates Pvt. Ltd and provided the following information:

The proposal is for setting up 1x660 MW Super Critical Coal Based Power Plant at Salbani, West Medinipur District, in West Bengal**.** The land requirement will be 454 acres, which will be within the land already acquired for a 3.0 MTPA Integrated Steel Plant. EC for the Steel Plant and 300 MW CPP has been already obtained on 19.02.2008. The co-ordinates of the site are located within Latitude $22^0$33'23.6" N to $22^0$34'40.40" N and Longitude $87^0$18'2.0" E to $87^0$19'12.0" E. Domestic coal requirement will be 2.0 MTPA at 85 % PLF. FSA is signed with M/s. WBMDTCL for 100 % coal supply and will be supplied from Ichhapur Coal Mine located at about 210 Kms from the site. Ash pond area will be 105 acres. Water requirement is will be 2000m^3/hr and will be sourced from Rupnarayan River through underground pipeline. River Parang flows at 900 m in south west. There is no Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within 10 km of the project site. Cost of the project will be Rs. 3800.00.

The Committee noted that the proposal for the Steel Plant and the 300 MW CPP need to be known and details are unavailable as per documents circulated. It was felt that the conditions prescribed in the EC for the Steel Plant and the 300 MW CPP also need to be presented before the EAC.

The Committee felt that there are missing gaps of information and therefore decided that on submission of the observations made above the project may be re-considered at a later stage. Accordingly the proposal was deferred.

2.13 Discussion on requirement or otherwise of prior environmental clearance for installation of DG Sets as back up emergency power - *reg.*

The Ministry has been receiving applications for prior environmental clearance for installation of diesel generator sets for back-up power. Many of the applicant informed that the State Pollution Control Boards are denying issuing Consent To Establish (CTE) in the absence of EC for DG Set installation.

One such proposal was deliberated in the 56th Meeting of the EAC (Thermal Power) held during September 3-4, 2012, wherein, the EAC had declined to entertain the application for TOR for installation of DG Set. The proposal pertains to installation of DG Sets of varying capacities ranging from 40 KVA to 2030 KVA as backup power for township, which comprises of housing area, commercial complex, hospital and club of M/s Luxmi Township Ltd. In Siliguri, in West Bengal.

In the aforesaid meeting the Committee noted that diesel is a subsidized commodity for a specific purpose and power plants on diesel is not an acceptable proposition except for emergency services installations like hospitals and for requirement for lifts (elevators) in high rise apartments. The Committee however observed that whether the proposal falls within the ambit of EIA notification or not is not in their domain and the Ministry may take its view. The Committee therefore declined to recommend TOR and decided that the matter may be taken up at the Ministry first whether; installation of DG Sets attracts the provisions of EIA Notification 2006 or otherwise. Accordingly the proposal was dropped.

The Ministry examined the matter and decided that whether DG Sets for Back-up power falls within the ambit/classification of Thermal Power Plant need to be guided by the Committee and accordingly the matter has been referred back.

The Committee noted the issues and agreed that DG Sets for Back-Up power per say do not fall under thermal power plant category and hence should not attract the provisions of EIA Notification, 2006. Accordingly the Committee decided that the Ministry may do the needful.

2.14 2x660 MW coal based Supercritical TPP of M/s Lanco Vidarbha Thermal Power Ltd. at village Mandva, in Wardha Taluk & District, in Maharashtra- *reg. review of Environmental Clearance in compliance to the order of High Court of Bombay.*

M/s Lanco Vidarbha Thermal Power Ltd. was accorded environmental clearance for its 2x660 MW Coal Based TPP at village Mandva, in Wardha Taluk & District, in Maharashtra on 24.02.2011.

A PIL was filed in the High Court of Bombay at Nagpur bearing PIL No. 78/2010 challenging the public hearing conducted by the Maharashtra Pollution Control Board on 17.09.2010. The PIL was disposed off on 18.11.2011 with directions to conduct a second public hearing. The extract of the order of the High Court is given as under:

> "1. By this petition, which if filed in public interest, the petitioners have challenged the public hearing conducted by Respondent no.3 – Regional Officer, Maharashtra Pollution Control Board (MPCB) under a notification issued under Rule 5 (3) of the Environment (Protection) Rules, 1986 for granting environment clearance to certain new projects or activities covered by the said notification. The hearing, which is challenged, took place on 17.09.2010. According to the petitioners, since hearing was vitiated by ruckus since the Regional officer, MPCB did not hear all the villagers, who wanted to raise objections and even when the villagers wanted to object, could not express their objections since they were hustled out of the meeting and suppressed by officers of respondent no.6-Company from expressing themselves.
>
> 2. After this petition was filed on 22.12.2010, the Ministry of Environment and Forests (MoEF) granted Environmental Clearance on 24.02.2011 and the respondents acted on the Environmental Clearance and started developing the site for the purposes of setting up of the Coal Based Thermal Power Plant. Apparently, no stay was granted by this Court against the Environmental Clearance nor was any injunction granted by the Court restraining respondent no. 6 from carrying out construction.
>
> 3. According to Mr. Mandlekar, Learned counsel for the petitioners, hearing was vitiated on account of several facts, which are set out in paragraph 8 of the petition. In the grounds, it is contended that the hearing was conducted improperly, arbitrarily, unfairly; the respondents used muscle power against the poor villagers; the Police Officers present at the hearing openly threatened the villagers and directed not to speak against the project; adequate notices were not given in the newspapers and after hearing only 14 persons, the public hearing was abruptly closed after the goons hired by the respondents created ruckus and villagers were brutally beaten. A First Information Report was also lodged against an official of respondent no.6-Company. We are informed that subsequently

trial has been compromised and settled by the complainant. According to the petitioners, majority of the people were against the project and public hearing was forced to close. The objections were not answered and no satisfactory answers were given. Neither the attendance register was maintained nor it was sent along with proceedings of the public hearing. Minutes of the public hearing were not prepared in Marathi nor were they read. Thus, according to the petitioners, the hearing was a farce. It has defeated the purpose of the said hearing and accordingly, Environmental Clearance granted by the MoEF in the hearing is also vitiated.

4. On behalf of respondent no.6-Company, there is a complete denial of the allegations. According to respondent no. 6- Company, they had no part to play in the grant of permission or otherwise to the villagers for speaking at the hearing and they did not obstruct any villager from speaking. The Regional officer of the MPCB, who conducted the hearing has stated that the hearing was done in accordance with law. Those who wanted to speak were allowed to speak. According to the MPCB, the Minutes of the proceedings were recorded and submitted to the MoEF for consideration. The entire proceedings were videographed and sent to the MoEF and are still available for screening.

5. At this juncture, we would like to note that there is a serious dispute of ruckus at the hearing. It is not disputed that only 15 people spoke and about 190 written representations were submitted to the MPCB.

