

## **MINUTES OF THE 8<sup>TH</sup> MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS**

The 8<sup>th</sup> Meeting of the re-constituted EAC (Thermal Power) was held on 24<sup>th</sup> July, 2017 in the Ministry of Environment, Forest & Climate Change at Teesta Meeting Hall, VayuWing, First Floor, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi under the Chairmanship of Dr. Navin Chandra. The following members were present:

- |     |                            |   |                                 |
|-----|----------------------------|---|---------------------------------|
| 1.  | Dr. Navin Chandra          | - | Chairman                        |
| 2.  | Dr. Narmada Prasad Shukla  | - | Member                          |
| 3.  | Shri N. Mohan Karnat       | - | Member                          |
| 4.  | Dr. Jai Krishna Pandey     | - | Member                          |
| 5.  | Shri Gururaj P. Kundargi   | - | Member                          |
| 6.  | Shri Suramya Dolarray Vora | - | Member                          |
| 7.  | Shri N. S. Mondal          | - | Member (Representative of CEA)  |
| 8.  | Dr. R. K. Giri             | - | Member (Representative of IMD)  |
| 9.  | Dr. S. K. Paliwal          | - | Member (Representative of CPCB) |
| 10. | Dr. S. Kerketta            | - | Member Secretary                |

Dr. Sharachchandra Lele, Representative of ISM Dhanbad and Dr. Manjari Srivastava could not be present.

### **Item No.8.0:CONFIRMATION OF THE MINUTES OF THE 7<sup>th</sup> EAC MEETING.**

The Minutes of the 7<sup>th</sup> EAC (Thermal Power) Meeting held on 28<sup>th</sup> June, 2017 were confirmed in presence members present with the following changes:

**Item No. 7.5 3x800 MW Patratu Super Thermal Power Project (PSTPP), Phase-1 at village Patratu, Distt. Ramgar, Jharkhand by M/s Patratu Vidyut Utpadan Nigam Limited- reg. fresh EC. (File No: J-13012/21/2015-IA.I(T) & Online No: IA/JH/THE/32025/2015)**

*(7.5.3) (i) Details of Volumes of ash dykes and quantity of fly ash planned along with timelines for evacuating and using fly ash before starting the operation of proposed project. Undertakings by Project Proponent that their ash mound shall not be constructed.*

***is to be replaced by***

*Details of Volumes of ash dykes and quantity of fly ash planned along with timelines for evacuating and using fly ash before starting the operation of proposed project. A three member committee shall visit the Project site and viability of having ash mound be examined and a report in this regard be submitted before the EAC for considering feasibility of having ash mound for the proposed Project.*

### **Item No. 8: CONSIDERATION OF PROJECTS**

**8.1 2x660 MW Super Critical Imported Coal Based Thermal Power Plant at villages Painampuram & Sivampuram, in Muthukur Mandal, in Nellore District, in Andhra Pradesh by M/s Sembcorp Gayatri Power Ltd.- reg. amendment in EC. (File No: J-13012/76/2009-IA.II(T) & Online no: IA/AP/THE/26415/2010).**

(8.1.1) Project Proponent (PP) submitted online application on 15.06.2017 for amendment of Environmental Clearance dated 30.09.2010 and also for name change from NCC Power Projects Ltd. The PP through their online application and during the presentation, *inter-alia* submitted the following information:

- i. Environmental Clearance for establishing 2x660 MW Super Critical Imported Coal Based Thermal Power Plant at villages Painampuram & Sivampuram, in Muthukur Mandal, in Nellore District, in Andhra Pradesh has been issued in

favour of M/s Nelcast Energy Corporation Ltd. vide Ministry's letter dated 30.09.2010 which was valid for five years, i.e. 29.09.2015. Coal requirement is 5.48 MTPA and imported coal shall be used.

- ii. An amendment to the said EC has been issued vide Ministry's letter dated 18.5.2011 for following changes:
  - a. Change in fuel source from imported coal to domestic and imported coal (75%:25%) and
  - b. Name change of the company from M/s Nelcast Energy Corporation Ltd. to M/s NCC Power Projects Ltd.
- iii. Earlier, validity of the EC dated 30.9.2010 has been extended till 29.9.2017 (total of seven years) vide Ministry's letter dated 4.3.2016.
- iv. Unit-1: 1x660 MW and Unit-2: 1x660 MW have been operational since 15.11.2016 and 18.02.2017, respectively.
- v. Specific Condition Nos. 4A (v) & (vi) of the EC letter dated 30.9.2010 stipulates as follows:
  - a. Specific condition No.4A (v): The project proponent shall establish at its own costs a Fish Landing Platform, Ice Plant etc. and shall accordingly submit to the Regional Office of the Ministry and the Fishery Department of the State Govt. a detailed plan and implementation schedule. The project proponent shall also prepare an action plan for implementation regarding providing sustainable fishing option for fishermen community in the area.
  - b. Specific condition No. 4A (vi): An endowment of Fishermen Welfare Fund shall be created out of CSR component for specific activities to be finalised within three months for upliftment of the lives of fishing community in the region. Creation of facilities such as Fish Drying Platforms/Ice Plant can as mentioned at clause (v) above can form a part of the scheme.
- vi. Asst. Director of Fisheries, Department of Fisheries, Govt. of Andhra Pradesh vide their letter dated 1.2.2011 informed that there is no marine fishermen or inland fishermen population in Pynapuram village of Muthukur Mandal and Ananthapuram, Sivarampuram, Eduru-II villages of T.P. Gudur Mandal. It is also mentioned that there are 70 Inland Fishermen families present in Varakavipudi village of T.P. Gudur Mandal. However, these fishermen families are eking out there livelihood by resorting to non fishing activities.
- vii. As the specific Condition nos.4A(v) & (vi) of the EC dated 30.9.2010 might not be applicable and these conditions may be deleted as there are no such fishing communities dwelling in the are of operation. The project site is at 7 km from Krishna Patnam port. Marine fishing activities are not allowed in this area.
- viii. PP approached Ministry at that time to remove these conditions. However, no documentary evidence is available.
- ix. MoEF&CC, Regional Office, Chennai visited the site during 23-24<sup>th</sup> January, 2017 and submitted the EC compliance report on 14.3.2017.
- x. Name of the company has been changed from M/s NCC Power Projects Ltd. to M/s Sembcorp Gayatri Power Limited. The name change request was also communicated to the Ministry vide letter dated 4.7.2016.
- xi. The certificate of incorporation under the Registrar of Companies vide dated 29.2.2016 has been issued for change in company name from M/s NCC Power Projects Ltd. to M/s Sembcorp Gayatri Power Ltd.

