

MINUTES OF THE 9TH MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS

The 9th Meeting of the re-constituted EAC (Thermal Power) was held on 30th August, 2017 in the Ministry of Environment, Forest & Climate Change at Teesta Meeting Hall, Vayu Wing, First Floor, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi under the Chairmanship of Dr. Navin Chandra. The following members were present:

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

Shri N. Mohan Karnat, Dr. Manjari Srivastava and Shri N.S. Mondal, Representative of CEA could not be present.

Item No.9.0: CONFIRMATION OF THE MINUTES OF THE 7th EAC MEETING.

The Minutes of the 8th EAC (Thermal Power) Meeting held on 24th July, 2017 were confirmed in presence members.

Item No. 9: CONSIDERATION OF PROJECTS

9.1 1x800 MW (Stage-II) Singareni Thermal Power Plant in Village Pegadapalli, Jaipur Mandal, Mancherial Dist., Telangana by M/s Singareni Collieries Company Ltd. – reg. TOR.

(Online Proposal No. IA/TG/THE/67046/2017 & F.No. J-13012/11/2017-IA.I(T))

- (9.1.1) PP submitted online application vide dated 29.7.2017 for grant of ToR for setting up of 1x800 MW Super Critical Thermal Power Plant in the existing premises of 2x600 MW Power Plant located in Mancherial Dist. of Telangana State.
- (9.1.2) Member Secretary briefed that there is already a ToR issued for 1x600 MW Coal based Singareni Thermal Power Plant at the same location vide Ministry's letter dated 27.5.2015. Validity of the said ToR is for three years i.e. till 26.5.2018.
- (9.1.3) Committee noted that there is already a ToR issued for 600 MW Power Project by the same PP at the same location and the said ToR is in existence till 26.5.2018. Committee sought clarification from PP that whether the present proposal is another project which has been proposed at the same location in addition to 600 MW for which ToR has been issued. Project Proponent clarified that it has been proposed to increase the configuration of 600 MW (as earlier proposed) to 800 MW (present proposal). PP mentioned that there is no second plant proposed. Condition No.1 of the ToR dated 27.5.2015 stipulates that PP shall explore the feasibility of switching to Super Critical Technology. Committee noted that it would have been appropriate if they had applied for amendment of existing ToR for increasing the capacity from 600 MW (Sub-critical) to 800 MW (Super-critical). Instead, PP submitted a fresh application for 800 MW without referring to the existing ToR. Otherwise PP may withdraw the existing ToR and apply for

fresh ToR. Committee noted that PP submitted a letter dated 30.8.2017 for withdrawing the existing ToR during the meeting.

- (9.1.4) Committee suggested that Project Proponent should submit an application for amendment of existing ToR for increase in capacity from 600 MW to 800 MW with revised Form-1 and PFR. The application shall clearly indicate change in land, raw materials and impacts associated with the increase in capacity from 600 MW to 800 MW.
- (9.1.5) PP along with M/s Ramky Enviro Services Pvt. Ltd. made the revise presentation.
- (9.1.6) **Committee after detailed deliberations, recommended for amendment of existing ToR for increase in capacity from 600 MW (Sub-critical technology) to 800 MW (Super critical technology)** subject to the submission of the Online application for amendment of ToR for increase in capacity from 600 MW to 800 MW along with revised Form-1, PFR and changes in land, water, fuel requirement due to proposed incremental capacity.
- (9.1.7) **In addition to the ToRs specified vide letter dated 27.5.2015, the following additional ToRs shall be stipulated:**
- i. Impact assessment on downstream users, agriculture and fisheries/aquatic life due to water withdrawal from Godavari/Pranahita Rivers shall be carried out. Minimum e-flow shall be maintained for sustenance of ecology and environment in the downstream.
 - ii. Water allocation of the reservoir.
 - iii. Noise barriers/ reduction measures shall be proposed.

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**(9.2) Expansion of 2x700 MW Rajpura Thermal Power Project by addition of 1x700 MW unit at village Nalash, Tehsil Rajpura, District Patiala, Punjab by M/s Nabha Power Limited – reg. ToR.
(Online Proposal No. IA/PB/THE/62359/2017 & File No. J-13012/12/2017-IA.I(T))**

- (9.2.1) Project Proponent (PP) submitted online application for grant of ToR for setting up of 1x700 MW Power Project on 9.8.2017. However, PP did not attend the meeting. **Accordingly, EAC deferred the project.**

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**(9.3) 1x660 MW ETPS Replacement TPP in Thiruvallur district, Tamil Nadu by M/s Tamil Nadu Generation and Distribution Corporation Ltd. (TANGEDCO)- reg. Environmental Clearance.
(Online Proposal No. IA/TN/THE/22934/2014 & F.No. J-13012/07/2014-IA.I(T)).**

- (9.3.1) Project Proponent submitted online application for grant of EC on 24.7.2017. PP along with the environmental consultant M/s Ramky Enviro Services Pvt. Ltd. made the presentation *inter-alia* submitted the following information:
- i. Terms of Reference (ToR) for the proposed power project has been issued by the Ministry on 24.07.2014 and validity extension obtained till 24.07.2017.
 - ii. The existing ETPS was established during 1970-75 in an area of about 237 acres having an installed station capacity of 450 MW (3x110 MW + 2x60 MW). Since, the units served for more than 40 years, it is prudent to replace these aged units with higher capacity and efficient unit adopting modern technology. All 5 units (3x110 MW+2x60 MW) of ETPS have been decommissioned on 31.03.2017. TANGEDCO is already in the process of erection of 660 MW Supercritical unit of ETPS Expansion Project in the

adjacent vacant land in an area of about 120 acres inside the existing ETPS complex. The total estimated cost of the project is Rs. 4,800 Crores.

- iii. The total land available inside the ETPS complex is about 237 acres out of which 120 Acres (southern side) is earmarked for the ETPS Expansion Project (1x660 MW) under execution. The balance area of 117 acres (northern side) is available for this Replacement Plant after dismantling the existing ETPS. After the demarcation of project site under CRZ purview, around 110 acres of land is clearly available for setting up of this power plant,
- iv. CRZ clearance for the ETPS Expansion (Annex) TPP has been already obtained from MoEF/New Delhi on 23.12.2008 and further extension obtained on 31.03.2014 with validity till 22.12.2018 to draw sea water of 25,000 m³/hour. The water requirement for the ETPS Expansion (Annex) TPP is 12,000 m³/hour. Hence, it is proposed to draw 12,000 m³/hour of water for the proposed ETPS Replacement TPP. Water required for construction purposes (200 m³/day) will be obtained from CMWSSB and stored in an underground water tank.
- v. It is proposed to use 100% domestic coal for this project. Ministry of Coal, GoI has allotted coal for ETPS replacement TPP (1x660 MW) from Chandrabila coal block located in the state of Odisha vide Ministry letter No. 13016/26/2004-CA-I/CA-III (Pt.) (Vol. II) dated 24.02.2016. Considering the plant load factor of 85% for the proposed power plant which will be in operation for 310 days in a year, the annual coal requirement will be about 3.0 MTPA. For 100% PLF the annual coal requirement will be about 3.50 MTPA. Ash content: 34%, Sulphur:0.55% and Gross calorific value: 3500 kcal/kg.
- vi. It is estimated that 9,500 tonnes of domestic coal would be required daily. It is planned to handle coal to the plant from Ennore Port through the NCTPS Coal yard via Pipe conveyors (2x1,000 Tonnes per hour) under execution for the ETPS Expansion (Annex) Project. The above pipe conveyors are having spare capacity of 10,000 Tonnes/day to cater the requirement for the ETPS replacement project also. So, no separate conveyor system is envisaged for this project. CRZ clearance for the above pipe conveyor has been already obtained from MoEF/New Delhi on 23.12.2008 and further extension obtained on 31.03.2014 with validity till 22.12.2018.
- vii. The comprehensive baseline data generation for preparation of the EIA report has been carried out in 3 season's i.e: Season I- Premonsoon season (July to Sept.' 2015), Season II- winter Season (Jan.' 2016 to March' 2016) and Season III-summer season (April to June' 2016).
- viii. Marine EIA study carried out by M/s. Cholamandalam MS Risk Services Limited, Chennai, an accredited consultant of MoEF/New Delhi.
- ix. The combined discharge of coolant water from both ETPS Annex (Expansion) TPP (1x660 MW) and ETPS Replacement TPP (1x660 MW) will reach ambient temperature within 1,170 m from the outfall location located in sea at 250 m from shore.
- x. 100% dry fly ash extraction, storage and disposal facilities are proposed for the Replacement project.
- xi. Bottom ash collection and storage facilities are proposed to utilize bottom ash.
- xii. 100% Dry ash (fly ash) disposal system is envisaged for the proposed new plants and the entire fly ash generated from the project will be lifted by M/s. Dalmia Cement (Bharat) Limited as per MOU signed on 22.04.2017. In emergency only, the fly ash will be sent to existing Ash dyke of ETPS.