6. It is obvious from the circumstances of the case that there is a hue and cry raised about denial of opportunity of being heard to the villagers by MPCB. Having regard to the number of villagers who attended the meeting, it is indeed quite possible that there was ruckus at the meeting and that everybody, who wanted to have their say, could not express themselves. It is not disputed that a First Information Report was lodged regarding the ruckus at the meeting though it is equally not disputed that later on the matter has been settled before the Court and no one has been prosecuted. There is no doubt that the person who filed the First Information Report later on could not identify who injured him. This, however, clearly suggests that the public hearing was not peaceful and, in any case, was not marked by solemnity in which such a public hearing should be conducted.

7. We have no doubt that merely because the Rules do not contemplate a public hearing by a Court, there is no reason to assume that the hearing should not be held in an atmosphere of solemnity, where

the grievance of the villagers can be taken into account and considered properly.

8. Without going further into the matter, we are of the view that the public hearing was not conducted as it should have been. Indeed, Mr. Bhat, learned counsel for respondent no.6, submitted that respondent no.6 has no objection if public hearing is conducted again so that the grievance of the villagers that they were not heard may be removed.

In the circumstances, we are not inclined to go through the videographed proceedings and are of the view that the public hearing should be conducted again.

9. Thus there is no manner of doubt that the order passed in pursuance of the public hearing which was not conducted properly is vulnerable. It may be noted that the Environmental Clearance contemplated by the Rules is not based solely on the objections at the public hearing. The Environment (Protection) Rules, 1986 provide that the Environmental Clearance may be granted on the basis of the report of the Project Appraisal Committee constituted by the Central Government after detailed scrutiny of the application for setting up project or initiating any activity. The Rules also contemplate taking into account all final Environment Impact Assessment Reports and in addition, a report prepared on the outcome of public consultation including public hearing. While the public consultation is, by no means, a minor requirement is equally true that there are other factors on which such a clearance is based.

10. In the present case, the Environmental Clearance has been granted also on the basis of the other factors such as appraisal by the Expert Environment Appraisal Committee and the outcome of the public hearing, which we have seen was not conducted satisfactorily. The Environmental Clearance was granted on 24.02.2011 and has been acted upon by respondent no. 6.

11. In the circumstances, we are of the view that it would serve interest of justice if the impugned Environmental Clearance is allowed to stand pending the outcome of the public consultation at the public hearing proposed to be ordered by us. In other words, in the circumstances of the case, we are of the view that it would serve the interests of justice if a post decisional public hearing is given to the villagers, in accordance with rules. The Regional Officer, MPCB who conducts the public hearing shall ensure that the hearing takes place in

an atmosphere of solemnity and seriousness so that it is effective. We are not impressed by submissions made on behalf of the MPCB that the Rules contemplate that the hearing should take place in the presence of all the villagers who have gathered. It may be recalled that in the meeting held in the present case, there were about 5000 villagers, who were present and it is hard to imagine the Regional Officer being capable of ensuring a quiet, peaceful and solemn hearing with such large numbers.

12. In the circumstances, we direct that the Regional Officer may, without denying access to any member of the public for the hearing, shall make an enclosure of an adequate area where the persons, who have given their names in advance as desirous of being heard, are called in the presence of other villagers. If necessary, the Regional Officer shall make arrangement for a public address system so that those who are gathered outside the enclosure, which we are informed have been like a pendal, may hear the proceedings.

The Regional officer shall ensure that there is a controlled entry into the smaller pendal where he actually conducts hearing while ensuring that those outside the pendal can follow the proceedings through public address system or video system and further that those outside the smaller enclosure can enter and sit in the pendal by turns.

The Regional Officer shall issue fresh public notice inviting objections and notifying the viallgers that in addition if they wish that their representatives, if any, be heard their names may be given at least 24 hours in advance and each objection is heard properly regarding his objection to the project.

13. Having regard to the circumstances of the case, we consider it appropriate to direct respondent no.2-Collector and respondent no.4-Superintendent of Police, Wardha to supervise the arrangements and remain present or depute some responsible officer to remain present during the hearing. As it was done before, the proceedings shall be videographed and report of the proceedings shall be countersigned by the Collector and the Superintendent of Police or their representatives.

15. Mr. Mandlekar, learned counsel for the petitioners, empathetically urged that in the circumstances of the case the Environmental Clearance should remain stayed for the reasons indicated earlier.

16. We are of the view that such a stay is not necessary to serve interest of justice. Mere building and construction activities which are

going on at this stage cannot be said to have an adverse impact on the environment *per se* particularly since the commissioning of the power plant is long way off. Mr. Bhat, learned counsel for respondent no.6, states that the Power Plant is not due for commissioning before 2014. Therefore, in the meanwhile, there is sufficient time for conducting the public hearing and for respondent no.1 Ministry to review the environment clearance, if necessary, in accordance with law. It is also clear that the respondent no.1- Ministry would be entitled to review the earlier Environmental Clearance in toto or in part depending on the outcome of the public hearing.

Needless to say that any activity undertaken by respondent no.6 in pursuance of the impugned Environmental Clearance shall be at its own risk and subject to final outcome of the proceedings.

17. Mr. Mandlekar, learned counsel for the petitioners further states that the Project Appraisal Committee should be free to take a decision afresh after considering outcome of the public hearing. Needless to say that there is no restrictions on either Project Appraisal Committee or the Ministry or any other the authorities. They all are free to consider entire matter afresh, in accordance with law.

Rule made absolute in the above terms. No order as to costs".

In compliance to the Order of the Hon'ble High Court the matter was placed before the EAC for necessary requirements.

The Committee noted that public hearing was re-conducted by the Maharashtra State Pollution Control Board (MSPCB) on 20.06.2012 and its proceedings submitted to the Ministry vide their letter dated 11.09.2012. The Ministry noted that the document received from the Maharashtra State Pollution Control Board is incomplete w.r.t. the proceedings of the public hearing. The same has since been made available now.

M/s Lanco Vidarbha Thermal Power Ltd. made a presentation on the compliance of the Order of the High Court and the action taken therein.

Representatives of the MSPCB was also present. The Regional Officer, MSPCB clarified that that the public hearing was conducted smoothly and in accordance with the provisions of EIA Notification 2006 and was concluded as per law.

The Committee was also shown randomly the video of public hearing of the re-conducted public hearing. It was noted that the video recordings of the public hearing comprises of 13 CDs as the proceedings started at 11.55 am till 1.05 am on 20.06.2012 to 21.06.2012 i.e more than 13 hours. The Committee also perused through the issues raised and the responses made by M/s Lanco Vidarbha Thermal Power Ltd.