(8.1.2) Committee noted that the two conditions in the Environmental Clearance have been stipulated in the year 2010. The endowment of Fishermen Welfare Fund shall be created within three months from the date of issue of EC, i.e. 30.9.2010. MoEF&CC Regional Office report reveals that PP has not submitted any progress in this regard

either to RO or Head Office. PP has approached for deletion of these conditions after more than six years. Meanwhile, an amendment and validity extension of EC has been issued on 18.5.2011 and 4.3.2016. However, deletion of these conditions was not brought to the Ministry during that time. PP is now quoting the letter of Fisheries Department stating there are no fishermen communities in Pynapuram, Ananthapuram, Sivarampuram, Eduru-II villages. Committee sought the Member Secretary that why this condition was stipulated if there are no fishermen communities in the surroundings. Member Secretary briefed that EAC (Thermal Power) in its 67<sup>th</sup> meeting held during 19-20.3.2010 stipulated the condition “The villages bordering the sites may be predominantly inhabited by fishermen and the TPS have impacts on their livelihood, although most of the fishing activity is confined to deep seas. 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.” Member Secretary has also briefed that name change from M/s Nelcast Energy Corp. Ltd. to M/s NCC Power Projects Ltd. has been done by the Ministry. However, there is no record available that PP applied for further name change from NCC Power Projects Ltd. to M/s Sembcorp Gayatri Power Limited. Committee noted that justification of PP saying there are no fishermen villages within 3 km radius of the project is not acceptable. PP can always carryout CSR activities beyond 3 km and up to 10-15 km radius. Committee noted that PP should submit the details of villages, population, fishermen population, fishing activities within 10 km radius of the plant site for taking appropriate decision. Committee noted that 70% of the company assets have been acquired by the Singapore based company (M/s Sembcorp Gayatri Power Ltd.). No Objection Certificate (NOC) from previous Company is required for transferring the EC in the new name. Committee observed that RO, MoEF&CC reported non-compliances on 26 conditions. Committee suggested that Ministry should take an appropriate action on non-compliances and time bound action plan be submitted by PP for immediate compliance.

- (8.1.3) Committee after deliberations, suggested for a site visit by a Sub-committee comprising of three members to ascertain the presence of villages/ fishermen communities within 10 km radius of the plant site. Committee has also sought following additional information:
- i. Details of villages, population, population of fishermen communities, details of fishing activities, etc within 10 km radius of the project site.
  - ii. Time bound action plan on non-compliances reported by the RO, MoEF&CC vide their report dated 14.3.2017.
  - iii. No Objection Certificate from previous company and an undertaking from the new company that they will comply to the conditions stipulated in the EC.

Accordingly, **Committee deferred the project** for want of additional information and the report of the site visit.

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**8.2 2x660 MW super critical coal based Thermal Power Project at Village Dadri Khurd, Tehsil Mirzapur Sadar, District Mirzapur, Uttar Pradesh by M/s Welspun Energy UP Pvt. Ltd. - reg. amendment in Environmental Clearance. (File No: J-13012/12/2011-IA II (T) & Online no: IA/UP/THE/10331/2010).**

- (8.2.1) Project Proponent (PP) submitted online application on 17.6.2017 for amendment of EC dated 21.8.2014. PP made the presentation inter-alia submitted the following information:

- i. Environmental Clearance for establishing of 2x660 MW Super critical coal based Thermal Power Project at Village Dadri Khurd, Tehsil Mirzapur Sadar, Dist. Mirzapur, Uttar Pradesh has been issued vide Ministry's letter dated 21.8.2014.
- ii. NGT, Principal Bench, Delhi in Appeal No.79/2014 in the matter of Debadityo Sinha vs Union of India in their judgment dated 21.12.2016 set aside the Environmental Clearance dated 21.8.2014, directed PP not to carry out any developmental work at the project site, restore the area to its original condition and work of restoration is stayed for a period of two months.
- iii. NGT vide their judgment dated 1.5.2017 directed that Project proponent is at liberty to approach the MoEF&CC or any other competent authority for processing of the applications for grant of EC upon making up for/rectifying the defects and deficiencies pointed out in the judgment. However, the authorities concerned are at liberty to process the same in accordance with law while strictly adhering to the content of the judgment.
- iv. NGT vide their judgment dated 21.12.2016 mentioned the following defects in the EC process:
  - a. Deliberate concealment with regard to forest land within the proposed project site.
  - b. Non-submission of Form-1 dated 31.3.2011 for the project site at Mirzapur
  - c. Discrepancies in Form-1 dated 31.3.2011 and the form-1 furnished later dated 3.12.2011
  - d. Whether the project proponent required forest clearance before the grant of EC as the project site involve forest land
  - e. Concealment of presence of wildlife within the proposed project site.
  - f. Usage of water in upper Khajuri Dam and withdrawal of water by the project proponent from the river Ganga to the upper Khajuri Dam would severely impact the nature of the water that is used for human consumption as well as irrigation.
  - g. Impact of the proposed project on Banaras Hindu University (BHU)
  - h. Presence of Kaimur, that is an important mineral resource to be found in the area of Mirzapur
  - i. Whether the Public Hearing was conducted in a free and fair manner, in view of the fact that there was presence of men carrying arms in the video of the public hearing.
- v. In the updated form-1 submitted to MoEF&CC on 17.6.2017 and required information about forest land involved has been provided. There is a forest involvement of 5.8162 ha for laying of pipeline and 2.5419 ha for laying of approach road. Application for Stage-I forest Clearance has been submitted vide proposal no.FP/UP/THE/14236/2015.
- vi. The survey for land schedule involved in railway siding and transmission line shall be carried out at later stage considering the short construction period involved in these activities. However, requirement of forest land if any will be applied for Forest Clearance as per the process. A small patches of lands 1.01 ha (gatta no.180) and 0.49 ha (gatta no.216ja)with in the plant area have been classified as Jhari or revenue forest. Necessary permission will be taken from the forest dept. for developing greenbelt in the area. Regional Office, MoEF&CC vide letter dated 11.10.2013 state that these two gatta lands are recorded as Jhari in revenue records and are in the ownership of State Govt. If these lands are to be used for non-forest purpose, the permission under FCA is essential.
- vii. The PP had circulated the form-1 along with the PFR vide email dated 31.3.2011 which was marked to all the EAC members.