- xiii. TANGEDCO has allocated Rs. 10 Crore for Corporate Social Responsibility activities as per the recommendations of the Socio Economic study report conducted by Madras School of Social Works, Chennai. CSR activities include Construction and providing water purifier, toilets, roads, skill training, tree plantations, fishermen welfare funds, etc.
- xiv. In order to comply with the environmental protection measures as suggested in the EIA, TANGEDCO has made budgetary provision for Environmental Protection and Safety measures to the tune of Rs.480 Crores towards capital cost and Rs.48 Cr for recurring expenditure apart from CSR provision.
- xv. Public Hearing has been conducted at Ernavoor Village, Thiruvottiyur Taluk, Tiruvallur District on 30.5.2017 and presided by the District Collector.
- xvi. Cost of the project is Rs. 4,800 crores.

(9.3.2) **Committee recommended that a site visit be carried out by a sub-committee to cross verify the baseline data, dredging activities, decommissioning activities of existing plant and flyash utilisation. Accordingly, the committee decided to defer the proposal.**

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(9.4) Expansion by addition of 1x350 MW (350 MW) Super Critical Coal based power unit within the existing Plant premises of capacity 2x300 MW Plant at Haldia, East Medinipur, West Bengal by M/s Haldia Energy Limited – reg. TOR. (Online proposal No. IA/WB/THE/36544/2015 & F.No. J-13012/13/2017-IA.I(T))

(9.4.1) Project Proponent (PP) submitted online application vide dated 10.8.2017 for grant of Terms of Reference (ToR). PP did not attend the meeting. Accordingly, EAC **deferred** the project.

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(9.5) 3x150 MW Coal based Thermal Power Plant, at Villages Kismatshibrampur and Kashbera, Bhabanipur Tehsil, Distt. Purba Medinipur, West Bengal by M/s India Power Corporation (Haldia) Ltd. – reg. extension of validity of EC. (Online Proposal No. IA/WB/THE/25256/2014 & F.No. J-13012/16/2014-IA.I(T))

(9.5.1) Project Proponent vide online application dated 1.3.2017 requested for validity of extension of EC dated 12.4.2010.

(9.5.2) Member Secretary briefed the following to the committee.

- i. Environmental Clearance for establishing 3x135 MW Coal based Thermal Power Plant in Haldia industrial region, West Bengal has been accorded by SEIAA, West Bengal vide their letter dated 12.4.2010.
- ii. During the same time, imposition of the moratorium on developmental projects in Haldia industrial area was in force vide Ministry's OM dated 13.1.2010. The moratorium in Haldia industrial region has been lifted vide Ministry's OM dated 17.9.2013.
- iii. When PP applied to SEIAA for change in configuration from 3x135 MW to 3x150 MW, SEIAA sought clarification from Ministry vide their letter dated 27.2.2014 that the SEAC is of the opinion that although moratorium on developmental projects has been lifted, still Haldia is considered as critically polluted area and accordingly, the project shall be treated as Category 'A' project instead of Category 'B' as General Condition of EIA Notification is applicable.

- iv. After seeking clarifications from CPCB, the Ministry with the approval of the Secretary, decided to consider the amendments at MoEF. The same has been conveyed to SEIAA vide letter dated 27.6.2014. Accordingly, SEIAA transferred the file to the Ministry vide their letter dated 7.7.2014.
- v. Subsequently, the following amendments/extensions have been issued by the Ministry.
 - a. Change in configuration from 3x135 MW to 3x150 MW vide Ministry's letter dated 14.10.2014.
 - b. Extension of validity of EC till 12.4.2017 vide Ministry's letter dated 13.8.2015.
 - c. Change in coal source to 100% imported coal and 30% domestic coal from e-auction incase of shortfall of imported coal vide Ministry's letter dated 17.10.2016.
- vi. PP vide letter dated 1.3.2017 applied in the Ministry for extension of validity of EC for a period of two and half years (beyond seven years) i.e. till 31.10.2019.
- vii. While examining the case, Ministry received a letter from RO, Bhubaneswar vide letter dated 24.3.2017 mentioning that SEIAA has accorded the EC to the said project by ignoring the Ministry's OM on imposition of moratorium on developmental project in Haldia Industrial region. Ministry on 5.5.2017, sought clarification from SEIAA, West Bengal in this regard.
- viii. SEIAA, West Bengal vide their letter dated 12.6.2017 submitted the following clarifications:
 - a. Clause 4.1.2 of said OM dated 13.1.2010 states that 'the projects of public interest, such as projects of national importance, pollution control, defence and security, with prior approval of the Competent Authority, MEF/SEIAA for Category 'A' & 'B' respectively, on a case to case basis, will continue to be appraised in accordance with the procedure prescribed under EIA Notification, 2006 and decision taken on merits.'
 - b. Principal Secretary, Commerce and Industries Department, Govt. of West Bengal in his note dated 4.6.2010 certified Thermal Power Plant of M/s India Power Corporation (Haldia) Limited to be a project of public utility. His view was endorsed by MIC, Commerce & Industries Dept, on 6.4.2010.
 - c. Accordingly, on receipt of note from Commerce & Industries department, the application for EC was further processed considering it "a project of public interest" and eventually EC was granted for installation of coal based Thermal Power Plant (3x135 MW) at Haldia for the captive energy requirement of Bhaskar Silicon Ltd for the proposed Poly Silicon Solar PV project.
- ix. Competent Authority has reviewed the grant of EC by SEIAA during the imposition of moratorium on developmental project and approved for considering the present proposal for extension of validity of EC.

(9.5.2) Project Proponent (PP) made the presentation and inter-alia submitted the following information:

- i. The project has been delayed as the amendment for change in configuration from 3x135 MW to 3x150 MW has been issued on 14.10.2014. The project has also been delayed due to Local Land Looser problems. There is also a delay of getting ROW clearance from Haldia Development Authority and Haldia Dock Complex for construction of evacuation line. Planning to operate the project with imported coal resulted in minor changes in the design of the equipment's. Non-sequential

supply of materials by BHEL leads delay in project. Delay in awarding of erection contractor by BHEL.