The Committee noted that some of the replies made, which has relevance with the public issue at large need to be appropriately addresses for which an effective action plan is required to be formulated. *The Committee therefore decided that M/s Lanco Vidarbha Thermal Power Ltd. shall prepare a action plan for implementation with requisite details and submit the same at an early date and not later than one month's time. Thereafter the review can be again taken up on submission of the same. The matter was accordingly deferred.*

2.15 2x660 MW Super Critical Imported Coal Based Thermal Power Plant of M/s Universal Crescent Power Pvt. Ltd. at village Nayachar Island, District Purba Medinipur in West Bengal - *reg. Discussion on report submitted by the Committee constituted by West Bengal Govt.*

The proposal was earlier considered in the 44th and 54th Meeting of EAC held during March 5-6, 2012 and August 6-7, 2012, wherein the project proponent gave a presentation and provided the following information:

The proposal is for setting up of 2x660MW Sagar Supercritical Imported Coal Based Thermal Power Plant at Nayachar Island, in District Purba Medinipur, in West Bengal. The power plant is proposed to be set up within West Bengal Petroleum Chemicals & Petroleum Investment Region (WBPCPIR) at Haldia. Land requirement will be 700 acres which is waste land. The co-ordinates of the site are located within Latitude 21^{0}59'14" N to 22^{0}00'36" N and Longitude 88^{0}06'08" E to 88^{0}07'27" E. Coal requirement will be 4.76 MTPA. Imported coal will be obtained from Indonesia (2.5MMTPA) and Australia (2.5MMTPA). Ash and sulphur contents in imported coal will be 5.5-9.0% and 0.6% respectively. About 0.344 MTPA of fly ash and 0.086 MTPA of bottom ash will be generated. Fly ash will be supplied to M/s Soham Overseas Pvt. Ltd., Kolkata who are in the business of Ash Export. Bi-flue Stacks of 275m shall be provided. Water requirement will be 117.21 Cusec which is saline water and will be sourced from Rangafalla Channel of Hoogly River through a pipeline at a distance of about 0.5 km from project site. Permission letter dated 20.02.2012 has been received from Irrigation & Waterways Department, Govt. of West Bengal for drawl of raw surface water. No ash pond is proposed for the power

project. 100% ash will be utilized from day one of operation of the plant by exporting it to Bangladesh. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within 10 km of the site. Public Hearing was held on 04.01.2012. Cost of the project will be Rs.8600.0 Crores. The project proponent had also informed that the baseline ambient air quality data was collected during December, 2010 to February, 2011.

In the 44th meeting, the Committee observed that there appeared mangroves in the vicinity of the area and information on the same was however not available with the proponent. The project proponent also informed that CRZ demarcation has been done and the project is not within CRZ area. The project proponent also informed that the West Bengal Govt. in November, 2011 has recommended three major industrial activities in this island viz. setting up of a power plant, industrial park and eco-tourism.

During the course of the deliberations, the Committee in the aforesaid 44th meeting noted that the island where the power project is being proposed appears to have a unique and fragile ecology with no habitation and felt that these important issues were inadvertently missed out while prescribing the TORs. The Committee also observed that the power project was reported by the power proponent to be a part of the WBPCPIR at Haldia, during discussions for TOR in 17th Meeting held during February 7-8, 2011 and accordingly agreed for recommendation of TOR. The project proponent has now informed during the current meeting that the WBPCPIR stands scrapped.

The Committee had also observed that prima facie the site did not appear suitable for setting up a thermal power plant in the ecologically fragile and sensitive area and accordingly decided a site visit need to be undertaken to assess the environmental sensitivity vis-à-vis setting up a thermal power plant in the pristine island. *It was therefore decided that a site inspection shall be carried out by a sub-group chaired by Dr. C.R. Babu and Sh. T.K. Dhar, Dr. KKS Bhatia, Shri J.L. Mehta as members along with a representative of the Ministry. The proposal was accordingly deferred for re-consideration at a later stage.*

The site visit was undertaken during April 10-12, 2012 and the report by the Sub-group was submitted to the EAC (Thermal Power).

The report was thereafter deliberated in 54th Meeting of EAC held during August 6-7, 2012 and Dr. C.R. Babu, Vice-Chairman, EAC and Chairman, of the Sub-Group presented the observations/ findings made during the site visit based on visual as well as documents made available to the sub-group. *The Committee accepted the report and agreed that based on the submissions made*

by the sub-group the site was not suitable for a power plant if the morphology of the island is to be preserved.

The Principle Secretary, Department of Environment, Govt. of West Bengal along with the Secretary, Dept. of Industries, Govt. of West Bengal and the Resident Commissioner, Govt. of West Bengal at New Delhi were also present.

The Committee informed the representatives of M/s Universal Crescent Power Pvt. Ltd. and the Govt. of West Bengal officials to study the detailed report and take a conscious decision and revert back to the Committee with their views. The Committee also informed the project proponent that they might identify alternative site suitable for location of a thermal power plant and apply afresh which could be duly considered de-novo.

The Ministry thereafter received a report of the Committee constituted by the West Bengal Govt. refuting the report of the Sub-Group of the EAC that the site is not suitable for a thermal power project.

The report of the West Bengal Govt. circulated to the members earlier by the project proponent was placed before the EAC for its views.

A presentation was made by the Expert Committee purportedly constituted by the West Bengal Govt. to study the report of the Sub-Group of the EAC and furnish their views.

It was informed that contrary to the report of the Sub-Group of the EAC, the Expert Committee is of the opinion that Nayachar Isalnd is a stable from morphological and other stability criteria and hence suitable for setting up of a thermal power plant.

Replies of the Expert Committee constituted by the West Bengal Govt. against major issues raised by the Sub-Group of the EAC in its report is summarized as under:

S.N	***Observation of Sub-Group of EAC***	***Observations made by the Expert Committee constituted by West Bengal Govt.***
1.	Nayachara Island is a unique and ecologically fragile island.	Our site inspection and records do not consider Nayachara island to be ecologically fragile. Scientific literature does not indicate records of corals, sea-grass and sand dunes, etc-features listed in the CRZ 2011 notification as critical habitats. There are also no reports of unique fauna, endemic to

		Nayachara Island. Mangroves in the Hugli estuary are largely confined to the manmade mangrove afforestation by KoPT on Nayachara Island. The MoEF site visit acknowledges that the mangroves have been planted by KoPT in the 1980s. Our inspection of the mangrove species on the island indicate largely shrub like mono-species mangrove plantations and halophytes, typically associated with afforestation programs of the past. These mangrove plantations were done by KoPT in 1990, under the tenure of late Dr. A.C. Roy, IAS, the then Chairman of KOPT.
2.	The CRZ demarcation is questionable and that the island is an intertidal shoal.	The CRZ demarcation has been questioned by citing data from the Sunanado Bandopadhyay's article which uses satellite based topography. MoEF has authorized seven scientific organizations in the country for CRZ demarcation. CRZ demarcation for Nayachara Island has been done in the past by two of the MoEF authorized agencies- NOIT and IESWM. The NIOT CRZ demarcation indicates that bathymetry/topography has been derived from the Kolkata Port Trust records. Annual surveys of bathymetry/topography are conducted by the KoPT. These surveys are used to navigate vessels to the Kolkata and Haldia Dock complex and thus need to be very accurate for the safety of the vessels. The SRTM data technique referred to in the site report and Sunando Bandhopadhyay's article lacks the precision and accuracy of the methods used by the KoPT hydrography surveyors and to the best of our knowledge, has not been adopted by any authorized agency in the country for demarcation of HTL, vulnerability etc. The site visit report of sub-group of MOEF states that the entire island is under CRZ, questioning thereby the accuracy of the CRZ demarcation by IESWM and the West Bengal State Coastal Zone Management Authority (WBSCZMA). It is felt that dismissal of the CRZ demarcation by an authorized agency must have stronger scientific basis.
3.	The island is unstable and prone to geomorphological changes that would	All estuaries, rivers and coastlines are dynamic the scale varies from location to location. Till the 1960s, there was no overwhelming reason to control the geomorphologic changes in specific areas within the

