

## **MINUTES OF THE 63<sup>rd</sup> MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER & COAL MINING PROJECTS**

The 63<sup>rd</sup> Meeting of the reconstituted EAC (Thermal Power) was held on 29<sup>th</sup> & 30<sup>th</sup> August, 2016 in the Ministry of Environment, Forest & Climate Change at Teesta Meeting Hall, Vayu Wing, First Floor, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi. The following members were present:

- |     |                     |   |                                |
|-----|---------------------|---|--------------------------------|
| 1.  | Shri Anil Kumar     | - | Chairman                       |
| 2.  | Prof. C.R. Babu     | - | Member                         |
| 3.  | Shri T.K. Dhar      | - | Member                         |
| 4.  | Shri J.L. Mehta     | - | Member                         |
| 5.  | Shri N.K. Verma     | - | Member                         |
| 6.  | Shri A.K. Bansal    | - | Member                         |
| 7.  | Shri G.S. Dang      | - | Member                         |
| 8.  | Shri Shantanu Dixit | - | Member                         |
| 9.  | Dr. S. D. Attri     | - | Member (Representative of IMD) |
| 10. | Shri P. D. Siwal    |   |                                |
|     | & N.S. Mondal       | - | Member (Representative of CEA) |
| 11. | Dr. S. Kerketta     | - | Member Secretary               |

Dr. Ratnavel and Representatives of CPCB & WII could not be present.

### **Item No.1: CONFIRMATION OF THE MINUTES OF THE 60<sup>th</sup> EAC MEETING.**

The Minutes of the 60<sup>th</sup> EAC (Thermal Power) meeting held on 27<sup>th</sup> July, 2016 were confirmed.

### **Item No. 2: CONSIDERATION OF PROJECTS**

#### **2.1 Setting up of 2x660 MW Coal Based Thermal Power Project near village Malwan, District Etah, Uttar Pradesh by M/s Jawaharpur Vidyut Utpadan Nigam Ltd (JVUNL) –regarding EC**

(2.1.1) The Project Proponent (PP) along with their environmental consultant, M/s Desein Pvt. Ltd., New Delhi has made a presentation and inter-alia provided the following information:

- (i) This project was earlier considered for EC by the EAC. Previously ToR was issued and EIA study carried out in 2010, earlier Public Hearing was held on 11.03.2011. The EAC recommended for EC in July, 2012, but MoEF did not issue EC & desired the proponent to submit concurrence of Ministry of Coal for diversion of coal from Chendipada coal block for the project so that further action can be taken by MoEF. Subsequently, the allocation of Chendipada coal block was cancelled vide order of Hon'ble Supreme Court/GoI. Later, Saharpur-Jamarpani coal block in Jharkhand was allotted on 13.08.2015. ToR was re-issued on 09.12.2015 by MoEF&CC. EIA report was updated as per fresh baseline data and fresh Public Hearing was held on 11.05.2016.