- ii. Unit-1 has been synchronised. Unit-2 and Unit-3 are scheduled for commissioning on 31.1.2018 and 31.12.2018, respectively.
- iii. Total project cost is Rs.2,665 crores. Expenditure incurred till 31.12.2015 is Rs. 2,200 crores.

(9.5.3) Committee after detailed deliberations, recommended for extension of validity of Environmental Clearance dated 12.4.2010 till 31.10.2019 as per PP's request.

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**(9.6) 1x660 MW Super Critical Coal based Thermal Power Plant at Village Gorgi, Taluk Deosar, District Singrauli, Madhya Pradesh by M/s DB Power (Madhya Pradesh) Limited- reg. validity extension of EC.
(Online Proposal No. IA/MP/THE/27825/2008 & F.No. J-13012/156/2008-IA.II(T))**

(9.6.1) Project Proponent submitted online application on 17.7.2017 for extension of validity of EC dated 9.9.2010. PP along with the environmental consultant M/s Pollution and Ecology Control Services (PECS), Nagpur made the presentation. PP through their application and during the presentation submitted the following:

- i. Environmental Clearance for 1x660 MW power project has been issued by the Ministry on 9.9.2010 and the validity has been extended till 8.9.2017 (for seven years) vide Ministry's letter dated 4.3.2016.
- ii. There is a progress made in the project. Consent to Establish obtained from MPPCB. Letter of approval for 2.1 MTPA coal supply from NCL obtained. Govt. of MP allocated for quantity of 55 MCM/annum for 2x660 MW. Approval obtained for construction power. Obtained 275 m stack height clearance from AAI. Land of 735 acres have been acquired for both the units i.e. 2x660 MW. Lease deed for 201 acres Govt. land was signed in Dec., 2013 and possession initiated by local authorities from April, 2014 onwards. This delayed the site mobilization of the BTG contractor (BHEL). Boundary wall construction completed. Land grading and levelling completed. Construction of administrative building and hostel facility has been taken up at the site.
- iii. LOA issued to BHEL for supply, erection, testing, and commissioning of BTG of 2x660 MW unit on 26.6.2011. Advance payment of Rs. 50 crores released on 29.9.2011. LOI issued to Gannon Dunkerley & Co. Ltd for design and construction of Chimney on 23.2.2012 and Civil & Structural package for Main Power Block along with its auxiliaries on 12.5.2012. Started project activities like excavation of water reservoir area, excavation work for laying Chimney foundation. An amount of Rs. 520.43 crores has been spent till 30.3.2017 on the project.
- iv. PPA signed with MP Power Management Company (State Utility) for 35% capacity and scheduled COD for the project has been extended till October, 2018 for first unit. CSR activities have been started and an amount of Rs. 8.04 crores has been spent till 31.3.2017 in the nearby villages.
- v. The EC for 2nd Unit was kept in abeyance due to non-availability of firm coal linkage. Fuel Supply Agreement has been signed with M/s Dynamic Concepts PTE Ltd. (Indonesia) for supply of imported coal for the 2nd unit as an interim

measure. FSA for long-term linkage of domestic fuel has been accepted by Competent Authority and is under consideration. Further, there has been a sizeable change in government policy in recent past w.r.t. making coal available to TPPs from open market and through linkage. PP requested to grant the EC for the 2nd Unit also. This will enable to complete the project in cost effective and environmental friendly manner, as many facilities are common to both the units. PP mentioned that constructing and operating 1x660 MW understandably non-viable and counter productive.

- (9.6.2) Committee noted that there is no substantial physical progress on construction activities of Unit-1. The EC for the 1st unit was given in 2010 and seven years lapsed. However, construction activities have not been started except grading and excavation works for ash pond, chimney etc.
- (9.6.3) Committee after detailed deliberations, **recommended for grant of extension of validity of environmental clearance as there is a provision of three more years beyond seven years exists vide notification dated 14.09.2016.**

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**(9.7) 2x800 MW Lara Super Thermal Power Project at Raigarh in Chhattisgarh by M/s NTPC Limited – reg. Amendment of EC.
(Online Proposal No. IA/WB/THE/12048/2012 & F.No. J-13012/97/2007-IA.I(T))**

- (9.7.1) Project Proponent submitted online application on 10.8.2017 for change in coal source from Talaipalli Coal Mining project of NTPC to mines of MCL and ECL. PP along with the Environmental Consultant M/s Min Mec Services Pvt. Ltd. made the presentation inter alia submitted the following information:
- i. Environmental Clearance for the proposed project was issued on 13.12.2012. The EC dated 13.12.2012 stipulates that coal transportation shall be undertaken by rail and no road transportation shall be permitted.
 - ii. Ministry vide letter dated 26.4.2017 issued a temporary permission for transport of 6,913 MT/day of coal through road from Lakhanpur coal block to NTPC Lara power project for a period of one year.
 - iii. Coal from MCL mines (IB Valley area: Samaleswari mines and Lajkura mines; Basundhara-Garjanbahal area: Basundhara mines and Kulda mines; Lakhanpur area: Belpahara mines and Lilari mines), SECL mines (Raigarh fields: Baroud mines, Jampali mines, Chhal mines and Gare pelma mines; Korea-Rewa fields: Bisrampur area, Bhatgaon area, Baikunthaput area, Chirmiri area, Hasdeo area, Jamuna Kotma area, Sohagour area, Johilla area) is envisaged.
 - iv. Change of transportation mode is through road. First mode is road transportation from Lakhanpur coal block to mine is already permitted for one year. Second is road transportation from SECL mines to Lara STPP (To Distance: 75 km) for the quantity of 1780 MT/day for a period of one year by using 21 ton capacity trucks is requested.
 - v. Third mode is transportation of Coal from Kotarliya railway siding to Lara STPP (To Distance: 44 km) by road for the quantity of 3014 MT/day using 21 ton capacity trucks. Coal from MCL and SECL mines will be transported by rail up to Kotarliya railway siding.
 - vi. Traffic impact assessment study has been carried out for two new routes as proposed.

- (9.7.2) Committee noted that the quantity of coal transported by road for unit-1 has already been capped to 6,913 MT/day vide Ministry's amendment letter dated 26.4.2017. Ministry has also permitted for coal transportation by road has been permitted for one year from Lakhanpur mines. PP may change the coal source and route by keeping the coal quantity fixed to 6,913 MT/day. Committee also noted that a condition regarding laying de-tour by acquiring land by NTPC wherever there is a road congestion and highly populated areas of crossing. The action plan is to be submitted to the Ministry within a month. However, Committee noted that PP has not submitted any information in this regard. Committee recommended that the Ministry may take appropriate action against non-compliance of EC condition.
- (9.7.3) Committee after detailed deliberations, **recommended for transportation of coal of 6,913 MT/day from three mines sources viz. Lakhanpur mines (already permitted), SECL and MCL mines through road for temporary period of one year.**

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(9.8) 4x360 MW Coal based Thermal Power Plant at Uchipinda, Tehsil Dabara, Dist. Janjgir Champa in Chhattisgarh by M/s R.K.M Powergen Pvt. Ltd.-reg. amendment of EC. (Online Proposal No. IA/CG/THE/19853/2008 & F.No. J-13011/12/2008-IA.II(T))