	result in gradual disappearance of the island.	estuary below Diamond Harbour. With the development of the Haldia Dock complex in the 1960s-1970s, KoPT embarked on several structural measures to ensure depths in the navigation channels. These structures / measures include: a) The spurs near Jiggerkhali to prevent bank erosion and siltation of the Balari bar region b) Spurs on the western side of Nayachara Island to divert flows towards the Haldia dock and jetties c) Northern guide wall on Nayachara Island to divert flows toward the Haldia dock and jetties d) Over 100 spurs/ groynes and long lengths of seawalls/ revetments to prevent bank erosion and to ensure that the trend of increasing flows in the Rangafalla channel and diminishing flows through Hadia channel is reversed. The consequence o such engineering is that the dynamic nature of the estuary with respect to the shore lines or framework of the estuary has reduced, while the bathymetry changes in the channels continue. The shoal that developed into the Nayachara Island is seen in bathymetry records of KoPT since the 1830s. The Island has grown in size and continues to grow. In addition to the spatial growth of the island, the vertical growth of the island has been enhanced by the aquaculture areas, bounds for roads by Fishery Department, dykes by KoPT for dredge spoil disposal. It is the committee's opinion that the island, similar to Sagar Island, is largely stable from a geomorphology perspective, while the local erosion along the eastern face and accretion on the western face cannot be construed to suggest that the entire island is unstable. The changes along the shore line are typically of regimes within riverine and estuarine environments.
4.	Development of the power plant would alter hydro-dynamical behavior of the estuary and cause geomorphological changes in the estuary.	***Impact on tidal Hydrodynamics*** As per the CRZ demarcation, the power plant will be built in non-CRZ area (As per the revised CZMP approved by the West Bengal Government), which would 100 +m from the high tide line and thus would be on dry land even during high tide. Thus, tidal hydraulics will not be affected by the power plant

		footprint. Assuming the contention that the entire island is within CRZ has merit and that tidal waters cover the island for 1-2 days in a year during equinoctial periods of August/September, it is noted that the power plant is located in the highest elevation area of the island. The consequent impact on the tidal prism of the Hugli prism will be miniscule and any significant impact on the hydraulic regime is unlikely.

The Expert Committee constituted by the West Bengal Govt. recommended as follows:

- From a purview of all the materials put at the disposal of the committee, the expert committee is of the view that Nayachara is stable from morphological and other stability criteria and hence is suitable for undertaking industrial development including development of a coal fired thermal Power Plant.
- Since Nayachara Island is located in the estuarine zone of Hooghly River, the CRZ mapping demarcating CRZ-I, CRZ-II and no-CRZ (area outside CRZ), has been carried out by agencies which are approved by MOEF as per CRZ regulation. Thus from CRZ point of view the non-CRZ area of Nayachara Island need to be considered under the EIA notification 2006 for environmental clearance for industrial activities including development of a coal fired thermal Power Plant.
- The elevation of land for Industrial activities including development of a coal fired thermal Power Plant has to be raised by utilizing suitable material taking into account localized flooding combined with storm surge, tsunami, sea level rise due to climatic change & wind generated wave. However, when done above HTL, this should not be considered as reclamation. For permissible facilities like Jetty, Conveyors, Pipelines coming in CRZ Zone also the above principle will be followed while deciding about elevation of structures & equipments. Whatever structure is installed in CRZ, it should not effect drainage. Further the area has to be protected by suitable dykes & other protecting measures including proper drainage facilities taking into account flooding due to heavy rainfall or spillage over the dyke or bund. WAPCOS has done a study for this and given suitable recommendations.
    - The committee is against setting up any PCPIR or hazardous chemical industry in the Island but have no objection in setting up a coal fired thermal power plant and other industries by following all environmental control measures.
    - The committee agrees to setting up of a research & development centre for culture of true variety of mangroves & other similar flora

& fauna to enhance the ecological environment of Nayachara Island. The intention is to utilize the natural resources available (such as tidal flows, large intertidal flats, etc) to develop a natural research area in the Island as sufficient land is available for the establishment of industries including coal fired thermal power plant as well as a natural lab. This initiative will also prove that the industries and natural lab can co-exist together.

In response Chairman, of the Sub-Group provided the following information by e-mail which is extracted as under:

A). As a Chairman of the subgroup constituted by the earlier EAC (T&C) to visit the site and assess the suitability of Nayachar Island for setting up of Sagar Super Thermal Power Project – Stage I (2x660 MW) by the Universal Crescent Power Pvt. Ltd., and a member of the reconstituted EAC (T&C), the following are my observations to the responses submitted and presented by the Expert Committee appointed by the Government of West Bengal on the stability of the Island, and CRZ and other ecological issues highlighted in the Report of the subgroup of EAC.

2.1 The ecological fragility and uniqueness cannot be assessed in terms of mangroves alone and uniqueness cannot be assessed by endemic and rare plant/animal species alone. The subgroup used these terms to connote the location of the island in the Hugly estuary i.e. in the mouth of estuary which is narrowed down from 50.8 km wide to 9.2 km wide and its ecological function in maintaining the dynamic morphological equilibrium of the estuary itself. The Expert Committee is silent on the observations made in the Report of the subgroup. Further, the Island is evolving – erosion and deposition (sedimentation) and ecological succession have been continuously taking place.

2.2 The word “Reclamation” was used in the sense of ecological alteration brought out by KOPT and not in the sense of sea reclamation as explained by the Expert Committee. The word reclamation in ecology has wider connotation. Filling the site on the island against storm surge tidal wash is a part of reclamation of the estuarine island.

2.3 Nayachar is an evolving estuarine island, which splits the Hugli river into Rangafalla Channel and Haldia Channel, is undergoing bank erosion on the Rangafalla side and deposition on Haldia side. It may be noted that there was no tail portion of Nayachar Island in 2001 and it was observed only in 2007. At the tail portion and right bank of Naychar island a huge deposition has been identified which is very alarming for Haldia dock system.

The criss cross network of surface channels across the island (breadth and length wise) and tidal water entering into these channels make the island totally under CRZ. There might be small patches in the middle portion of the island which may not be subject to tidal washes.

2.4 The following is information given in the IRS Report prepared for selection of best sites for Ports in West Bengal.

(a) "Digital bathymetry model of the Estuary reveals several underwater characteristics, of these the most important ones are the formation of tail of Nayachar Island and formation of several bars in creek Canal". This suggests the continuous process of erosion and deposition leading to loss of some structures and creation of new structures which regulate dynamic equilibrium of Hugly estuary.