- viii. Para 28 of NGT judgment noted the receipt of form-1 dated 31.3.2011. Revised form-1 submitted on 17.6.2017.
- ix. There are schedule-1 species present in the study area. There are two endangered flora, five endangered amphibians and reptiles, six endangered avifauna and nine endangered mammals.
- x. Biodiversity conservation and management plan has been prepared and submitted. The same has been approved by the Chief Conservator of Forests, Lucknow vide dated 5.10.2014.
- xi. Water for the project will not directly be sourced from Upper Khajuri Dam. Water from Ganga river (at 17 km from the site) via pipelines will be stored in Upper Khajuri dam and subsequently used. Clearance from UP govt. and approval from CWC had been obtained for drawl of water from river Ganges and to use upper Khajuri dam as storage for lean period. UP govt reviewed and confirmed the suitability of upper Khajuri dam considering its live storage, their irrigation requirement and plant's storage for five months. The water drawn at intake point at Ganga river will be desilted in a desiltation plant and the treated water will be pumped to Upper Khajuri dam to maintain the water quality of Upper Khajuri dam.
- xii. Company had already made commitments to BHU for installation of ESP with 99.99% efficiency, comply with conditions stipulated by CWC on water withdrawal, ash utilisation plan and operate ETP. Company also commits to adhere to latest environmental norms published by MoEF in 2015.
- xiii. Low NOx burners and Selective Catalytic Reduction (SCR) technology for NOx reduction, FGD for SO<sub>2</sub> control, Size ESP to maintain PM, water conservation, recycling and reuse, zero liquid discharge system, optimization of COC are the major additional environmental protection measures.
- xiv. As per the Directorate of Geology and Mining, UP, no listed mineable mineral is found in the project area including Kaimur sandstone.
- xv. Public hearing was conducted under the presence of the district magistrate, ADM and other senior officials of Govt. department. There were no police complaints/FIR registered with the local police station at Mirzapur for any illegal activity, use of force or there to any local who attended the public hearing.
- xvi. The project is proposed in backward area which is very close to Naxal-affected districts of U.P. i.e. Marihan and Sonbhadra. It was common practice in Mirzapur area for locals to carry arms with them.
- xvii. UPPCB date 12.4.2017 has certified that the public hearing was conducted in complete free and fair manner.

(8.2.2) Committee noted that there is a discrepancy in submitting the form-1 w.r.t location of the project. Committee observed that in addition to the forest land identified for water pipeline and approach road, there is more forest land involved for railway corridor and transmission lines. However, that forest land has not been identified yet. PP submitted the FC application only for 5.8162 ha (water pipeline) and 2.5419 ha (approach road). It is ideal to prepare a composite application for the total forest land required for all project activities. However, this matter is to be dealt by State Forest Department and MoEF&CC. Committee opined that recommendations of Standing Committee of National Board for Wildlife may be required as there are Schedule-I species present in the study area. By withdrawing water from Ganga and storing in the Upper Khajuri dam, PP is creating water scarcity in the downstream of Ganga and impact on BHU as BHU is drawing water from Upper Khajuri dam. Downstream impacts shall be studied and Hydro-geological study shall be conducted. Bio-diversity study is to be approved by Chief Wildlife Warden as there are schedule-1 species present in the study area. Regarding the presence of minerals, a certificate from State Mines and Geology

department is required to ascertain the minerals in the project area. Committee also observed that clarification for conducting public hearing in transparency manner and law and order issues may be obtained from District Collector instead of State Pollution Control Board. A decision on re-conducting of public hearing may be arrived after obtaining a report from District Collector.

(8.2.3) Committee after detailed deliberations, **deferred the project** for want of following additional information:

- i. Hydro-geological study and impact on in-stream uses due to water withdrawal from Ganga river.
- ii. A certificate from State Mines and Geology Department regarding mineralogical map and presence of minerals in the project and surrounding areas.
- iii. Clarification report from District Collector regarding conduct of Public Hearing including law and order issues.
- iv. Recommendations from Standing Committee of National Board for Wildlife (SC-NBWL).
- v. Details of STP within 50 km radius from the project site.
- vi. Commitment for setting up of RO system for providing potable water to Banaras Hindu University.

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**8.3 25 MW Waste-to-Energy (WtE) Project at Deonar, Mumbai, Maharashtra by M/s Municipal Corporation of Greater Mumbai-reg. ToR.  
(File No: J-13012/02/2017-IA.I(T) & Online no: IA/MH/THE/62178/2017).**

(8.3.1) The Project Proponent (PP) submitted online application for grant of ToR on 8.6.2017. PP along with their environmental consultant, *M/s Fine Envirotech Engineers* made a presentation and *inter-alia* provided the following information:

- i. The proposal is for setting up of 25 MW Waste to Energy Power Plant, Deonar Dumping ground, eastern suburb of Mumbai, Maharashtra which will process Municipal Solid waste of approx. 3000 Tons per day in modules and which is compliant with SWM Rules 2016 and all other applicable rules.
- ii. The Municipal Corporation of Greater Mumbai currently generates above 8000 tonnes of Municipal Solid Waste per day, with an average per capita generation rate of about 540 grams/ capita/ day. Currently, the waste dumpsite at Deonar receives approximately 5,100 TPD of waste from Mumbai which includes approximately 4100 tonnes of MSW and 1,000 TPD of construction and demolition (C&D) waste. Entire waste is being dumped at Deonar dumpsite without any processing. The present project is for processing of 3000TPD waste by way of Waste to Energy (WtE) project at Deonar. After processing of waste, only rejects (pre- and post processing) would be land filled.
- iii. The area of 12.19 Ha (contagious land) and another 2 ha (Non-contagious land is identified for the project. In this land area is sufficient for Plant and machinery, all the peripheral infrastructure, Brick making facility from ash, Ash pond for 1.5 years, and Interim storage of inert for 1.5 years etc.
- iv. 0.45 ha (1.2 acres) of mangrove forest is involved in the proposed project. Approximately 60-70 individual mangrove plants will get affected. Application for diversion of 0.45 ha of forest under FCA has been submitted to Forest Department.