- (9.8.1) Project Proponent submitted online application on 11.8.2017 for temporary transportation of coal by road for a period of three years till completion of railway line.
- (9.8.2) PP along with the environmental consultant M/s BS Envi Tech Pvt. Ltd. and submitted the following information through their application as well as presentation:
- i. Environmental Clearance for establishing 4x350 MW Coal based Thermal Power Plant has been issued vide Ministry's letter dated 26.8.2008. Amendment for revision of the capacity from 4x350 MW to 4x360 MW has been issued vide Ministry's letter dated 12.11.2008. Validity of the EC has been extended till 25.8.2018 vide Ministry's letter dated 25.2.2014.
 - ii. PP vide their letter dated 24.3.2014 submitted that Unit-1 was scheduled for commissioning in May, 2014. However, railway line is not completed and expected to be delayed. PP requested for transportation of coal by road from railway siding to the plant for a temporary period of five years. Accordingly, Ministry vide letter dated 23.9.2014 accorded the temporary permission for transportation of coal by road for a period of three years.
 - iii. Progress of railway siding is as below:
 - a. DPR for railway siding from Kharsia station to site submitted to railways and approved on 02.05.2012.
 - b. ESP & L – Section approved by SECR on 22.10.2013.
 - c. Work order released for Railway siding supply and erection for RKMPPPL portion on 20.07.2013 and common portion on 29.04.2013.
 - d. Bridge 2 has been approved by SECR on 10.09.2014.
 - e. Railway land 3.49 acres for common satellite yard for common portion of railway siding allotted on 06.01.2014.
 - f. Demand note for depositing advance premium amount of Rs.19.27 Cr (To be shared equally between RKM and Athena Chhattisgarh Power Pvt. Ltd (ACPL)) for land acquisition of 135 acres private land for common portion of railway siding received on 28.08.2015 for CSIDC. Social impact assessment payment of Rs. 27 Lac (RKM's share) made on 28.12.2015.

- g. For RKMPPPL portion of railway siding 1.16 acres private land has been purchased.
- h. Provisional approval for wagon tippler installation at plant site obtained from Research Designs & Standards Organization (RDSO) on 21.04.2015.
- i. Approval/NOC is awaited from PWD for Bridge Nos. 1 & 4 and from WRD for Bridge No. 3 for onward submission to SECR for approval.
- j. Work is on hold due to delay in land acquisition due to new land acquisition policy.

(9.8.3) Committee noted that the temporary permission was given for three years for transportation of coal by road as the previous committee felt the impacts of road transportation were tolerable for a period of three years. To assess the tolerance of impacts by the villages alongside of the road, a traffic and environmental impact assessment study is to be conducted. However, PP has not carried out the study.

(9.8.4) Committee after detailed deliberations, **recommended for extending the temporary permission for transportation of coal by road for temporary period of one year or till the expiry of the validity (i.e. till 25.8.2018) whichever is earlier** subject to following additional condition:

- i. Road transportation impact study including possible impacts on Kosa cultivation.

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(9.9) 2x250 MW (Phase-II) Thermal Power Plant at village Tamnar, District Raigarh, Chhattisgarh by M/s JINDAL POWER LTD.-reg. amendment in EC. (Online proposal no. IA/CG/THE/10253/2006 & F.No. J-13011/8/2006-IA.II(T))

(9.9.1) Project Proponent (PP) submitted online application on 28.3.2017 for amendment of Environment Clearance. The proposal was earlier considered by the EAC (Thermal) in its 5th meeting held on 26.4.2017. EAC in its meeting held on 26.4.2017 **recommended for permission to increase the ash dyke by 4 m** and suggested the following additional conditions:

- i. Recommended to increase the dyke height by 4 m.
- ii. A certificate of compliance of EC condition to the existing Project from the Regional Office is to be submitted.
- iii. Groundwater analysis is to be carried out at the upstream / downstream of the existing fly ash pond by creating a network with the existing wells and installing new piezometers and report be submitted that no leaching is taking place due to fly ash dumping.
- iv. Alternate technology for fly ash utilization such as road making using geo-polymer shall be explored with the institutes of national repute.

(9.9.2) Ministry vide letter dated 12.6.2017 sought following additional information for taking necessary action.

- i. Updated form-1
- ii. Certified EC compliance report from the MoEF&CC, RO for the existing project
- iii. Plan and a map showing piezometers/wells for monitoring groundwater around ash pond area along with the monitoring frequency.
- iv. Action plan for alternate use of fly ash such as road making using geo-polymers.

(9.9.3) PP vide their letter dated 9.8.2017 submitted the following information:

- i. Updated form-1
- ii. JPL vide letter dated 23.6.2017 requested RO, MoEFCC to provide the certified compliance. However, no communication has been received from RO office. It is assured that action plan for recommendations, if any emerging out of report from RO will be submitted. Six monthly EC compliance report is submitted by PP to RO which was also presented before the EAC meeting.
- iii. Map showing location of four piezometers which have already been installed around the ash pond is submitted. Groundwater monitoring around ashpond is carried out quarterly.
- iv. Ash generated in the plant is utilised in flyash brick making, low lying area backfilling and development of land for sericulture. Further JPL is exploring various other avenues of ash utilisation like road construction, stowing in underground mines, etc. the company will supply ash to its parent company for utilisation in construction of road between Raigarh to Pathalgaon (SH-1AB). Ash will also be utilised in backfilling of opencast coal mines in vicinity of the power plant.
- v. JPL also requested DG, CSIR vide letter dated 27.2.2017 for alternate use of ash in road making using geo-polymers. The communication is awaited from DG-CSIR.

(9.9.4) Committee after detailed deliberations, re-iterated the recommendations made in its meeting held on 26.4.2017 for **increasing the height of ash dyke by 4 m subject to the following additional conditions:**

- i. A certificate of compliance of EC condition to the existing Project from the Regional Office is to be submitted. Action plan for non-compliances, if any reported by RO, MoEF&CC shall be submitted for fulfilling the compliance of EC conditions.
- ii. Groundwater analysis is to be carried out at the upstream / downstream of the existing fly ash pond by creating a network with the existing wells and installing new piezometers and report be submitted that no leaching is taking place due to fly ash dumping.
- iii. Alternate technology for fly ash utilization such as road making using geo-polymer shall be explored with the institutes of national repute.

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(9.10) Expansion of Talcher Thermal Power Project Stage-III (2x660 MW), Talcher, Dhenkanal, Odisha by M/s NTPC limited- reg. extension of validity of TOR. (Online Proposal No. IA/OR/THE/66791/2014 & F.No. J-13011/31/2009-IA.II(T))

(9.10.1) PP submitted online application on 18.7.2017 for extension of validity of ToR. PP during the meeting submitted the following information:

- i. ToR for 2x660 MW Talcher Thermal Power project was issued vide Ministry's letter dated 22.10.2014 which is valid for two years i.e. till 21.10.2016.
- ii. Validity of the ToR has been extended till 21.10.2017 vide Ministry's letter dated 13.1.2017.
- iii. Public Hearing for the proposed project has been conducted on 12.7.2017. However, public hearing proceedings are not finalised and issued till date. Final EIA report could not be submitted to MoEFCC due to pending PH proceedings.

- iv. It is requested to extend the validity of ToR for another year on safer side to submit the final EIA.

(9.10.2) Committee noted that it is unusual to keep public hearing proceedings pending for more than two months. Committee noted that as per EIA Notification amendment dated 1.12.2009, public hearing proceedings shall be finalised and signed by the presiding officer on the same day of the public hearing and shall be forwarded to SPCB/UTPCC concerned. SPCB inturn shall send the proceedings to the regulatory authority within eight days of the completion of public hearing. Committee noted that Ministry may write to SPCB/District Administration for sending the public hearing proceedings immediately. Committee also noted that validity of ToR is for three years and can be extended for a maximum period of one year.