(b) "The main block of sands and sholas are static in **Geographic sense** but they are at the same time, **highly mobile that is always shifting, changing their shape, size and orientation resulting constant swing of the channels**".

(c) "There is also extensive erosion of the banks in the estuarine region and even some of the **entire islands got engulfed by the thrust of tides, currents and waters**". Infact, there is a heavy bank erosion on the left bank of Nayachar island that makes it unstable.

(d) Infact, the Report identified south west part of Sagar and Namkhana as potential sites for development of new ports and **not Nayachar island**.

The above statements indicate that Nayachar is inherently unstable.

B). BMT Report on "Study on Hydraulic, sedimentation and navigation for the development of Industrial Park on Nayachar Island" by PCR Chemicals Pvt. Ltd., which was subsequently abandoned the project on Nayachar Island mentions following.

(a) "Braided channels in rivers and estuaries continue to evolve with deposition on the inner banks and erosion on the outer bank for curved channel".

(b) "Occurrences of extreme events like cyclones that cause short term significant changes in bathymetry cannot be predicted with certainty in the long-term. This variability in the navigation channels has occurred continually

since the inception of the Kolkata Port with or without manmade interventions. Hindsight also suggests that manmade interventions may **have provided the intended results in the near term and yet in long term, some of the consequences could not be predicted, given the inherent complexity of the system".**

All these statements suggest that the Nayachar Island may not be a suitable site for location of Power Plants and associated infrastructure. Further, no estuarine island in the world has a Power Plant till to date.

2.5 The Expert Committee does not negate the statement made by the subgroup Report ---that North eastern part of the island has been subject to erosion for the last 40 years.

C). Haldia is a critically polluted area and the moratorium for location of polluting industries at Haldia is lifted recently. Addition of 2x660 MW in Stage I and future expansion in Stage 2 at Nayachar, which is separated by only a Haldia Channel from Haldia, may bring back Haldia as a critically polluted area. Whether cumulative impact assessment has been done for the present project need to be ascertained?

D). The project has not yet been appraised for CRZ.

The Committee observed that TOR for the TPP was agreed to as the TPP was reportedly linked to the PCBIR proposed to be set up at Haldia, which has since been scrapped. That it is now also learnt that tidal wave covers a large part of the island and for which no tidal data (tide guage information) has been provided.

The Committee also observed that the rebuttal by the Expert Committee constituted by the West Bengal Govt. only states that the island is not unique and not fragile ecologically without having carried out any such study. That records of fragility of the island need not necessarily be present. That mangroves were reportedly grown by KOPT and surviving very well itself suggest that it is a habitat for mangrove as mangroves cannot be grown everywhere. That from ecological point of view the whole island itself need to be viewed as required to be preserved as CRZ.

A member of the Committee also noted that the Nayachar Island of 47 sq. km area (central length 16.86 km and width 4.34 km) has numerous creeks sited throughout entire stretch of island. The island has increased in area 2.5 times in last 44 years (1968 to 2012) with erosion of 6.76 sq km and accretion of 25.035 sq.km between 1973 to 2012. It is reported that from 1999, island is holding shape and appearing to be stable.

Therefore considering that the island is within the estuarine portion of Hooghly and not connected to the main land, its development plan should be eco friendly because of features as given in the report of the Expert Committee constituted by the West Bengal Govt.

The report of the Expert Committee constituted by the West Bengal Govt. indicates that major part of the area in island only gets water logged during heavy rain due to poor drainage facilities coupled with tidal blockage. In the proposed development for industrial activities, there will be change in land reuse & build up of levels in non- CRZ areas to sustain industrial activities and their protection against the effect of tide rise combined with wave rush, sea level fluctuations, storm surge, tsunami effect, etc. For permissible facilities like jetty, conveyors, pipeline coming in CRZ Zone also, the above principle will be followed while deciding about the elevation of structures & equipment. Whatever structure is installed in CRZ, it should not affect drainage. Final elevation will be based on analysis and design. Thus indicating that setting up of a power project will involve lot of filling.

The report of the Expert Committee constituted by the West Bengal Govt. is silent on the effect of mercury emission and toxic metal release from coal ash

The Committee also noted that as per the report of the Expert Committee constituted by the West Bengal Govt. Nayachar Island falls in estuarine zone of river Hooghly with land area as follows:

Total area	:	13, 000 acres
Under KoPT	:	1000.3 acres
Private land	:	72.6 acres
Area available with USE Group	:	11,927.1 acres
Under CRZ	:	7252.1 acres
Balance under non CRZ	:	7252.1 acres

The elevation of land for industrial activities has to be raised by developing suitable material taking into account high tide level, storm surge, tsunami, sea level rise. The Nayachar Island has not been studied will in terms of hydro-biological, ecological and bio-resource potential. Nayachar Island can be considered as barren island in the core region but on the fringe and water front areas revealed a promising floural and founal assemblages. The Nayachar island can be developed as a model island ecosystem. Island being bordered with micro-tidal estuary the abandoned ponds can be revived for fish culture practice. Nayachar island can become a hub for mangrove development,

culture of food fished and culture of ornamental fishes. There will be raising of ground Elevation through dredging of the existing channel in the estuary.

There is an agreement with land broker for purchase of land for bottom ash disposal/utilisation, for acquiring land from private owners in 24-Parganas District, in West Bengal.

The report of the Expert Committee constituted by the West Bengal Govt. is silent on impact due to storage of flyash during rainy season and leaching out of toxic metal and mercury emission from coal combustion (Indonesian coal is expected to contain 0.5 ppm Hg per kg) has not been covered for the purpose of impact assessment and effect on fish and other fauna.

Further the report of the Expert Committee constituted by the West Bengal Govt. mentions that about 2.5 m to 3 m filling would be necessary to attain a workable level. That an area of around 700 acres of land is identified on the northern side of the island for locating power station. The plot is government land and contains certain small fishing ponds. These ponds are protected by dykes to avoid ingress of water from river. Development of flood protection dyke and land filling of the project area need to be initially done by dredging material from river bed and a workable level upto 8.0/8.8 m above CD with 2.5 m high dyke all around and with proper drainage is to be developed.

The Committee noted that the Nayachar Island is not connected by road or rail to mainland. If disaster occurs at the time of cyclone etc. the assistance from main land will be restricted. Such a heavy industrial activity involving use of coal and generation of electricity and transmission thereof, the connectivity with main land is essential, so as to facilitate Govt. machinery to function for disaster management.

In view of the above, the Committee decided that the acceptability of the site as suitable for setting up of a thermal power project needs further deliberation and can be taken up only after adequate information as noted above are available.