- (ii) The land requirement is 865 acres (350.07 ha) out of which 336.32 ha has been acquired and the balance land is notified for acquisition. There is no forest land involved in the project site and no Ecologically Sensitive Areas/Zones exist with 10 km radius of the project site. There are no homesteads are affected and thus, no R&R issues involved due to this project. The project cost is Rs. 8,078.56 crores (excluding the cost of FGD & SCR as Rs. 650 and 450 crores, respectively, have been earmarked separately).
- (iii) The coal requirement is 5.38 MTPA from Saharpur-Jamarpani coal block (allotted vide order dated 13.08.2015) in Dumka district of Jharkhand state. Till it is developed, coal has been assured under “Bridge linkage” accorded by Ministry of Coal on 02.06.2016. The transportation of coal shall be through rail route only.
- (iv) Water requirement is about 3,478 m<sup>3</sup>/h, based on 2.5 m<sup>3</sup>/MWh, as per the latest notification of MoEF. Fresh water requirement for the project is 53 cusec and has been allocated by the U.P. Irrigation Dept. vide letter dated 12.02.2016. It will be drawn from the Malawan-Rajwaha distributary of Lower Ganga Canal (LGC) at a distance of 4 km from the project site. To meet the water requirement during lean period, a reservoir of 20 days storage capacity is proposed. The water drawl will not affect present irrigation and drinking water requirement as water saved by lining the canal to prevent seepage, will be supplied for the use of the project. Cost of lining of Rs. 374.44 crores is to be paid by the project proponent. Blowdown from the Cooling Tower will be treated considering 6 CoC and will be utilized in ash disposal facility. Further, balance treated wastewater will be used for development of greenbelt as well as irrigation purpose within the plant premises. No waste water will be discharged outside the plant. The project proponent has envisaged a zero discharge system in the plant.
- (v) The baseline environment data was collected during the post monsoon season i.e. from 15.09.2015 to 15.12.2015. The monitored GLCs and the resultant GLCs of AAQ parameters are found to be within the NAAQMS. The various parameters of surface and ground water quality are also observed to be within the permissible limits. MoUs for utilisation of fly ash and gypsum in Cement Plants have been signed. Bottom ash shall be stored in the ash pond. The sulphur content, ash content and GCV in the coal to be used in the power plant will be 0.4%, 32% and 4,000-4,200 Kcal/kg, respectively.
- (vi) Public Hearing was conducted at project site on 11.05.2016 by U.P. State Pollution Control Board. No environmental issues were raised during the Public Hearing. It was, however, pointed out by some participants that the compensation for their (acquired) land has not been disbursed to them. It was informed by the project proponent that most of the families whose land was acquired, have already been paid the compensation. The compensation to the remaining few families could not be made as they were not available. However, their case would be dealt now expeditiously. The District Authorities also assured the villagers that the District Administration will also look into the matter and do the needful. Subsequently, JVUNL, the project proponent have released and deposited the remaining amount of compensation to the District Treasury. The affected remaining families are being contacted for compensation. Proposed CSR activities were explained to the participants. JVUNL will take all necessary measures to mitigate any adverse environmental impacts.

(2.1.2) Further, as desired by EAC, the PP vide letter dated 29.08.2016, has made the following submissions/commitments:

- (i) JVUNL will carry out a detailed / feasibility study to treat and utilize sewage water generated from the Etah town and its nearby areas for the proposed thermal project.
- (ii) JVUNL shall optimize the use of consumptive water by utilizing appropriate technology, as per CEA / MoEF&CC norms, approximately 38 cusec and surrenderbalance 15 cusec of water to U.P. Irrigation Department.
- (iii) Provisions shall be created to store rainwater / storm water and its re-use in the project will be done in the plant and surrounding area.
- (iv) Towards CSR, Rs. 25.00 Crores shall be spent exclusively in five (05) Gram panchayats whose land has been acquired for the power plant instead of the mentioned Rs. 15.00 Crores. Balance, Rs. 8.00 crores shall be spent in selected remaining villages within 10 km radius in consultation with the District Authorities.
- (v) JVUNL shall install both FGD and SCR for the power plant as per MoEF&CC guidelines.
- (vi) Ponds for collection of rainwater in the surrounding areas will be developed for rainwater conservation / harvesting and the same shall be used for ground water recharge and usage by the villagers.
- (vii) The pond ash will also be utilized for PMGSY Road, National Highways, State Highways construction projects, besides other feasible utility.
- (viii) JUVNL will explore for Air Cooled Condensers based on the guidelines of CEA and

(2.1.3) *Based on the information and clarifications provided by the Project Proponent and detailed discussions held on all the issues, the EAC recommended the project for granting Environmental Clearance subject to stipulation of the following additional specific conditions:*

- (i) *The Bridge Linkage allocation letter addressed to PP shall be submitted to MoEF&CC prior to grant of EC.*
- (ii) *The Water Balance made by U.P. Irrigation Department for saving seepage water in Lower Ganga Canal so as to make available 53 cusec (allocated) water for the proposed TPP shall be submitted to MoEF&CC prior to grant of EC.*
- (iii) *The details of rainwater / storm water storage and its re-use shall be submitted to MoEF&CC prior to grant of EC.*
- (iv) *The PP shall take up the matter regarding compensation to the remaining landoustees with the District Administration and ensure that the same is paid at the earliest. Compliance in this effect shall be submitted to the Ministry.*
- (v) *The PP shall carry out detailed/feasibility study to treat and utilize sewage water from the Etah town & its nearby areas for the proposed TPP.*
- (vi) *The PP shall optimize the use of consumptive water by utilizing appropriate technology, as per CEA / MoEF& CC norms, approximately 38 cusecs and surrender remaining 15 cusecs to U.P. Irrigation department.*
- (vii) *Provision shall be made for storage of rain water and storm water for use in the plant to reduce further drawl from Irrigation Department.*
- (viii) *As committed, FGD and SCR shall be installed in the proposed Thermal Power Plant.*
- (ix) *Washed coal of <32% ash, 0.4% S shall be used. Coal transport will be through railways.*