(9.10.3) Committee after detailed deliberations, **recommended for extension of validity of ToR for a period of one year i.e. till 21.10.2018.**

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(9.11) 2x660 MW Coal based Katwa STPP at Villages Srikhanda and Koshigram, near Katwa Town, Dist. Burdwan, West Bengal by M/s NTPC – reg. extension of validity of TOR.(Online Proposal No. IA/WB/THE/25248/2014 & F.No. J-13012/24/2014-IA.I(T))

(9.11.1) PP submitted online application on 28.7.2017 for extension of validity of ToR for one year (beyond three years). PP submitted the following information during the meeting as well as through their application.

- i. ToR for the proposed project has been issued vide Ministry's letter dated 12.12.2014 which is valid for three years i.e. till 11.12.2017.
- ii. Baseline environment data has been collected during January-May, 2015 and draft EIA report prepared through M/s EMTRC Consultants Pvt. Ltd. by considering the coal from Deocha-Pachami Coal block of Govt. of West Bengal.
- iii. Public Consultation has been carried out by West Bengal Pollution Control Board on 30.6.2015 and proceedings of Public Hearing has been forwarded by WBPCB to MoEFCC vide letter dated 7.7.2015.
- iv. NTPC is not in a position to submit the final EIA as MoC has not communicated the firm coal linkage till date. NTPC is also exploring other sources including Deocha-Pachami block for securing coal linkage for the project.

(9.11.2) Committee noted that the final EIA has been prepared based on the coal characteristics of Deocha-Pachami coal block. Public Hearing has also been conducted on 30.6.2015. However, PP has not secured the firm coal linkage.

(9.11.3) Committee after detailed deliberations, **recommended for extension of validity of ToR for one more year i.e. till 11.12.2018.**

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9.12 ANY OTHER ITEM WITH THE PERMISSION OF THE CHAIR.

(9.12.1) 2x600 MW and 3x800 MW Coal based TPP at Villages Kottai, Ariyagosthi, Villianallur & Silambimangalam, Taluk, Chidambaram, Distt. Cuddalore, Tamil Nadu by M/s IL&FS Tamil Nadu Power Company Ltd.- reg. Extension of validity of EC.(File No: J-13012/34/2008-IA.II(T) & Online no: IA/TN/THE/11883/2008)

(9.12.1.1) Project Proponent (PP) had submitted online application vide dated 30.5.2017 for extension of validity of EC dated 31.5.2010. Environmental Clearance for setting up of 2x600 MW and 3x660 MW has been issued vide Ministry's letters dated 31.5.2010 & 4.2.2014. The said EC is valid for seven years i.e. till 30.5.2017. PP has commissioned

2x600 MW. However, remaining three units (3x660 MW) could not be established within 7 years of EC validity. The proposal has been considered by the EAC in its 7th meeting held on 28.6.2017. EAC suggested for a site visit to be conducted by three-member sub-committee to assess whether remaining three units can be established within 3 years as the outer limit for the validity of EC is for ten years (7+3).

(9.12.1.2) Accordingly, Ministry vide letter dated 26.7.2017 constituted a sub-committee comprising following members.

- | | | | |
|------|---|---|-------------------------|
| i. | <i>Dr. Sharachchandra Lele (Member-EAC)</i> | - | <i>Chairman</i> |
| ii. | <i>Shri Mohan Karnat (Member-EAC)</i> | - | <i>Member</i> |
| iii. | <i>Shri N. Subrahmanyam, Scientist 'C', MoEF&CC</i> | - | <i>Member Secretary</i> |

Also, keeping in view of the number of court cases pending in various courts, Ministry requested Regional Office (South East Zone), Chennai to nominate its representative for the Sub-Committee to oversee the Environment Clearance compliances.

(9.12.1.3) Sub-committee visited the site visit on 11.8.2017. However, no representative of the Regional Office, MoEF&CC, Chennai was present during the site visit. Sub-committee decided to assess the feasibility of establishing the remaining three units within three years' time. Sub-committee noted that compliance report on Environmental Clearance may be submitted by the RO, MoEF&CC independently. Sub-committee submitted the site visit report which is appended as **Annexure-A3**. Salient points of the site visit report are mentioned below.

- i. All the facilities that are common to the first and second phase, and as mentioned in their latest application, are indeed complete and will suffice for the second phase as well viz. land acquisition, coal handling system and storage facility, ash pond, pipelines and intake structures for seawater intake, marine outfall systems, service and administration buildings.
- ii. PP provided the PERT chart that BTG erection, other activities such as construction of cooling tower, desalination plant, stack, ash water recirculation system and other Balance of Plant (BOP) activities can be initiated simultaneously and achieved within 27 months.
- iii. Construction of the cooling tower is the longest activity and will alone take 20 months which will not hamper BTG erection as it is an independent activity.
- iv. Although first phase (2x600 MW) was completed in 2015/16, ITPCL did not start any construction specific to the second phase (3x660 MW) till date.
- v. ITPCL has been waiting for an MOU to be signed with TN Government followed by a Power Purchase Agreement (PPA) that will make their plant economically viable. They have signed the MOU in October, 2015, and are hopeful of signing the PPA in the next few months.
- vi. This project has completed its first phase (2 x 600 MW) and construction of common facilities, in spite of certain delays introduced by factors beyond their control.
- vii. There is a reasonable chance that ITPCL will be able to complete the second phase in the remaining time, if EC extension is granted.
- viii. The sub-committee is therefore of the opinion that EC extension may be granted to this project, subject to a satisfactory EC compliance report from the MoEF&CC Regional Office.

(9.12.1.4) Committee took note of the recommendations of sub-committee. Committee also noted that RO, MoEF&CC has not nominated any scientist for the site visit. RO compliance report is yet to be submitted.

(9.12.1.5) **Committee after detailed deliberations, recommended for extension of validity of EC for further period of three years i.e. till 30.5.2020 subject to the submission of satisfactory EC compliance report from the MoEF&CC, Regional Office.**

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

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 PM₁₀, PM_{2.5}, SO₂, NO_x, 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.
- xl ii) Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
- xl iii) Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.
- xl iv) 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
- xl v) 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.
- xl vi) 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.
- xl vii) 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.
- xl viii) 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.
- xl ix) 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.
- l) 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 CO₂ 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.

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/Nm³ 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.

Site visit report of
Sub-committee on EC extension for Coal-based Thermal
Power Plant by M/s IL&FS Tamil Nadu Power Company at
Parangipettai, Cuddalore District, Tamil Nadu

1. CONTEXT & TOR

M/s IL&FS Tamil Nadu Power Company Ltd had submitted application no. IA/TN/THE/11883/2008 dated 30.5.2017 for extension of the validity of the Environment Clearance for its Coal-based Thermal Power Project at Villages Kottai, Ariyagosthi, Villianallur & Silambimangala (located in Parangipettai Block, Cuddalore District, hereinafter referred to as ITPCL Parangipettai). MoEF accorded Environmental Clearance on 31.5.2010 for establishing this project. This EC was initially valid for five years but its validity was automatically extended to seven years following the EIA amendment notification dated 14.9.2016. The project proponents have managed to commission the two units of Phase-1 (2x600 MW) in 2015 and 2016 respectively. The balance Phase-2 of 3x800 MW (now modified to 3 x 660MW) could not be established within the seven years of EC validity. The Project Proponent applied for extension of validity of EC for three more years. The Expert Appraisal Committee (Thermal Power), in its 7th Meeting held on 28.6.2017 recommended that a site visit be carried out to ascertain the project status, and specifically to determine whether the project can be completed within next three years including the compliance to the EC conditions as applicable in its present form.