- v. The power generated from WtE plant will be evacuated through the nearest grid. This would either be sold to DISCOM or for captive use of MCGM. In later case, wheeling charges would be applicable.
- vi. Application for CRZ clearance for pipeline (3.5 km) carrying secondary treated sewage from Ghatkoper Pumping Station to main plant, car park for 50 cars, Effluent pond (20x11.25 m), ETP (20x22.5 m), Leachate Treatment Plant (20x11.25 m), areas for future expansion (1.01 ha) and security booth (2 units, 6.3x6.3 m) has been submitted on 23.3.2017. Total of 2.0 ha of land falls within CRZ areas-I(a) and II.
- vii. Presently water requirement at the Deonar site is met through tanker water and there is no permanent water supply at the site. WtE project requires water for boilers, turbine steam and other allied activities. Considering the fire fighting water requirement at the Deonar dumpsite which is presently being met through drinking water tankers, it is proposed to have supply capacity of 4.5 MLD of raw water from Ghatkopar STP lagoon. it was proposed to have 3.5 km long pipeline (the pipeline route is taken by the side of waste dumping) to convey 4.5 MLD of pre-treated water from Lagoon (as raw water) to the proposed WTE site location and have a WTP of same capacity at the proposed site.
- viii. The waste analysis report clearly depicts that it has high moisture content (60-80%). The calorific value ranges from 530-1200 kcal/kg. The waste may require preprocessing (to reduce moisture content and enhance calorific value) to meet the requisite feedstock quality as mandated in SWM Rules 2016 (Calorific value should be above 1500 kcal/kg). Pre-processing is part of WtE technology. The calorific value can also be enhanced by pre-stream waste management i.e. during collection and transportation.
- ix. The MSW pre-processing plant may consist of Screening, Magnetic Separation, Eddy Current Separation, Shredder to reduce the size of the material and Grab Cranes. In case of high moisture content, drier is also an essential pre-processing stage.
- x. Various technologies were evaluated for WtE considering the scale of the project, environmental sensitivities, land area availability etc. Thermal technologies, viz. Incineration (different types of incineration), gasification and Pyrolysis are better suited for the present scale of the project comparing biological process such as Bio-methanation. Pyrolysis is also not yet proven for large scale project for MSW.
- xi. Continuous Emission Monitoring System is one of the important requirements for WtE plant to monitor the emissions for regulatory compliance and mitigation which is taken into consideration for project design. ETP of 600 KLD is proposed for treatment of Effluent Ash Pond and other utilities. It is also proposed to have package type Sewage Treatment plant of 10 KLD.
- xii. The post processing rejects like ash (Bottom and Fly ash) would be utilized for useful purposes like making brick, tiles etc. The pre-processing rejects will also be used for construction purpose to the extent possible.
- xiii. Project benefits are Reduced burden on Landfill, Control of emissions from fire of the dumpsite and other fugitive emissions, Reduction in Green House Gas (GHG) Emissions, Better Hygiene and Health Benefits, prevention of surface and ground pollution and reduced Bird Menace.

- xiv. Total manpower envisaged at the plant is 200. Estimated Project cost is Rs.877.76 Crores.

(7.3.2) Committee noted that PP has presented various thermal processes and biological processes for power generation. However, PP has not fixed the process on which the present project is implemented. Without arriving at process technology, the preliminary environmental impact assessment and prescribing ToRs cannot be done. After discussions, PP agreed to go for pyrolysis. Committee has also noted that the QCI-NABET accreditation of the environmental consultant M/s Fine Envirotech Engineers has been withdrawn by the Ministry. However, as informed by the consultant, Hon'ble Bombay High Court through Order dated 28.8.2013 in the Writ Petition no.2491 of 2013 stayed the Office Memorandum of the Ministry. Consultant has not provided the documents pertaining to stay order. Ministry may take a call on whether or not the present environmental consultant can be permitted to carryout the EIA studies.

(7.3.3) Committee after detailed deliberations, **recommended for grant of additional ToR** in addition to standard ToR appended as Annexure-A;

- i. As informed by M/s *Fine Envirotech Engineers, Consultant* shall submit the stay order of the Hon'ble High Court regarding validation of the firm to carry out EIA study for the proposed project as a proof before issuing the ToR.
- ii. EIA studies shall be conducted by the valid QCI-NABET accredited environmental consultants.
- iii. The proposed project is based on Thermal Technology **Pyrolysis**. In case of change in technology, a fresh reference is to be made to Ministry for assessment of environmental impacts.
- iv. Water requirement shall be reduced by avoiding ash slurry and ash ponds.
- v. 100% ash disposal plan shall be prepared and submitted.
- vi. Three tier peripheral greenbelt development plan shall be prepared and submitted along with final EIA.
- vii. Flyash management plan shall be prepared for using it in brick manufacturing and for using it in roads and constructions.
- viii. Mangroves Conservation Fund shall be deposited to Mangrove Conservation Cell, Mumbai for compensatory mangrove Afforestation. PP shall make a plan in consultation with Mangrove Conservation Cell for mangrove Afforestation and determine the financial outlay.
- ix. PP shall draw and submit Vulture conservation plan in consultation with the State Wildlife Department.

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#### **8.4 Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase II) at Village Kamalanga, in Odapala Taluk, in Dhenkanal Distt. in Odisha by M/s GMR Kamalanga Energy Ltd.- reg. Amendment Environment Clearance. (File No: J-13012/73/2011-IA.II (T) & Online no: IA/OR/THE/75/2008).**

(8.4.1)The Project Proponent (PP) submitted online application on 2.6.2017 for amendment in the EC dated 5.12.2011 for increase in land requirement from 108.5 acres to 1176.24 acres and extending the validity of EC up to 4.12.2021. PP along with their environmental consultant, *M/s Visiontek Consultancy Services Pvt. Ltd.* made a presentation and, *inter-alia* provided the following information:

- i. Environmental Clearance for Phase-I: 3x350 MW Thermal Power Plant has been issued vide Ministry's letter dated 5.2.2008. Unit-1, Unit-2 and Unit-3 have been under operation since 30.4.2013, 12.11.2013 and 25.3.2014 respectively.