2.16 2x800 MW Ennore SEZ Super-critical imported coal based TPP of M/s TANGEDCO at village Vayalur, Ponneri Taluk, District Thiruvallur, in Tamil Nadu- reg. *Deliberations on CIA and other issues.*

The proposal was considered for environmental clearance in 50th meeting of EAC held during June 25-26, 2012. The project proponent in the aforesaid meeting had provided following information:

The proposal is for setting up of 2x800 MW Ennore SEZ Supercritical Imported Coal based Thermal Power Plant at village Vayalur, in Ponneri Taluk, in District Thiruvallur, in Tamil Nadu. The proposed plant will be established in the existing ash dyke of M/s North Chennai Thermal Power Station (NCTPS). Land requirement will be 500 acres of which 130 acres will be developed under green belt. About 40 acres of area will be used for external corridor including sea water and coal conveyor. The co-ordinates of the site are located within Latitude $13^0$17'02" N to $13^0$17'57.3" N and Longitude $80^0$18'07"E to $80^0$19'05.5" E. Imported Coal requirement will be 4.29 MTPA, which will be obtained from Indonesia. MoU has been signed with M/s MMTC Ltd., New Delhi on 23.06.2012 for supply of Coal. Ash and sulphur contents in imported coal will be 12% and 0.7-0.8% respectively. About 0.412 MTPA of fly ash and 0.103 MTPA of bottom ash will be generated. Fly ash generated shall be proposed to use for Cement Industry. Twin-flue Stack of 275m shall be provided. Water requirement will be 14,545 m^3/hr (755 m^3/hr raw water + 13,790 m^3/hr cooling water from sea), which will be met from existing intake of M/s North Chennai Thermal Power Station. Discharge will be also through outlet of M/s NCTPS system. Coal will be imported through Ennore Port from where it will be transported through pipe conveyor to the TPP site. There are no national parks, wildlife sanctuaries, heritage sites, tiger/biosphere reserves etc. within 10 km of the project site. Public Hearing was held on 23.02.2011. Cost of the project will be Rs.9180.0 Crores.

Ministry representative in the said meeting had noted that the EIA/EMP Report submitted is based on ambient air quality data monitored during March to May, 2010, whereas TOR was prescribed only in August, 2010. The project proponent clarified that collection of data can only be either for pre-monsoon or post monsoon data. To save time, the proponent collected the data during pre-monsoon season.

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

The Committee observed that continuous monitoring for heavy metals in and around the existing ash pond area shall be immediately carried out by reputed institutes like IIT, Chennai. *The Committee also noted that the likely impact within 15 kms distance need to be carried out as the area prima facie is surrounded by other power plants and industries and the present and future impact assessment on ambient air, water and soil need a clear picture. The Committee decided that the same shall be first submitted before any action is taken to process the case by the Ministry.*

The Committee also discussed the issues raised in the Public Hearing and the response provided by the project proponent. The major issues raised were regarding unemployment of local public and provision of employment especially to land losers; lands and drainage canals will be affected due to the deposition of ash; green belt development along the roads around their locality; study the impact on human health due to the project. The project proponent also informed that no litigation was pending / filed pertaining to the power project.

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

The Committee however decided that based on the information and clarifications provided can be recommended *for environmental clearance*s subject to stipulation of the few specific conditions and prior submission of documents/requirements as mentioned above.

Since the cumulative impact assessment (CIA) over 15 kms radius is a technical which is required to be examined by the Committee, the matter was referred back to the Committee on receipt of the CIA Report.

The Committee noted the additional information submitted and found the revise CSR in order.

With regard to the Cumulative Impact Assessment report, he Committee noted the findings of the CIA report and decided that the same seem okay but need to be validated by the IMD Member.

The Committee therefore upheld its earlier recommendation for environmental clearance of the proposed project subject to validation and recommendation by IMD representative of the findings of the CIA Report.

2.17 Expansion of 4x250 MW by addition of 4x600 MW Coal Based Thermal Power Plant of M/s Jindal Power Ltd. at Tamnar, in Gharghoda Tehsil, in Raigarh Distt., in Chhattisgarh- *reg. Discussion on coal crusher, its impact assessment and other issues.*

The above matter was earlier discussed in the 58th and 62nd Meetings of the Committee held during Oct' 8-9, 2012 and December 4, 2012 respectively. The discussions held in the said meetings are given as under:

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

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

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

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

M/s Jindal Power Ltd. had therefore requested for permission for installation of coal crushers along-with dump hopper within the plant site and permission for transportation of coal by road for an interim period.

As stated earlier, the matter was placed before the Committee in its 58th Meeting held during October 8-9, 2012 for its consideration.

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

The Committee in the said 58th meeting had noted that while the appraisal for 4x600 MW was carried out, it was stated that due to paucity of land certain facilities like coal handling plant, fabrication units etc will be in the vicinity of Steel Plant and the position now seem to be reverse of the earlier statement.

The Committee therefore had desired to know whether space is available now for location of the coal and crushing plant at site. The Committee had therefore decided that Sh. M.S. Puri, Member (and if possible Shri J.L. Mehta shall also join)

may undertake a site visit and submit a report first before the present amendment is considered. Accordingly the matter was deferred.

On submission of the site visit report by Shri M S Puri, CEA representative, the matter was again taken up in the 62nd meeting of EAC held during December 4, 2012.

The project proponent in the said 62nd meeting had informed that CHP will be only for 2x600 MW Units. The Committee had observed that during earlier discussions it was noted that minimum land was available and even certain facilities were required to be undertaken elsewhere and brought to the site for installation/utilization but now it is reported that after certain adjustments the CHP can be installed within the site. *That it was earlier noted that certain issues need to be taken up when the proposal for Steel Plant Public Hearing is conducted and details on the same are not available which are required to be examined.*

The Committee decided that the Site Visit report submitted by the CEA representative shall be circulated to all members for their perusal and since the matter is also sub-judice and pending in the National Green Tribunal detailed information w.r.t. NGT case needs to be submitted by the PP.

In view of the above the Committee decided that the matter be deferred and could be taken up on examination of report submitted by CEA as noted above.

The matter was thereafter again taken up in the 64th meeting of EAC held during January 7-8, 2013 after submission of the above mentioned information.

The project proponent informed that the coal will be transported by the road only for an interim period from the two expected coal mines viz. one located at the distance of 20-25 km and another at distance of about 50 km from the project site.

The project proponent also informed that the NGT case pertains to Unit 3&4 and there is no other litigation for Unit 1&2 for which amendment is being requested.

The Committee examined the report submitted by CEA and noted that there is a possibility for installation of CHP within the plant site.

The Committee also observed that the project proponent's request for the road transportation of the coal from the mine over distance of 20 to 50 from two

mines can be agreed only for a limited period of **three years only** subject to following submission of documents thereof:

i) Assessment of impact due to transportation of coal through dedicated road to TPP site;
ii) Plan for development of avenue plantation along the route of transportation;
iii) Commitment for using only mechanized covered trucks for coal transportation.

The Committee recommended the proposal with additional conditions which is as under:

i) That in the interest of consumers power from these Units of the TPP shall either be sold on tariff based bidding or through competitive bidding route on long term PPA with DISCOMS.
ii) Recommendation made by CEA in its report at conclusion shall be strictly implemented

The Ministry while examining the recommendation of the EAC, felt that the EAC need to send firm recommendation after having examined the additional information sought. The matter was therefore referred back to the EAC for its views. Further the need to examine fresh request for permission to use existing ash dyke and water reservoir necessitated a comprehensive review of the amendments required and the compelling reasons thereof.