- (x) Ponds for collection of rainwater in the surrounding area shall be developed for rainwater conservation / harvesting for ground water recharge and usage by villagers.
- (xi) The pond ash shall also be utilized for PMGSY Road, National Highways, State Highways, construction projects, besides other feasible utility.
- (xii) The PP shall explore feasibility of Air Cooled Condensers based on the guidelines of CEA
- (xiii) As committed, during construction phase of the TPP, CSR works worth Rs. 25.00 Crores shall be spent exclusively in five (05) Gram panchayats whose land has been acquired for the power plant. Balance Rs. 8.00 crores shall be spent in selected remaining villages within 10 km radius in consultation with District Authorities. The CSR budget during operational phase shall be earmarked as per the CSR policy of GoI.

## **2.2 4x660 MW, Stage-I, Barethi Super Thermal Power Project near village Barethi, Tehsil Rajnagar, District Chhatarpur, Madhya Pradesh by M/s NTPC Ltd.- reg. reconsideration for EC**

(2.2.1) The proposal was appraised by the EAC earlier in its 36<sup>th</sup> & 57<sup>th</sup> Meetings held during 19-20 May, 2015 and 16-17 June, 2016, respectively the minutes of which are as under:

**Quote** “(2.1.1) The Project Proponent (PP) along with their environmental consultant, EMTRC Consultants Pvt. Ltd., Delhi made a presentation and inter-alia provided the following information:

- (i) ToR for carrying out EIA study for Barethi STPP (6x660 MW) was accorded by the Ministry initially on 09.09.2010, which was valid till 08.09.2013. Public Hearing was conducted on 17.06.2011 and the final EIA report was submitted to the Ministry on 18.10.2011. However, the same was not considered by the Ministry due to non-availability of firm coal linkage. Accordingly, the Project Proponent (PP) had applied for fresh ToR for revised capacity of 2,640 (4x660) MW, Stage-I and also requested for exemption of Public Hearing (PH).
- (ii) ToR for carrying out EIA study for Barethi STPP of 2,640 (4x660) MW was accorded on 25.07.2014 with PH exemption as there was no change in the location of project site and no TPP or any other industry came up within 10 km radius from the project site, etc. during the intervening period. In accordance with the TOR, based on one season (November, 2014 – January, 2015) baseline data, an EIA report has been submitted to MoEF&CC to accord EC.
- (iii) Govt. of Madhya Pradesh vide letter dated 31.03.2010 have accorded in-principle commitment for availability of about 3,400 acres of land for the project. However, so far physical possession of 2,900 acres land has been acquired by NTPC as the land requirement for Stage-I is 2,110 acres. It was earlier proposed to put up 2x660 MW as Stage- II for which 790 acres of land was required hence, the land was taken into possession. However now, as of now, no expansion is envisaged due to shortage of water therefore, Stage-II has not been envisaged. There is no ecologically sensitive area such as Biosphere Reserve, National Park and Wildlife Sanctuary within a radius of 10 km from the project site. Panna Tiger Reserve and World Heritage Site “Khajuraho Temple” are located at a distance of about 12 km and 23.4 km respectively. The estimated Project Cost is Rs. 17,820.98 Crores and proposed Environmental Protection Cost is Rs. 1,348.98 Crores.