Accordingly, a sub-committee, consisting of Dr. Sharachchandra Lele (Chair), Shri Mohan Karnat (Member), and Shri N. Subrahmanyam (MoEF&CC, Member Secretary), was constituted vide MoEF&CC letter dt.26.7.2017. MoEF&CC's Regional Office in Chennai was requested to nominate a scientist from Regional Office to the committee. However, Regional Office, Chennai could not depute any scientist for the said site visit. The sub-committee visited the project site on **August 11, 2017**, and this report summarises its activities, observations, and conclusions.

2. ACTIVITIES

The sub-committee, upon reaching the project site, was met by senior officials of ITPCL Parangipettai (list enclosed as annexure 1). The CEO made a presentation providing the background to the project, the sequence of implementation of activities till today, and the projected workplan (PERT chart) for the next three years, should the EC be extended and other outstanding issues get resolved. The sub-committee visited different parts of the power plant, including the seawater intake location, the Flue Gas Desulphurisation (FGD) unit, the coal unloading/handling yard, the ash pond, and the boiler-turbine-generator plant. The sub-committee was assisted by the ITPCL team throughout and met with them once again to seek various clarifications on EC compliance and future workplan before leaving the premises. The sub-committee also perused ITPCL's last self-report on EC compliance, its original EIA and public hearing report, and Revised Cumulative EIA report.

3. APPROACH AND OBSERVATIONS

The question before the sub-Committee was whether there was a reasonable chance of ITPCL completing the project if given an extension for another 3 years (which is the maximum possible under the current statutes). The Sub-Committee was informed by its Member-Secretary that the MOEFCC Regional Office in Chennai would be submitting a separate EC compliance report, and so it decided to focus on ascertaining what progress had been made so far, at what pace, what common facilities had been developed to enable the remaining activities, whether past pace could be projected into the future or a faster pace might reasonably be achieved. Our observations are as follows:

1. The original EC was given for a project proposal of 5 x 800 MW coal-based TPP. For a variety of technical reasons, ITPCL has scaled back the project to 2 x 600 MW + 3 x 660 MW, and implemented the first phase of 2 x 600MW (see Figure 1).
2. The construction of this first phase was completed in a total of 6 years after receiving EC in May 2010: the 1st unit started generating power on 29.9.2015 and the 2nd unit on 30.4.2016. This suggests a slow pace of commissioning. However, ITPCL explained at length that the project was suspended for 8 months due to an NGT order which required carrying out an RCEIA and also required retroactive addition of an FGD in the design of the TPP (a requirement hitherto not imposed on almost all TPPs in operation). The construction was further suspended for 4 months due to damage caused by an unprecedented cyclone and floods. ITPCL therefore believes that the actual time taken for construction was only 27 months (48 months up to 2015 minus

the above and a few other delays). In the sub-committee's assessment the 'net' completion time for the first phase has been about 36 months.

3. The sub-committee confirmed in its inspection that all the facilities that are **common** to the first and second phase, and as mentioned in their latest application, are indeed complete and will suffice for the second phase as well (in that they match the original design). These include:
 - a. Acquisition of entire land required (see Figure 6)
 - b. Coal yard and handling system (for 1.5 Million Ton capacity) (see Figure 3 and Figure 4)
 - c. Ash ponds and associated water reclamation system (although both fly ash and bottom ash is almost entirely sold to cement factories in the region). (see Figure 5)
 - d. Pipelines and intake structures for seawater intake (see Figure 2)
 - e. Water/Marine outfall system (not fully completed for second phase).
 - f. Service and administration buildings.

This of course still leaves the boiler-turbine-generator, power evacuation, FGDs, stack, cooling towers and desalinization units for the second phase to be constructed. Nevertheless, in our assessment the above common facilities constitute a significant portion of the total construction activities required in a 3 x 660 MW plant if started *de novo*.



Figure 1. Panoramic view of Phase 1 plant from behind land earmarked for Phase 2



Figure 2. Seawater intake structure (common to both phases)



Figure 3. Coal unloading area (common to Phase 1 and 2)



Figure 4. Panoramic view of coal handling yard (common to Phase 1 and 2)



Figure 5. View of both ash ponds common to both phases (only one in use)



Figure 6. View of land earmarked for Phase 2, with ash pond in background

4. The documents provided by ITPCL confirm that though several court cases are pending, there is currently no legal bar for them to continue the construction of the remaining units of their TPP.

5. The sub-committee was informed by ITPCL (see PERT chart in Annexure 3) that Phase-2 activities could be completed within the manufacture and supply of Boiler-Turbine-Generator equipment could be done in 12 months by their contractor. In parallel, civil construction works would be carried out. Thereafter, erection work will be completed. BTG erection, other activities such as construction of cooling tower, desalination plant, stack, ash water recirculation system and other Balance of Plant (BOP) activities can be initiated simultaneously and achieved within 27 months. Construction of the cooling tower is the longest activity and will alone take 20 months. However, this will not hamper the BTG erection as it is independent activity. The Project Proponent expressed full confidence that they would be able to complete the entire phase 2 in a period of 36 months.
6. The sub-committee noted that although the first phase was completed in 2015/16, ITPCL did not start any construction specific to the second phase till date. While currently they are unable to do so because the expiry of their EC, it is also clear that they did have a valid EC for at least a year after completing construction of the first phase. Yet they did not continue construction of the second phase, because they were not at all sure about the economic viability of the project given that they have been unable to sell the entire 1200 MW of the first phase—their average plant load factor has been 40%-58% since it was commissioned. ITPCL has been waiting for an MOU to be signed with TN Government followed by a Power Purchase Agreement (PPA) that will make their plant economically viable. They have signed the MOU in October, 2015, and are hopeful of signing the PPA in the next few months. It is possible, therefore, that if they receive the EC extension but are not able to get a favourable PPA from the TN government, they may never initiate the second phase, given the overall scenario of excess private TPP capacity in the country at the moment, as per projections by the Central Electricity Authority.

4. CONCLUSIONS

Unlike other cases reviewed by the EAC in the past eight months, wherein nothing had been achieved beyond land acquisition in the first 7 years of the project, this project has completed its first phase (2 x 600 MW) and construction of common facilities, in spite of certain delays introduced by factors beyond their control. The sub-committee is therefore of the opinion there is a reasonable chance that ITPCL will be able to complete the second phase in the remaining time, if EC extension is granted. If, for reasons noted in 3.6 above, they do not take up this phase at all, there will be no adverse environmental impact anyway. The sub-committee is

therefore of the opinion that EC extension may be granted to this project, subject to a satisfactory EC compliance report from the MoEF&CC Regional Office.