The project proponent submitted impact assessment due to installation of coal crusher at plant site and traffic impact study.

M/s JSPL informed that 2x1500 TPH Coal Crusher with stack of 32 m height and 0.78 m will at most lead to 0.21 g/s of PM emission. That the PM load from the 4 flues of 4x600 MW TPP is 160 kg/hr. That PM load from crusher is only 0.756 kg/hr, which is an increase of only 0.5%. That the maximum GLC due to crusher is only 1.0 µg/m3, which will be within the plant premises.

That dry fogging system will be installed on wall of unloading hopper. Crusher house and conveyor belts will be covered with skirt boards. That Crusher and Screen will have ducts and suction attached to bag filter. That only one additional transfer point is added in the system and provided with insertable type cassette filter.

With regard to coal transportation by road it was stated that coal will be transported using 40 T capacity mechanically covered trucks. That maximum

dumper movement will be 342 dumpers per day. That they have calculated existing traffic composition and volume and the impact due to additional traffic volume and have found that incremental concentration of air pollutants upto 50 m on either side of road can be predicted. That incremental CO is 0.1 ppm at 20 m and incremental NO2 is 0.12 ppm at 5m, 0.06 ppm at 25 m. Whereas, incremental PM will be 6.5 µg/m3 at 5m and 3.30 µg/m3 at 25m.

That a budget of Rs 50 lakhs has been especially earmarked for tree plantation along the road on either side of the route.

On the issue of use of existing ash dyke and raw water reservoir, the Committee noted that while this can be a temporary arrangement, ultimately bottom ash disposal for the 4x660 MW expansion project will be required to fulfill the statutory provisions of ensuring 100% ash utilization by the end of 4^{th} year as prescribed in Fly Ash Notification 2009 and its amendments.

The Committee noted that for the 4x600 MW expansion project, water was required to be used from Mahanadi river through a barrage i.e Kalma Barrage constructed for the purpose. It is now reported that Kalma barrage is under construction by the State Govt. and is expected to be ready only after a year i.e by September, 2014 for which Rs 74 Crores has already been deposited for construction of the barrage. That the existing water reservoir which is designed for the 1000 MW is now being contemplated to be used temporarily until additional land of 100 acres is acquired for the new water reservoir, which is in process. That the surplus water from the existing allocation from Rabo Dam constructed on Kurket river for 1000 MW Plant shall be used for an interim period.

In view of the above M/s JSPL requested permission for allowing use of existing water reservoir for the existing 1000 MW plant for the expansion project for an interim period.

The Committee noted the information provided by the project proponent and decided that the earlier recommendation for permitting installation of coal crusher at site and for road transportation of coal for an interim period of three years stands upheld in view of the steps taken/proposed to be taken for mitigation measures for arresting fugitive emissions due to installation of crusher at plant site and mitigation measures for air pollution due to road transportation. The Committee further recommended that permission for use of water of the existing raw water reservoir and fly ash dyke can be acceded for an interim period not exceeding three years as no public interest could be served by further delaying commissioning of the plants which are ready for commissioning.

2.18 2340 MW Mejia Thermal Power Station of M/s Damodar Valley Corpn. Ltd. at Durlovpur, Bankura, West Bengal – *reg. Reconsideration for permission for Addl. Ash pond for Unit 5 & 6.*

The matter was earlier considered in the54th Meeting of the Committee held during August 6-7, 2012, wherein it was informed that M/s Damodar Valley Corpn.Ltd. was accorded environmental clearance for its 2x250 MW Mejia Thermal Power Station (Unit-5&6) at village Durlavpur, in BankuraDistt., in West Bengal on 10.02.2004. M/s DVC had aslo informed that no additional land was acquired during the capacity addition comprising of 1x210 MW (Unit-4); 2x250 MW (Unit-5&6); 2x500 MW (Unit-7&8). That Unit-1,2&3 comprising of 3x210 MW came into operation in the year 1996, 1998 and 1999 respectively.

M/s DVC further stated that during conception of the power project the existing ash pond was designed with no concept to enhance the holding capacity and raising of dyke cannot be undertaken. *M/s DVC therefore sought permission for acquisition of 300 acres additional land for ash disposal.*

The Committee in the said meeting noted that the ash utilization of the power station seem to be very poor resulting in acute mismanagement. That in accordance with the norms the total ash disposal area available (about 600 acres) seem to be enough.

M/s DVC stated that out of total ash pond available, only about 470 acres is effective ash pond area and balance is green belt and dykes. M/s DVC requested that consideration on merit for the addl. ash pond can be made as they are in a precarious situation since the design of old ash pond for safety considerations cannot be redone / refurbished by raising height of dyke.

The Committee considered the request of M's DVC and desired that full facts along with other details justification on merit shall be submitted by M/s DVC for further consideration. Accordingly the matter was deferred.

The matter was again taken up subsequent to request of M/s DVC vide its letter dated June 04, 2013.

The Committee noted that the additional land sought for new ash pond site entails diversion of forests land which is not an acceptable proposition. The Committee noted that application for diversion of forests land also is in its nascent stage and the project proponent is yet to apply for the same. That

Committee further noted against 202.54 acres of additional land sought, only about 94 acres is non-forests land.

The Committee also noted that M/s DVC is in a stage where the power plant will soon required to be shut down due to non availability of mechanism of fly ash disposal. That the location of TPP in itself is such that there are no takers for Cement Plant consumption. That presently against 250 Lakh Million Tonne (LMT) of Fly ash generated, only about 68.5 LMTof fly ash is utilized.

The Committee decided that considering the location of the TPP and the consequent compelling reason for inability of better fly ash utilisation, as a special consideration and not as precedence, additional ash pond limited to the non-forests area of 94 acres can be permitted subject to submission firm action plan along with an undertaking for 100% fly ash utilization along with schedule.

2.19 2x300 MW Coal Based TPP of M/s Vidarbha Industries Power Ltd. at Butibori MIDC Industrial Area, in Nagpur, in Maharashtra – *reg. Temporary permission for road transportation of coal.*

The item was deferred at the request of the project proponent who expressed its inability to be present.

2.20 2x800 MW Coal Based TPP of M/s Karnataka Power Corpn. Ltd. – *reg. Scope of work for thermal temperature study.*

The above proposal was recommended for environmental clearance by the Committee in its 52nd Meeting held during August 10-11, 2009. The Ministry in acceptance of the recommendation of the Committee accorded environmental clearance on 17.11.2009 vide its letter No. J-13012/13/2008-IA.II (T). On of the condition prescribed in the environmental clearance at clause (ix) is read as under:

"*A thermal temperature study should be conducted through NRSA and the report be submitted in a period of 12 months*".

The project proponent in its submission on the above mentioned specific condition stated that the NRSA is insisting for furnishing scope of work such as area of impact to be studied, the duration of study etc. The project proponent therefore desires clarification of the above.