- (iv) The coal requirement of 12.0 MTPA will be met from Banai coal mine block of Mand Raigarh in the State of Chhattisgarh allotted to NTPC by Ministry of Coal (MoC) vide letter dated 31.03.2015. The Sulphur and Ash contents in Coal would be in the range of 0.4-0.5% and 40-43%, respectively. Coal is proposed to be transported from coal mine block to the project site by Indian railway system rakes. The rakes will be unloaded at the wagon tipplers.
- (v) High efficiency ESP will be installed to control particulate emissions to <50 mg/Nm<sup>3</sup>. Two twin-flue stacks of 275 m height each will be installed. Baseline Environmental monitoring has been conducted from November, 2014 to January, 2015. The base line concentration for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> is in the range of 40.0-56.0 µg/m<sup>3</sup>, 12.0-20.0 µg/m<sup>3</sup>, 4.0-5.6 µg/m<sup>3</sup> and 9.0 – 14.2 µg/m<sup>3</sup>, respectively. The maximum incremental concentration of PM, SO<sub>2</sub> and NO<sub>x</sub> would be 0.94 µg/m<sup>3</sup>, 36.60 µg/m<sup>3</sup> and 11.97 µg/m<sup>3</sup>, respectively. Final GLC of all these will be within the prescribed AAQ limits.
- (vi) The water requirement of 80 MCM will be sourced from Shyamari and Majhgaon dams. Water Resource Department (WRD), Government of Madhya Pradesh (GoMP) vide letter dated 03.09.2012 has allocated 40 MCM water each from Shyamari and Majhgaon dam. The dams are under construction phase by MP State Government. Water requirement has been optimized with designed COC of 5.0 in line with CEA norms. The total make up water during operation is 9,805 m<sup>3</sup>/h (i.e. 2.96 m<sup>3</sup>/h/MW which is as per the CEA norms). The treated wastewater quality will conform to prescribed standards and shall be used in greenbelt development in and around project site to the maximum extent. Closed cycle cooling system will be installed to avoid hot water discharge for the protection of aquatic life. Zero Liquid Discharge (ZLD) system with maximum recycle/reuse of water will be implemented and thereby small quantity of make-up water shall be drawn. Therefore, the impact of water discharge on ecology will be insignificant. Marine impact is not applicable as the site is land locked.
- (vii) All the required measures to protect the natural surface drainage pattern of the area shall be taken. To study the existing drainage pattern and to plan the drainage of plant without disturbing the natural pattern, “Area Drainage Study” is already done by IIT, Roorkee and recommendations of the study are being followed in planning/execution of the project.
- (viii) Ash utilization/management shall be done as per the fly ash utilization Notification dated 03.11.2009. It is estimated that about 15,000 TPD i.e. about 4.8 MTPA of ash shall be generated. In order to assess the ash utilization potential in the vicinity of proposed power plant, a market survey was undertaken by NTPC through M/s Bhagavathi Ana Labs Pvt. Limited. The survey covered cement plants located within 300 km, brick manufacturing plants and major construction activities within the 100 km radius of Bareilly STPP. There are 13 cement units within 300 km from the proposed power plant. Apart from this, 16 more cement plants are proposed/upcoming within 300 km radius from the proposed power plants which will also require fly ash. The total requirement by all the existing Cement & Ready Mix Concrete (RMC) units is estimated to be about 3.5 MTPA. Based on this study, it is proposed to utilize 3.5 MTPA, 0.1 MTPA and 1.2 MTPA of fly ash for Cement & RMC sector, Fly ash bricks and Roads & Highway Embankment & others, respectively.