Dr. Sharachchandra Lele
(Chairperson)



Shri. Mohan Karnat
(Member)



Shri. N. Subrahmanyam
(Member Secretary)

List of Annexures:

ANNEXURE 1: List of participants in meeting at ITPCL plant

ANNEXURE 2: List of documents consulted

ANNEXURE 3: Copy of PERT chart for Phase- 2 as provided by ITPCL

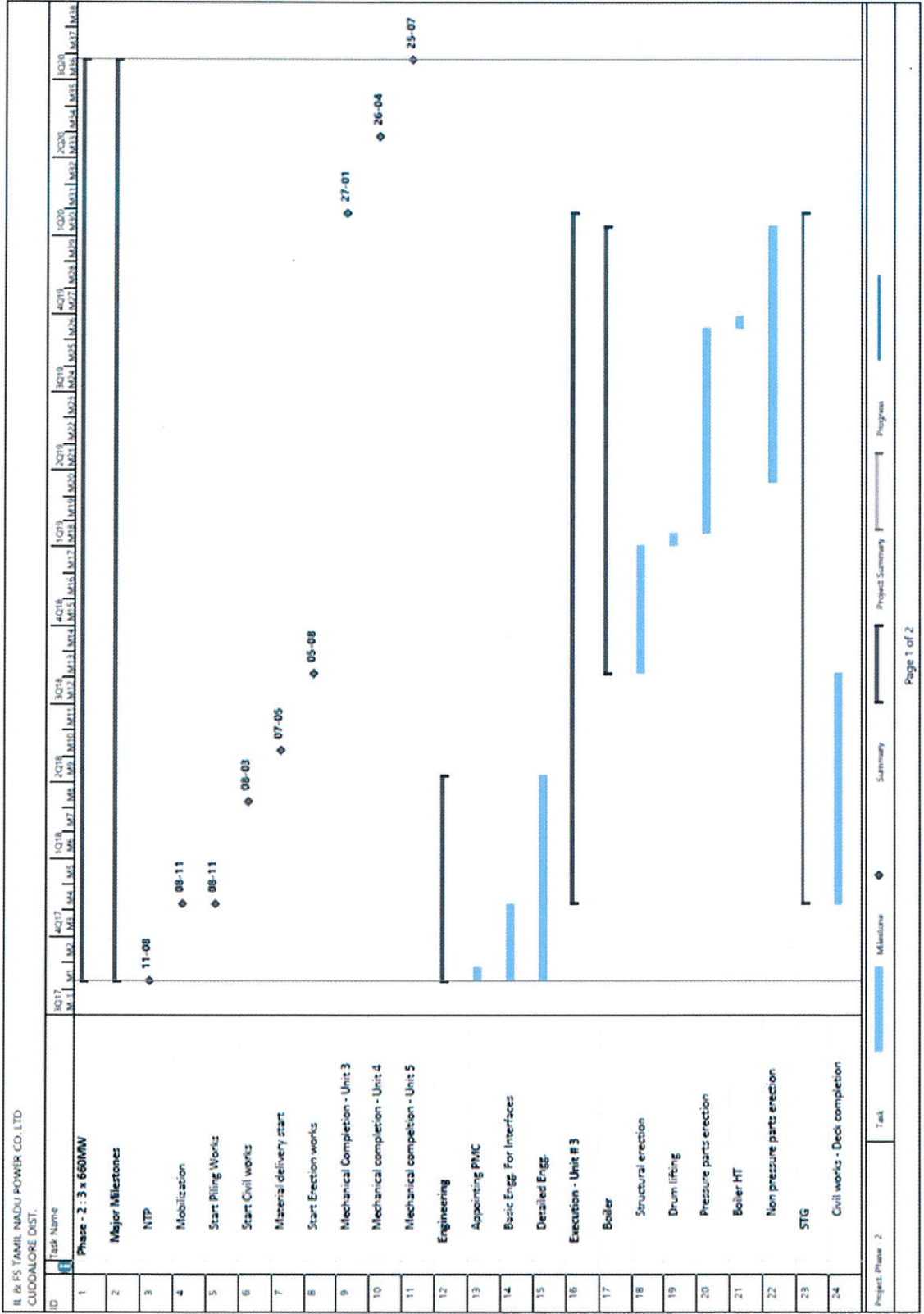
ANNEXURE 1: LIST OF PARTICIPANTS IN THE MEETING HELD AT ITPCL PLANT ON 11TH AUGUST 2017 DURING SITE VISIT BY EAC SUB-COMMITTEE

S.No.	Name	Designation
1.	Dr. Sharachchandra Lele	Chairperson, EAC Sub-committee
2.	Shri. Mohan Karnat	Member, EAC Sub-committee
3.	Shri. N. Subrahmanyam	Member-Secretary, EAC Sub-committee
4.	Shri. N. Ramesh	Chief Executive Officer, ITPCL
5.	Shri. M K Parameswaran	Station Head, ITPCL
6.	Shri. Kishore Arcot	Head- Operation & Maintenance, ITPCL
7.	Ms. Rachana Sharma	ILFS Environment – Delhi
8.	Shri. Arun Kumar	Head – Corporate Strategic Support, ITPCL
9.	Shri. A Balamurali	Asst. General Manager, ITPCL
10.	Shri. Gugan	Sr. General Manager, Technical Services, ITPCL
11.	Shri. P C Maurya	General Manager - EHS, ITPCL
12.	Shri. K Elavarasan	Sr. Manager, Public Relations, ITPCL
13.	Dr. T. Balasubramaniam	Mangrove Consultant, Annamalai University
14.	Shri. P. Sekar	AGM – Legal, ITPCL
15.	Shri. Saravanakumar	Manager - EHS, ITPCL
16.	Shri. Pari	General Manager – Civil, ITPCL

ANNEXURE 2: LIST OF DOCUMENTS CONSULTED




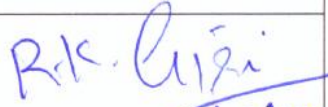
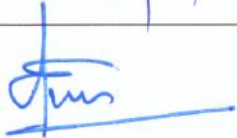

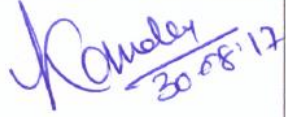
1. EIA report for full project, after public hearing, dated February 2010
2. Rapid Cumulative EIA report, dated June 2012
3. EC issued in May 2010 and amended EC of August 2012
4. Covering letter and Form 1 submitted by ITPCL at time of application for extension of EC in May 2017
5. EC Compliance report submitted by ITPCL to TNPCB in March 2017
6. Presentation made by ITPCL during site visit along with PERT chart indicating project implementation schedule.

Annexure 3: PERT chart for Phase 2 as provided by ITPCL



IL & FS TAMIL NADU POWER CO. LTD CUDDALORE DIST.		3017 M.1	4017 M.1	1018 M.1	2018 M.1	3018 M.1	4018 M.1	1019 M.1	2019 M.1	3019 M.1	4019 M.1	1020 M.1	2020 M.1	3020 M.1	4020 M.1	1021 M.1	2021 M.1	3021 M.1	4021 M.1
ID	Task Name	Gantt Chart																	
25	Structural erection	[Gantt bars for Structural erection]																	
26	STG Erection	[Gantt bars for STG Erection]																	
27	Chimney - Multi flue	[Gantt bars for Chimney - Multi flue]																	
28	Raft completion	[Gantt bars for Raft completion]																	
29	Shell - 275 Mtrs	[Gantt bars for Shell - 275 Mtrs]																	
30	Flue can erection	[Gantt bars for Flue can erection]																	
31	BOP	[Gantt bars for BOP]																	
32	IDCT	[Gantt bars for IDCT]																	
33	SW intake pump house construction	[Gantt bars for SW intake pump house construction]																	
34	Circulation Cooling Water system	[Gantt bars for Circulation Cooling Water system]																	
35	CHP interface & as required for Phase -2	[Gantt bars for CHP interface & as required for Phase -2]																	
36	Fuel oil system interface & as required for Phase - 2	[Gantt bars for Fuel oil system interface & as required for Phase - 2]																	
37	Fire fighting system	[Gantt bars for Fire fighting system]																	
38	HVAC system	[Gantt bars for HVAC system]																	
39	GIS and related works	[Gantt bars for GIS and related works]																	
40	Ash handling system interface & as required for Phase - 2	[Gantt bars for Ash handling system interface & as required for Phase - 2]																	
41	FGD System	[Gantt bars for FGD System]																	
42	Civil works	[Gantt bars for Civil works]																	
43	Erection works	[Gantt bars for Erection works]																	
44	Mechanical completion of FGD system	[Gantt bars for Mechanical completion of FGD system]																	
45	Units # 4 & 5	[Gantt bars for Units # 4 & 5]																	
46	Execution - Mechanical Completion - Unit # 4	[Gantt bars for Execution - Mechanical Completion - Unit # 4]																	
47	Execution - Mechanical Completion - Unit # 5	[Gantt bars for Execution - Mechanical Completion - Unit # 5]																	