The matter was earlier referred to the EAC in its 65th Meeting held during March 19-20, 2010, wherein it was decided that the matter was deliberated by

the Committee and it was decided that Dr. R.V Rama Rao will assist in framing the requisite scope of work. The EAC expired in June, 2010 and in the re-constituted EAC Dr. R.V. Rama Rao has not found his name as a member.

M/s KPCL has now again approached the Ministry.

The matter was again taken up and it ws decided that M/s KPCL shall refer the issue to Dr. CBS Dutt, representative of NRSA, Hyderabad who would assist M/s KPCL in resolving the matter.

2.21 Extension of validity of TORs:

i) **2x660 MW Coal Based TPP of M/s THDC India Ltd. at Bulandshahar Distt., in U.P.**

ii) **2x750(+5%) MW Gas based combined cycle thermal power plant of M/s HPGCL at village Mothuka & Arwa, in Ballabhagarh Taluk, in Faridabad Distt., in Haryana.**

iii) **1x500 MW Singrauli STPP Stage –III of M/s NTPC Ltd. in Sonebhadra, in Uttar Pradesh.**

iv) **2x660 MW coal based Dhurvan Super TPP of M/s NTPC Ltd. at village Anand, in Gujarat.**

v) **2x660 MW Taleha TPP of M/s NTPC Ltd. in Angul Distt., in Orissa.**

vi) **2x660 MW Coal based Bilhaur Super TPP of M/s NTPC Ltd. at Kanpur, in UP.**

vii) **2x500 MW Ramagundan Super TPP Stage-IV of M/s NTPC Ltd. at Karinager, AP.**

viii) **2x1000 MW Marakkanam super TPP stage-I of M/s NTPC at Murukeri, Tamil Nadu.**

ix) **5x660 MW Dondaichal coal based TPP of M/s Mahagenco at village Dhale, in Maharashtra.**

x) **1x660 MW Coal based TPP of M/s Mahagenco at Nasik, Maharashtra.**

xi) **1320 MW super-critical imported CB TPP of M/s Suryachakra Thermal Energy (Andhra)Pvt. Ltd. at village Gunnpudi, in Vishakhapatnam.**

xii) **Expansion by addition of 20 MW Biomass power plant of M/s South Asia Agro Industries Ltd. at Baladabazar, in Chhattisgarh.**

xiii) **2x660 MW TPP of M/s Dwarkesh Energy Ltd. at village Torniya, Khandwa Distt., MP.**

xiv) **3x660 MW coal based supercritical TPP of M/s Sonebhadra Power Gen. Co Ltd. at Bahani & Dagdaua, in UP.**

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

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

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ANNEXURE- A1

Terms of Reference (TOR) :

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

any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Office of the Chief Wildlife Warden of the area concerned.

xii) Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, alongwith a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of fill material required; its source, transportation etc. shall be submitted.

xiii) A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land to be acquired is developed alternatively and details plan shall be submitted.

xiv) A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on economically feasible mineable mineral deposit shall be submitted.

xv) Details of 100% fly ash utilization plan as per latest fly ash Utilization Notification of GOI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash.

xvi) Water requirement, calculated as per norms stipulated by CEA from time to time, shall be submitted along with water balance diagram. Details of water balance calculated shall take into account reuse and re-circulation of effluents which shall be explicitly specified.

xvii) Water body/nallah (if any) passing across the site should not be disturbed as far as possible. In case any nallah / drain has to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of diversion required shall be furnished which shall be duly approved by the concerned department.

xviii) It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc.

xix) Hydro-geological study of the area shall be carried out through an institute/ organisation of repute to assess the impact on ground and surface water regimes. Specific mitigation measures shall be spelt out and time bound Action Plan for its implementation shall be submitted.

xx) Detailed Studies on the impacts of the ecology including fisheries of the river/estuary/sea due to the proposed withdrawal of water /

discharge of treated wastewater into the river/creek/ sea etc shall be carried out and submitted alongwith the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.

xxi) Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project. Commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.

xxii) Detailed plan for carrying out rainwater harvesting and its proposed utilisation in the plant shall be furnished.

xxiii) Feasibility of zero discharge concept shall be critically examined and its details submitted.

xxiv) Optimization of COC along with other water conservation measures in the project shall be specified.

xxv) Plan for recirculation of ash pond water and its implementation shall be submitted.

xxvi) Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals.

xxvii) Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out by a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of local communities.

xxviii) Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.

xxix) If the area has tribal population it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.

xxx) A detailed CSR plan along with activities wise break up of financial commitment shall be prepared. CSR component shall be identified considering need based assessment study. Sustainable income generating measures which can help in upliftment of poor section of society, which is consistent with the traditional skills of the people

shall be identified. Separate budget for community development activities and income generating programmes shall be specified.

xxxi) While formulating CSR schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CSR details done in the past should be clearly spelt out in case of expansion projects.

xxxii) R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.

xxxiii) Assessment of occupational health as endemic diseases of environmental origin shall be carried out and Action Plan to mitigate the same shall be prepared.

xxxiv) Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conducive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two years shall be conducted with an excellent follow up plan of action wherever required.

xxxv) One complete season site specific meteorological and AAQ data (except monsoon season) as per MoEF Notification dated 16.11.2009 shall be collected and the dates of monitoring recorded. The parameters to be covered for AAQ shall include SPM, RSPM (PM10, PM2.5), SO_2, NO_x, Hg and O_3 (ground level). The location of the monitoring stations should be so decided so as to take into consideration the pre-dominant downwind direction, population zone, villages in the vicinity and sensitive receptors including reserved forests. There should be at least one monitoring station each in the upwind and in the pre - dominant downwind direction at a location where maximum ground level concentration is likely to occur.

xxxvi) A list of industries existing and proposed in the study area shall be furnished.

xxxvii) Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the Model used and the input data used for modelling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The wind roses should also be shown on the location map as well.

xxxviii) Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.

xxxix) Fuel analysis shall be provided. Details of auxillary fuel, if any, including its quantity, quality, storage etc should also be furnished.

xl) Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished.

xli) Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.

xlii) For proposals based on imported coal, inland transportation and port handling and rolling stocks /rail movement bottle necks shall be critically examined and details furnished.

xliii) Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.

xliv) EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.

xlv) A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be carried out. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided.

xlvi) The DMP so formulated shall include measures against likely Tsunami/Cyclones/Storm Surges/Earthquakes etc, as applicable. It shall be ensured that DMP consists of both on-site and off-site plan, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan shall be prepared both in English and local languages.

xlvii) Detailed plan for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary (except in areas not possible) with tree density of 2000 to 2500 trees per ha with a good survival rate of about 80% shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports.

xlviii) Over and above the green belt, as carbon sink, additional plantation shall be carried out in identified blocks of degraded forests, in close consultation with the District Forests Department. In pursuance to this the project proponent shall formulate time bound Action Plans along with financial allocation and shall submit status of implementation to the Ministry every six months.

xlix) Corporate Environment Policy

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

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

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

ANNEXURE- A2

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.