- (ix) A detailed Socio-economic Study for the affected area has been conducted through G.B. Pant Social Science Institute, Allahabad. From the study it is observed that the basic amenities and infrastructural facilities like education, health, electrification, banking and road networking are only accessible to a few sections and small areas of rural society in the project area. Special emphasis for village developmental work may be given to the Sandni and Barethi villages. The number of Project Affected Persons (PAPs) for Sandni and Barethi villages are 565 & 485 respectively where as at Basari and Satna, the number of PAPs is 33 & 12, respectively. The Project Affected villages (PAVs) having more than 50% of the total PAPs concentrations shall be taken up on first priority.
  - (x) A comprehensive Community Development Plan has been formulated (including Education, Health, Infrastructural works, Drinking water facility, training for income generating schemes, etc.) in consultation with the stakeholders and District Administration under approved R&R plan for Barethi project. The R&R Package, formulated after discussions in the Village Development Advisory Committee (VDAC) meetings were deliberated and finalized after modifications, in the meeting of the Committee of Secretaries, Govt. of Madhya Pradesh (GoMP). A budget of Rs. 185.64 crores is earmarked for R&R and Rs. 97.995 crores for CSR/community development.
  - (xi) Public Hearing/Public Consultation for the project was conducted by Madhya Pradesh Pollution Control Board on 17.06.2011. It was noted that the issues raised in the PH pertained to Permanent Employment for educated young generation, Environmental Pollution & measures for its abatement, Hospital in Village Barethi, Free electricity to the residents of the area, provisions of Rehabilitation & Resettlement & compensations, Construction of road from Panna-Chhattarpur to NTPC plant avoiding agricultural land, etc. The Committee discussed the issues raised in the PH and the reply of the PP.
2. *After detailed deliberations, the Committee opined that the mandatory firm coal linkage is not available for the project as the EC and FC for the coal block are not available. Hence, firm coal linkage is required and accordingly, the EIA/EMP shall be revised. As there is no Stage- II, land requirement for the project shall be considered as only 2,110 acres. The PP has not proposed 33% of the area as green belt and hence, the same needs to be done. Since, the Panna Tiger Reserve is at a distance of 12 km and a contiguous forest exists, the recommendation/comments of NBWL may be obtained. The ash pond shall be shifted 150 m away from the natural drain and thick green belt shall be developed in between. Since, Khajuraho Temple is made of red stone, long term effect on this also needs to be assessed, mainly due to SPM (Carbon) & SOx. As the following information was not available in the EIA/EMP report, and PP could also not provide at the time of presentation, the proposal was **deferred**.*
- I. *Firm coal linkage i.e. including the EC and FC of coal block. Accordingly, the EIA/EMP shall be revised.*
  - II. *An authenticated map from CWLW clearly showing the boundary of the project and the Panna Tiger Reserve including the boundary of its eco-sensitive zone.*
  - III. *Considering the scale of the project and proximity with the Panna Tiger Reserve and the contiguous forest, NBWL clearance/comments shall be obtained. The Ministry may also seek comments from its wildlife department.*

- IV. *Details of compensation given for different categories of land.*
- V. *Action plan for green belt development in 33% of the area.*
- VI. *Detailed action plan for the development of railway siding and alternate plan, if any.*
- VII. *Commitment for using washed coal so as to reduce the ash content to <34%.*
- VIII. *Sensitive receptor base-line data for "Khajuraho Temple". A separate study may be conducted to ascertain any effects on Khajuraho Temple due to emissions from TPP.*
- IX. *Details of effluent treatment and discharge especially during the rainy season be prepared.*
- X. *The area drainage/hydro-geology study of IIT, Roorkee shall be circulated to all the members and shall be presented before the EAC by the concerned Officials of IIT, Roorkee in the next meeting.*
- XI. *Detailed action plan for rainwater harvesting.*
- XII. *As agreed, the ash pond shall be shifted 150 m away from the natural drain and thick green belt shall be developed in between. The same shall be clearly indicated on map and submitted.*
- XIII. *MoUs for fly ash utilization and Report available on fly ash utilization potential of the area shall be submitted.*
- XIV. *Details on health survey records and sources of endemic diseases in the area.*
- XV. *Reply to the issues raised by EIA Resource & Response Centre (ERC), New Delhi.*
- XVI. *Detailed land use pattern of the project area as per the revenue record.*
- XVII. *Justification for having proposal of a big ash pond area when so many users are available to use fly ash.*
- XVIII. *Impact on water withdrawal on downstream users.*
- XIX. *All the studies given in ToRs may be completed and made as a part of EIA/EMP report.*

(2.1.2) The reply to above information sought by EAC, was submitted by the PP to MoEF&CC and accordingly, the proposal is again placed before the EAC in this 57<sup>th</sup> meeting on 16.06.2016, wherein the PP along with their environmental consultant, EMTRC Consultants Pvt. Ltd., Delhi made a presentation and inter-alia, provided the following information:

- (i) Ministry of Coal (MoC) on 18.03.2016 has accorded in-principle approval for grant of bridge linkage for the proposed project from Coal India Ltd. (CIL). CIL vide its O.M. dated 09.05.2016 has accorded in-principle approval for grant of bridge linkage from Korba/Raigarh field (80%) & Korea Rewa coal field (20%) of SECL for the proposed project. MoEF&CC on 07.12.2015, has notified new Emission Standards for TPPs. Based on these standards i.e. PM (30 mg/Nm<sup>3</sup>), SO<sub>2</sub> (100 mg/Nm<sup>3</sup>) and NO<sub>x</sub> (100 mg/Nm<sup>3</sup>), EIA report has been modified. The impacts on air quality, after complying with new emission standards are very much lower than that predicted earlier.
- (ii) The project site is located beyond 10 km from the Buffer Zone of Panna Tiger Reserve. Further, Eco Sensitive Zone (ESZ) is approximately 12 km from the project boundary/stack. In this regard, a map showing the Buffer Zone of Panna Tiger Reserve duly signed and stamped by Field Director of Panna Tiger Reserve is submitted. NBWL clearance/comments is required, only if, the project falls within 10 km area of Wildlife Sanctuary.
- (iii) The coal transportation shall be by Rail. Railway siding planned from Lalitpur-Khajuraho section of NC Railways, involves construction of 2 km of approach siding up to plant. Feasibility study for rail transportation already done and NC railways have approved the report. Completion of the construction of the rail line shall be in synchronization with the commissioning of the power plant.
- (iv) NTPC is committed to use coal with ash content not more than 34%. Contract document with CIL will include necessary clause in this regard.
- (v) M/s NEERI, Nagpur conducted the impact assessment study on Khajuraho Temple due to the proposed Barethi STPP in the year 2012-13. Based on the observation, it was concluded that there will be no adverse impact anticipated on Khajuraho temple located at about 23.8 km away from the project site. Archaeological Survey of India (ASI), Delhi vide letter dated 13.06.2016 issued NOC for construction of Barethi STPP, Stage-I (4x660 MW). The Barethi site may be considered as Greenfield site as the District Trade and Industries Centre, Chhattarpur, Govt. of M.P. vide its letter dated 02.07.2014 has confirmed that no industrial establishment is located within the 10 km radius of study area.
- (vi) An independent plant effluent drainage system will be made so that effluents do not mix with storm water. Storm water will be collected and stored in the reservoir. This will reduce the fresh water drawl from dams. Project is designed with 2.5 m<sup>3</sup>/MWh water consumption and Zero Liquid Discharge concept (in normal operating condition). During, heavy rains some treated water from the CMB, meeting the discharge standards, shall be discharged into nearby nallah. Quality of treated water shall be monitored using online instruments.
- (vii) Entire runoff from the paved and unpaved areas will be collected in a water reservoir through drains. Roof top rainwater will be collected and will be taken to the recharge pits to recharge underground table.
- (viii) The proposed ash pond is to be constructed keeping 150 m away from the natural nallah and areas available between the proposed ash dyke and nallah will be developed as thick green belt. A map is shown in this regard.

- (ix) A copy of the Market Survey report for ash utilization carried out by Bhagavathi Ana Labs Private Limited, Hyderabad was submitted. A letter confirmation from Birla Corporation Limited, Diamond Cement, Prism Cement and Reliance Cement for lifting of ash has been obtained. An ash utilization plan has been prepared.
  - (x) Chief Medical and Health Officer, District Chhattarpur (Madhya Pradesh) vide letter dated 11.06.2015 indicated that in the present scenario, people in the nearby villages suffer mostly from fever, cough & cold, pneumonia, diarrhea & diseases related to ENT (Ear, Nose, Throat) and Eye.
  - (xi) A budget of Rs. 99.09 Crores is earmarked for CSR/community development.
- (2.1.3) The PP informed that the present proposal is for Stage-I and Stage-II will also be located at the same site of Stage-I. The EAC noted that the site is in an ecological sensitive area. For example, it is close to Khajuraho Temples and Ken Crocodile Sanctuary, which are about 20-30 km from the TPP site. It is about 12 km from Panna Tiger Reserve. There is extensive network of surface drainage system consisting of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> order streams all of which find their way into Ken River.
- (2.1.4) The EAC also recommended that the surface drainage channels shall be preserved and the conditions stipulated by the ASI vide letter dated 13.06.2016 shall be strictly complied.
- (2.1.5) *After detailed deliberations, the EAC sought the following information/documents and accordingly, **deferred** the proposal.*
- i. *Revised plant layout with 33% green belt of the project area, with focus towards Khajurao, and Panna Tiger Reserve.*
  - ii. *The plantation must be started immediately along the periphery areas, so that some cover will be available by the time the plant becomes operational.*
  - iii. *Detailed Storm water management system.*
  - iv. *MoUs for the entire 2.9 MTPA of fly ash proposed to be utilized for manufacture of cement*
  - v. *Low lying areas are not to be developed using fly ash.*
  - vi. *Detailed sulphur balance. AAQ modeling for all the four seasons shall be carried out and submitted.*
  - vii. *Impact of fugitive emissions.*
  - viii. *Impact on the aquatic flora and fauna*
  - ix. *The details regarding water drawl, including reported plan that only excess water during monsoon will be stored in the dam and utilised for the plant and that there will be no change or diversion in non-monsoon flows, or in the downstream water withdrawal during non-monsoon period and impact of the same etc. In this connection, the EAC also pointed out that the PP's contention that there will be no impact on Ken river is not tenable, since both the dams that will cater to the project's water requirement are fed by the Ken river.*
  - x. *Considering the scale of the project and proximity with the Panna Tiger Reserve and the contiguous forest, NBWL clearance/comments shall be obtained as already desired earlier by the EAC. The Ministry may also seek comments from its wildlife department.*
  - xi. *Since the site is ecologically sensitive, the EAC recommended that no further expansion of the project may be permitted in future at the site.*