- ii. Environmental Clearance for Phase-I: 1x350 MW Thermal Power Plant has been issued vide Ministry's letter dated 5.12.2011. Total area as per EC for both the phases was 1038.5 acres. The area has been increased to 1176.24 acres.
- iii. The incremental 137.74 acres will be used for approach road outside the plant boundary (31.02 acres), Merry Go Round Railway line outside plant boundary (30.79 acres), Realignment of PGCIL transmission line inside plant boundary (17.67 acres), Left-out plots inside plant boundary (31.19 acres), Periphery development at outside of plant boundary (7.33 acres), Permissive possession of Govt. land at inside of plant boundary (19.74 acres). There is no forest land involved in the proposed additional land. Plantation will be carried out along side of the approach road.
- iv. Project activities have been completed up to 30%. Extension of validity of EC is required to achieve financial closure and commencement of project activities. The expected completion of project is by December, 2021. The implementation status of 1x350 MW is as below:

S.No.	Plant facilities	Status
1	Boiler, steam turbine, generator and accessories and TG Building	Major civil work completed, coal bunkers erected, rest to be done.
2	Switch yard	Civil work and tower erected, Electrical equipment to be installed.
3	Cooling tower and CW pump house	Civil and building work of pump house completed, CT work to be done.
4	River water pump house and pipeline reservoir and pump house	Completed (common facility)
5	Water treatment plant, accessories and ETP/STP/RO systems	Completed (common facility)
6	Ash pond	Presently constructed in 212 acres
7	Coal handling plant, fuel handling plant and ash handling plant with silo	Completed (common facility)
8	Greenbelt	More than 320 acres with 2,75,305 nos. of saplings planted till date.

(8.4.2) Committee discussed, if there is a need for conducting public hearing as there is about 10% increase in land area. In addition to the approach road, railway siding, transmission lines, there is a land parcel of approximately 50 acres of land is within the plant boundary. The whole land is in possession. Committee noted that PP has not done any construction activities in the proposed incremental area of 137.74 acres. Regarding, extension of validity of EC dated 05.12.2011, the same was valid for five years. However, as per the new EIA amendment notification, the validity of EC is for seven years. As the said EC dated 05.12.2011 was valid on the date of publication of EIA amendment Notification (i.e. 14.09.2016), the validity of the present EC is also taken as seven years. Accordingly, the EC is valid up to 04.12.2018. PP may approach Ministry for extension of validity of EC three months prior to its expiry.

- (8.4.3) Committee after detailed deliberations, **exempted for re-conducting the Public Hearing** as it is the case of acquiring additional land of 137.74 acres and there shall be no project activities will be added *subject to the following conditions:*
- i. *A public notice in the newspapers for seeking public comments be given. Notice shall be published in two newspapers preferably one in vernacular language of the locality concerned and another one in English newspapers to seek the public comments/suggestions within one months from the date of notice.*
  - ii. *PP should address all the public comments/suggestion received within one month and address accordingly and submit to the Ministry for further consideration.*

Committee after detailed deliberations, **deferred the project for consideration in the next EAC meeting.**

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**8.5 Proposed expansion by addition of 1000 MW (2x500) MW) Lignite Based TPP at Neyveli, in Kurinjipadi Tehsil, in Cuddalore Distt., in Tamil Nadu by M/s Neyvelli Lignite Corporation Ltd.-reg. extension of validity of EC. (File No: J-13012/250/2007-IA II(T) & Online no: IA/TN/THE/12015/2007).**

(8.5.1) Project Proponent (PP) submitted online application on 14.7.2017 for extension of validity of Environmental Clearance (EC) dated 21.10.2010. PP made the presentation inter-alia submitted the following information:

- i. The environmental clearance for establishing 2x500 MW Lignite based Thermal Power Plant has been accorded by the Ministry on 21.10.2010 which was valid for five years i.e. till 20.10.2015. Validity of the said EC has been extended for two more years i.e. till 20.10.2017.
- ii. The proposed project is envisaged to replace old units (6x50 MW and 3x100 MW) which are 40 years old.
- iii. Govt. of India sanctioned the project on 9.6.2011 at a cost of Rs.5907.11 crores.
- iv. The LOA for steam generator package was given to BHEL on 31.10.2013 and steam turbine package on 23.12.2013.
- v. The physical progress of work as on date is 70% and financial progress is around 67.8%. Both units are expected to achieve COD by 31.9.2018 and 30.3.2019 respectively. Environmental Clearance may be extended for two more years i.e. till 20.10.2019.
- vi. Total land requirement is 160 Ha of NLC land. Fuel linkage is from Lignite mine 1 & 1A of NLC. Ground water will be pumped from Mine 1 & 1A to lakes and used for plant operations.

(8.5.2) Committee note that the project has achieved substantial physical progress of 70% and the remaining activities can be completed within the outer limit of EC validity of 10 years. Also, PP requested for total validity of 9 years.

(8.5.3) Committee after detailed deliberations, **recommended for extending the validity of EC dated 21.10.2010 till 20.10.2019.**

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**8.6 2x800 MW (Stage-I) Gadarwara Super Thermal Power Project near villages Gangai, Umaraiya, Mehrakheda, Chorbarheta, Dongergaon and Kudari, in Gadarwara Tehsil, Narsinghpur Distt. in Madhya Pradesh by M/s NTPC Ltd.-reg. amendment in EC.  
(File No: J-13012/125/2009-IA.II(T)& Online no: IA/MP/THE/17134/2013).**

(8.6.1) Project Proponent (PP) submitted the online application on 14.7.2017 for amendment in EC for change in coal source and for temporary transportation of coal by road. PP along with Environmental Consultant M/s Min Mec Consultancy Ltd. made presentation and inter-alia submitted the following information:

- i. Environmental Clearance for establishing 2x800 MW Super Thermal Power Project has been issued by the Ministry vide letter dated 22.3.2013. Coal requirement for the proposed project is 8 MTPA at 90% PLF and will be sourced from Talaipalli coal block. Calorific value, ash and Sulphur content of the Talaipalli coal block will be 3900 kcal/kg, 40% and 0.5%.
- ii. Hon'ble Supreme Court de-allocated the Talaipalli coal block on 24.9.2014 and re-allocated on 8.9.2015.
- iii. MoC vide letter dated 25.7.2013 intimated allocation of Chandrabila coal block to NTPC. Coal from this block was linked to Gadarwara STPP. Subsequently MoC vide letter dated 8.4.2015 informed NTPC about its decision for change of allocation of Chandrabila coal block to Govt. of Tamil Nadu.
- iv. In the present situation, coal for the proposed project is now envisaged from NTPC Pakri Barwadhi coal Mine block. NTPC plans to transport the coal from Pakri Barwadhi coal block by rail to Gadarwara Railway station. The MGR for transportation of coal from Gadarwara Railway Station to the plant site is not ready and will take some time for completion. The Gadarwara STPP Stage-I (2x800 MW) is in advanced stage and is ready for commissioning in the month of June, 2017.
- v. The coal will be transported from Gadarwara Railway Station site by road which is at a distance of 15 km from Plant site and the road transportation may be permitted for temporary period till December, 2018.
- vi. Traffic and environmental impact assessment study has been carried out by Min Mec Consultancy Pvt. Ltd. There are three sections identified for transport of coal by road. Total length of Section-1 is 4.685 km. 43.7% road is single lane with width <5.5 m which is under widening to 7 m by PWD. Total length of section-2 is 6.63 km (width more than 7 m) which is under construction by PWD and NTPC. Length of Section-3 is 10.617 km (13.8% - <5.5 m, 54.6% - between 5.5-7 m & 31.6% - >7 m).
- vii. It is proposed to transport 10,595 MT/day coal in first six months and 21,190 MT /day after six months. There will be total of 1360 nos. (57 hourly) and 2,722 nos. (114 hourly) of tipper/truck movement to and fro during road transportation in first six months (for Unit-1) and after six months (for Unit Nos. 1 & 2), respectively.
- viii. Transportation of coal from rail head to plant for six months will be through the section-1 and section-3 which passes through villages Gadarwara, Megarmuha, Khairi, Chichli and Gangai. As soon as the road and bridge being built by NTPC are completed, the transportation will be by the Section-1 and Section-2 along villages Gadarwara and Megarmuha.
- ix. Air quality modelling has been carried out. The baseline and predicted incremental values are as below:

Parameters	Highest Baseline value ( $\mu\text{g}/\text{m}^3$ )	Predicted incremental values at 50 m distance ( $\mu\text{g}/\text{m}^3$ )	Predicted incremental values at 100 m distance ( $\mu\text{g}/\text{m}^3$ )
Scenario-1			
PM <sub>10</sub>	89.4	0.05	0.04
PM <sub>2.5</sub>	55.0	0.03	0.03
NO <sub>x</sub>	11.0	26.49	18.37
SO <sub>2</sub>	6.1	3.73	2.66
Scenario-2			
PM <sub>10</sub>	125.9	0.11	0.08
PM <sub>2.5</sub>	72.1	0.07	0.04
NO <sub>x</sub>	11.0	52.44	36.20
SO <sub>2</sub>	6.1	7.45	5.19

- (8.6.2) Committee noted that the EIA studies which were carried out earlier are based on Talaipalli coal block. PP applies for the change in coal source to Pakri Barwadih coal block owned by NTPC. Accordingly, the coal quality and other parameters vary for new coal block. However, PP has not provided the characteristics of new coal source. Committee felt that EIA studies are to be revised based on characteristics of new coal source. Committee noted that most of the route proposed for coal transportation is in the busy traffic area. Sugar mills are present in the nearby area and there is a busy traffic due to sugar cane transport. The proposed coal transportation may lead high traffic which will cause inconvenience to existing traffic and increase air pollution. Committee opined that 30 ton trucks may be used instead of 15 ton trucks to reduce the traffic provided roads have sufficient bearing/axle strength.
- (8.6.3) Committee after detailed deliberations, **recommended for change in coal source from Talaipalli block to Pakri Barwadih coal block and for transportation of 8 MTPA coal by road for a distance of 15 km till December, 2018** subject to following additional conditions:
- Road repair and maintenance is to be carried out by NTPC.
  - Trucks shall be covered with tarpaulin and properly stamped to ensure that tarpaulin is properly tied with the help of rope and truck shall be fully covered so that there is no spillage of coal and/or emission of dust during transportation.
  - Continuous water sprinkling, sweeping and dust control measures shall be carried out through out the road for minimising the air pollution.
  - Plantation shall be carried out along side of the road for noise attenuation and control of air borne dust.
  - Plantation shall also be carried out on the banks of Sangam confluence of Shakkar nadi and Narmada nadi.

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## 8.7 ANY OTHER ITEM WITH THE PERMISSION OF THE CHAIR.

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

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**Terms of Reference (TOR):**

- i) The proposed project shall be given a unique name in consonance with the name submitted to other Government Departments etc. for its better identification and reference.
- ii) Vision document specifying prospective long term plan of the project shall be formulated and submitted.
- iii) Latest compliance report duly certified by the Regional Office of MoEF& CC for the conditions stipulated in the environmental and CRZ clearances of the previous phase(s) for the expansion projects shall be submitted.
- iv) The project proponent needs to identify minimum three potential sites based on environmental, ecological and economic considerations, and choose one appropriate site having minimum impacts on ecology and environment. A detailed comparison of the sites in this regard shall be submitted.
- v) Executive summary of the project indicating relevant details along with recent photographs of the proposed site (s) shall be provided. Response to the issues raised during Public Hearing and 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.
- vi) Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and for expansion projects, status of implementation shall also be submitted.
- vii) The geographical coordinates (WGS 84) of the proposed site (plant boundary), including location of ash pond along with topo sheet (1:50,000 scale) and IRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/River and high tide level from the sea shall be specified, if the site is located in proximity to them.
- viii) Layout plan indicating break-up of plant area, ash pond, green belt, infrastructure, roads etc. shall be provided.
- ix) 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 shall be provided.
- x) Present land use (including land class/kism) as per the revenue records and State Govt. records of the proposed site shall be furnished. Information on land to be acquired including coal transportation system, laying of pipeline, ROW, transmission lines etc. shall be specifically submitted. Status of land acquisition and litigation, if any, should be provided.
- xi) If the project involves forest land, details of application, including date of application, area applied for, and application registration number, for diversion under FCA and its status should be provided along with copies of relevant documents.
- xii) The land acquisition and R&R scheme with a time bound Action Plan should be formulated and addressed in the EIA report.
- xiii) Satellite imagery and authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest habitations (villages), creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
- xiv) 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 Chief Wildlife Warden of the State or an officer authorized by him.