Attendance of the 9th Meeting of the Re-constituted Expert Appraisal Committee (EAC) for Thermal Power Projects Meeting held on 30.08.2017.

Sr.No.	Name of Member	Signature
1.	Dr. Navin Chandra Chairman	
2.	Dr. Narmada Prasad Shukla Member	
3.	Sh. N. Mohan Karnat, IFS Member	Absent
4.	Dr. Sharachchandra Lele Member	 30/8/17
5.	Sh. P.D. Siwal/ Sh. N.S. Mondal, Member	Absent
6.	Dr. R.K. Giri, Member	 30/8/17
7.	Dr. S.K. Paliwal, Member	
8.	Prof. D.C. Panigrahi/ Prof. S.K. Sinha/ Prof. Om Prakash Member	 30-8-17
9.	Dr. Jai Krishna Pandey, Member	 30.08.17
10.	Dr. Manjari Srivastava, Member	Absent

11.	Dr. Gururaj P Kundargi, Member	Gururaj 30/8/17
12.	Shri Suramya Dolarray, IFS (Retd.) Member Vora	SDA a.
13.	Dr. S. Kerketta Member Secretary MoEFCC	Kerketta 30/8/2017

Approval of Minutes of the 9th Meeting of the Re-constituted Expert Appraisal Committee (EAC) on Environmental Impact Assessment (EIA) of Thermal Power Projects by the Chairman.

9/5/2017

https://mail.gov.in/iwc_static/layout/shell.html?lang=en&3.0.1.2.0_15121607

Subject: **Finalised MoM of 9th EAC Meeting held on 30/08/2017**

To: "Dr S. Kerketta" <s.kerketta66@gov.in>,
"Dr S. Kerketta" <suna1466@rediffmail.com>,
"Dr S. Kerketta" <sunamani1466@gmail.com>,
"N. Subrahmanyam" <n.subrahmanyam@gov.in>,
"N. Subrahmanyam" <n.subrahmanyam@nic.in>

Date: 09/04/17 08:04 PM

From: navin chandra <navinchandrarrl@yahoo.com>

Finalised 9th_MoM_EAC_Thermal_30.8.2017.docx (657kB)

04/09/2017

Dear Dr. Kerketta,

Attached please find the finalised MoM of the 9th EAC (Thermal) group meeting held on 30/08/2017. These may be uploaded. The portions to be deleted are marked in different color in the MoM.

Regards,

(NAVIN CHANDRA)

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

Ministry of Environment, Forest & Climate Change
[IA-I Division]
9th Meeting of Expert Appraisal Committee for Thermal Projects

Agenda

DATE 30th AUGUST, 2017, 10:30 AM ONWARDS, VENUE: BRAHAMAPUTRA CONFERENCE HALL, FIRST FLOOR, VAYU WING, INDIRA PARYAVARAN BHAWAN, JOR BAGH ROAD, NEW DELHI – 3	
Item No. 8.0	Confirmation of the minutes of 8 th EAC meeting.
Item No. 8.1	Singareni Thermal Power Plant Stage-II (1x800 MW) in Adilabad, Telangana by THE SINGARENI COLLIERIES CO LTD – for Fresh TOR
Item No. 8.2	Expansion of 2x700 MW Rajpura Thermal Power Project by addition of 1x700 MW unit at village Nalash, tehsil Rajpura, district Patiala, Punjab by NABHA POWER LIMITED - For Fresh TOR
Item No. 8.3	1x660 MW ETPS Replacement TPP in Thiruvallur district, Tamil Nadu by M/s Tamil Nadu Generation and Distribution Corporation Ltd. (TANGEDCO) - for Fresh Environmental Clearance
Item No. 8.4	Expansion by addition of 1x350 MW (350 MW) Super Critical Coal based power unit within the existing Plant premises of capacity 2x300 MW Plant at Haldia, East Medinipur, West Bengal by Haldia Energy Limited - for Fresh TOR
Item No. 8.5	Coal Fired Thermal Power Plant in West Bengal by India Power Corporation Haldia Limited – for EC Amendment
Item No. 8.6	EC validity extension for DB Power (Madhya Pradesh) Limited, District Singrauli, Madhya Pradesh by DB Power (Madhya Pradesh) Limited - for EC Amendment
Item No. 8.7	2x800 MW Lara STPP at Raigarh in Chhattisgarh by NTPC Limited- for EC Amendment
Item No. 8.8	Enhancement of Capacity from 4x350 MW to 4x360 MW TPP in Chhattisgarh by R.K.M Powergen Private Limited - for EC Amendment
Item No. 8.9	2x250 MW (phase – II) T.P.P., M/s Jindal Power Limited, Tamnar, Raigarh, Chhatisgarh – EC amendment
Item No. 8.10	Talcher Thermal Power Project Stage –III (2x660 MW), Talcher, Dhenkanal, Odisha by M/s NTPC limited for extension of validity of TOR.

Item No. 8.11	Katwa STPP (2x660), Katwa, Burdwan, West Bengal, M/s NTPC – for Extension of validity of TOR
Item No. 8.12	Any other item with the permission of the Chair

Note:

1. Project Proponents are required to submit all documents both in hard and soft form to all the Members, within 2 days of uploading this notice.
2. A 2-3 page Brief Summary of the project to be submitted within 2 days of the uploading of Agenda in the website of the Ministry to the Member Secretary at **s.kerketta66@gov.in & n.subrahmanyam@nic.in**. Non-submission of the same will lead to deferment of project, etc.
3. Project Proponents are requested to attend the above meeting and give detailed presentation(s) on their proposal(s). For proposals from the Private Sector Organizations, Director or above level and for proposals from the Government, the Chief Engineer concerned or above level officer/s should lead the team. Officers should come and respond to explain the project and respond to queries from the Committee Members.
4. The project proponents may kindly treat this as official communication and may not wait for separate letter(s) from MoEF & CC. For any clarification, **Dr. S Kerketta**, Director-IA.I at **011-24695314** may be contacted.
5. A short duration videography of the project area is to be presented before the EAC for better understanding of the project site. The project proponents may therefore, ensure that they carry out videography before the meeting.
6. Mobile Phones should be kept on switched off/ silent mode during the meeting.
7. Distribution of writing pads, pens, plastic folders and unnecessary stationery items during the meeting is not permitted. Distribution of color print out may be avoided unless it is stated specifically.
8. Use both sides of papers, to the extent possible, for presentation material, etc. Do not distribute any color print out unless it is stated specifically.