- xv) Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of required fill material; its source, transportation etc. shall be submitted.
- xvi) 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 be acquired and developed and detailed plan submitted.
- xvii) A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on potentially mineable mineral deposit shall be submitted.
- xviii) Details of fly ash utilization plan as per the 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.
- xix) The water requirement shall be optimized (by adopting measures such as dry fly ash and dry bottom ash disposal system, air cooled condenser, concept of zero discharge) and in any case not more than that stipulated by CEA from time to time, to be submitted along with details of source of water and water balance diagram. Details of water balance calculated shall take into account reuse and re-circulation of effluents.
- xx) Water body/Nallah (if any) passing across the site should not be disturbed as far as possible. In case any Nallah / drain is proposed to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of proposed diversion shall be furnished duly approved by the concerned Department of the State.
- xxi) 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. and the boundary of site should also be located 500 m away from railway track and National Highways.
- xxii) Hydro-geological study of the area shall be carried out through an institute/ organization 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.
- xxiii) 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/Sea etc shall be carried out and submitted along with 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.
- xxiv) 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 and commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.
- xxv) Detailed plan for rainwater harvesting and its proposed utilization in the plant shall be furnished.
- xxvi) Feasibility of near zero discharge concept shall be critically examined and its details submitted.
- xxvii) Optimization of Cycles of Concentration (COC) along with other water conservation measures in the project shall be specified.

- xxviii) Plan for recirculation of ash pond water and its implementation shall be submitted.
- xxix) 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. A provision for long-term monitoring of ground water table using Piezometer shall be incorporated in EIA, particularly from the study area.
- xxx) Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out through a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of the local communities.
- xxxi) 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.
- xxxii) 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.
- xxxiii) 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 and Public Hearing issues. Sustainable income generating measures which can help in upliftment of affected 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.
- xxxiv) 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.
- xxxv) 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.
- xxxvi) Assessment of occupational health and endemic diseases of environmental origin in the study area shall be carried out and Action Plan to mitigate the same shall be prepared.
- xxxvii) 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 to three years shall be conducted with an excellent follow up plan of action wherever required.
- xxxviii) One complete season site specific meteorological and AAQ data (except monsoon season) as per latest MoEF Notification shall be collected and the dates of monitoring shall be recorded. The parameters to be covered for AAQ shall include PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO and Hg. The location of the monitoring stations should be so decided so as to take into consideration of the upwind direction, pre-dominant downwind

direction, other dominant directions, habitation and sensitive receptors. 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.

- xxxix) In case of expansion project, air quality monitoring data of 104 observations a year for relevant parameters at air quality monitoring stations as identified/stipulated shall be submitted to assess for compliance of AAQ Standards (annual average as well as 24 hrs).
- xl) A list of industries existing and proposed in the study area shall be furnished.
- xli) Cumulative impacts of all sources of emissions including handling and transportation of existing and proposed projects on the environment of the area shall be assessed in detail. Details of the Model used and the input data used for modeling 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 windrose and isopleths should also be shown on the location map. The cumulative study should also include impacts on water, soil and socio-economics.
- xliv) Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
- xlvi) Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.
- xlvii) Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted
- xlviii) 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.
- l) For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
- li) 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.
- liii) 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.
- liiii) 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. Mock drills shall be suitably carried out from time to time to check the efficiency of the plans drawn.
- liiii) The DMP so formulated shall include measures against likely Fires/Tsunami/Cyclones/Storm Surges/Earthquakes etc, as applicable. It shall be ensured that DMP consists of both On-site and Off-site plans, complete with details of containing likely disaster and shall specifically mention personnel identified for the



task. Smaller version of the plan for different possible disasters shall be prepared both in English and local languages and circulated widely.

- li) Detailed scheme for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary with tree density of 2000 to 2500 trees per ha with a good survival rate of around 80% shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports in case of expansion projects. A shrub layer beneath tree layer would serve as an effective sieve for dust and sink for CO<sub>2</sub> and other gaseous pollutants and hence a stratified green belt should be developed.
- lii) Over and above the green belt, as carbon sink, plan for additional plantation shall be drawn by identifying 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.
- liii) 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 compliance management system in place wherein compliance status along with compliances / violations of environmental norms are reported to the CMD and 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.

- liv) Details of litigation pending or otherwise with respect to project in any Court, Tribunal etc. shall invariably be furnished.

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**Specific Conditions related to Thermal Power Projects:**

- (i) Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within **six months**.
- (ii) Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.
- (iii) A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.
- (iv) Online continuous monitoring system for stack emission, ambient air and effluent shall be installed.
- (v) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 30 mg/Nm<sup>3</sup> or as would be notified by the Ministry, whichever is stringent. Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided along with an environment friendly sludge disposal system.
- (vi) Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.
- (vii) Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.
- (viii) A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.
- (ix) No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up/operation of the power plant.
- (x) Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.
- (xi) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) shall be monitored in the bottom ash. No ash shall be disposed off in low lying area.
- (xii) No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.

- (xiii) Fugitive emission of fly ash (dry or wet) shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided in consultation with the local Panchayat.
- (xiv) Green Belt consisting of three tiers of plantations of native species all around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 80 %.
- (xv) Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary.
- (xvi) The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.
- (xvii) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.
- (xviii) For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.

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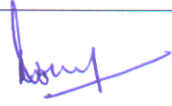

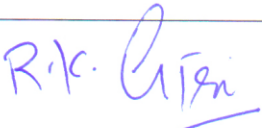
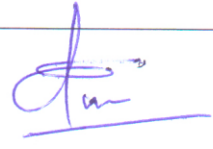

Attendance of the 8<sup>th</sup> Meeting of the Re-constituted Expert Appraisal Committee (EAC) for Thermal Power Projects Meetingheld on 24<sup>th</sup> July, 2017.

**LIST OF MEMBERS (Attendance Sheet)**

**8<sup>th</sup> EXPERT APPRAISAL COMMITTEE MEETING (Thermal & Coal Mining Sector)**

**DATE & TIME** : 24<sup>th</sup> July, 2017

**VENUE** : TEESTA MEETING HALL, INDIRA PARYAVARAN BHAWAN.

Sr.No.	Name of Member	Signature
1.	Dr. Navin Chandra Chairman	
2.	Dr. Narmada Prasad Shukla Member	
3.	Sh. N. Mohan Karnat, IFS Member	
4.	Dr. Sharachchandra Lele Member	Ab
5.	Sh. P.D. Siwal/ Sh. N.S. Mondal, Member	
6.	Dr. R.K. Giri, Member	
7.	Dr. S.K. Paliwal, Member	
8.	Prof. D.C. Panigrahi/ Prof. S.K. Sinha/ Prof. Om Prakash Member	Ab
9.	Dr. Jai Krishna Pandey, Member	

10.	Dr. Manjari Srivastava, Member	AB
11.	Dr. Gururaj P Kundargi, Member	Gururaj
12.	Shri Suramya Dolarray, IFS (Retd.) Member	Souk
13.	Dr. S. Kerketta Member Secretary MoEFCC	S. Kerketta

Approval of Minutes of the 8<sup>th</sup> Meeting of the Re-constituted Expert Appraisal Committee (EAC) on Environmental Impact Assessment (EIA) of Thermal Power Projects by the Chairman.

8/7/2017

[https://mail.gov.in/iwc\\_static/layout/shell.html?lang=en&3.0.1.2.0\\_15121607](https://mail.gov.in/iwc_static/layout/shell.html?lang=en&3.0.1.2.0_15121607)

Subject: **Re: Draft minutes of 8th EAC meeting-approval reg.**

Date: 08/05/17 02:42 PM

To: Dr S Kerketta <s.kerketta66@gov.in>

From: navin chandra <navinchandrarrl@yahoo.com>

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05/08/2017

Dear Dr. Kerketta,

I have gone through the Minutes of the 8th Meeting of the Thermal Power committee held on 24th July, 2017. The Minutes are in order. Please up-load on the Web site of MoEF and CC.

Regards,  
Sincerely,

(NAVIN CHANDRA)

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Dr. Navin Chandra,  
Director General  
M P Council of Science and Technology (MPCST),  
Vigyan Bhawan, Nehru Nagar, Bhopal - 462003 (M.P.) India  
Phone : 91-755- 2671800 (Office)  
e-mail : dg@mpcost.nic.in  
navinchandrarrl@yahoo.com, navinchandraampri@gmail.com

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On Friday, August 4, 2017, 5:39:25 PM GMT+5:30, Dr S Kerketta <s.kerketta66@gov.in> wrote:

Sir,

I draft minutes for 8th EAC meeting held on 24.07.2017 has been e.mailed to you. May kindly see and approve it for uploading in the website of the Ministry.

--  
regards,

--  
regards,

Dr. S. Kerketta  
Director- IA (Thermal, River Valley & HEP)  
MoEF&CC, New Delhi  
Phone: 011-24695314 (O), 26113096 (R)

**AGENDA OF 8<sup>th</sup> MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE  
ON THERMAL POWER PROJECTS**

**DATE : 24<sup>th</sup> July, 2017**

**TIME : 10.30 A.M. ONWARDS**

**VENUE : TEESTA MEETING HALL, VAYU WING, FIRST FLOOR, INDIRA PARYAVARAN  
BHAWAN, JORBAGH ROAD, NEW DELHI-110003.**

<b>ITEM</b>	
<b>Item No. 8.0</b>	<b>CONFIRMATION OF MINUTES OF 7<sup>th</sup> EAC (Thermal) MEETING</b>
<b>Item No.</b>	<b>CONSIDERATION OF PROJECTS</b>
8.1	2x660 MW Super Critical Imported Coal Based Thermal Power Plant at villages Painampuram & Sivarampuram, in Muthukur Mandal, in Nellore District, in Andhra Pradesh by <b>M/s Sembcorp Gayatri Power Ltd.-</b> Reg. amendment in EC. <b>File No:</b> J-13012/76/2009-IA.II(T) & <b>Online no:</b> IA/AP/THE/26415/2010
8.2	2x660 MW super critical coal based Thermal Power Project at Village Dadri Khurd, Tehsil Mirzapur Sadar, District Mirzapur, Uttar Pradesh by <b>M/s Welspun Energy UP Pvt. Ltd. - reg. amendment in Environmental Clearance.</b> <b>File No:</b> J-13012/12/2011-IA II (T)& <b>Online no:</b> IA/UP/THE/10331/2010
8.3	25 MW Waste-to-Energy (WtE) Project at Deonar, Mumbai, Maharashtra by <b>M/s Municipal Corporation of Greater Mumbai-reg. ToR.</b> <b>File No:</b> J-13012/02/2017-IA.I(T) & <b>Online no:</b> IA/MH/THE/62178/2017
8.4	Expansion by addition of 1x350 MW Imported Coal based Thermal Power Plant (Phase II) at Village Kamalanga, in Odapala Taluk, in Dhenkanal Distt. in Odisha by <b>M/s GMR Kamalanga Energy Ltd.- reg. Amendment Environment Clearance.</b> <b>File No:</b> J-13012/73/2011-IA.II (T) & <b>Online no:</b> IA/OR/THE/75/2008.
8.5	Proposed expansion by addition of 1000 MW (2x500) MW Lignite Based TPP at Neyveli, in Kurinjipadi Tehsil, in Cuddalore Distt., in Tamil Nadu by <b>M/s Neyvelli Lignite Corporation Ltd.-reg. extension of validity of EC.</b> <b>File No:</b> J-13012/250/2007-IA II(T)& <b>Online no:</b> IA/TN/THE/12015/2007.
8.6	2x800 MW (Stage-I) Gadarwara Super Thermal Power Project near villages Gangai, Umaraiya, Mehrakheda, Chorbarheta, Dongergaon and Kudari, in Gadarwara Tehsil, Narsinghpur Distt. in Madhya Pradesh by <b>M/s NTPC Ltd.-reg. amendment in EC.</b> <b>File No:</b> J-13012/125/2009-IA.II(T)& <b>Online no:</b> IA/MP/THE/17134/2013
8.7	<b>ANY OTHER ITEM WITH THE PERMISSION OF THE CHAIR.</b>

**Note:** If project documents are not submitted to Committee Members on time along with brief summary/basic information as per pro-forma, it will be the Committee's discretion to consider the project.