- xii. As already desired earlier by the EAC, all the required measures to protect the natural surface drainage pattern of the area shall be taken.
- xiii. Hydrogeological study needs to be elaborated.
- xiv. A detailed map of the area showing streams, tributaries, dams, Ken river etc.”

**Unquote**

- (2.2.2) The reply to above information sought by EAC, was submitted by the PP to MoEF&CC and accordingly, the proposal was again placed before the EAC in this 63<sup>rd</sup> meeting on 29.08.2016, wherein the PP along with their Environmental Consultant i.e. EMTRC Consultants Pvt. Ltd., Delhi made a presentation on the information sought.
- (2.2.3) After detailed deliberations, the EAC made the following observations/recommendations and **deferred** the proposal:
  - (i) Considering the Ecological Sensitivity of the area, the EAC recommended that no further thermal expansion of the project may be permitted in future at the site. NTPC shall study the feasibility of installation of non-conventional power plants in the area meant for Stage-II within six months and approach the Ministry. Else, the same shall be developed into green belt. The area proposed for Stage-II shall also be utilized for rain water harvesting.
  - (ii) Regarding NBWL clearance/comments, the EAC was informed by the Member Secretary that the Ministry is of the view that the same may not be required as per the Ministry's Policy.
  - (iii) The earlier Query No. 9 regarding water drawl, has not been properly replied. Rather, the statement/commitment made by PP w.r.t. water allocation was found to be misleading.
  - (iv) As per report, PP has made provision for separate effluent conveyance and storm water collection as well as effluent treatment and for treatment of storm water in some specific areas. However, no provision has been made for monitoring of storm water leaving the premises i.e. at the outlet point of the plant premises before meeting any nearby nallah and a Holding Tank of requisite capacity be constructed for the purpose when quality of storm water exceeds the standards of discharge, particularly during initial rain fall.
  - (v) As far as impact of fugitive emission on air quality outside the plant premises (at the boundary wall and adjoining area) is concerned, the prediction of PM<sub>10</sub> and PM<sub>2.5</sub> has not been made from the different sources of fugitive emission such as Coal Handling Plant, Coal Storage Yard, Ash Pond, Lime Handling and storage including gypsum that will be generated from FGD unit, etc.
  - (vi) The PP should revise the sulphur balance by using correct chemical equation for SO<sub>2</sub> reaction with lime.
  - (vii) The coal feed flow rates per day need to be corrected based on 8,000 hours per year.
  - (viii) The basis of assuming 95% sulphur emissions from stack should be explained.
  - (ix) The PP shall submit detailed reply to the latest representation of **eRC**, New Delhi dated 28.08.2016.
- (2.2.4) Further, the EAC advised NTPC to provide requisite information being sought by EAC, and the senior officers of the company should peruse the documents submitted to EAC so that the process of the appraisal of the project is effective.

### **2.3 Farakka Super Thermal Power Project at Farrakka, District Murshidabad, West Bengal by M/s NTPC - regarding amendment of EC for transport of coal through National Waterway (NW) No. 1.**

- (2.3.1) MOEF&CC vide letter dated 31.07.2014 accorded permission for use of blended coal (Domestic 70% : Imported 30%) in Farakka STPP, Stage-I, II & III and temporary permission for transportation of imported coal through NW-1 for a period of one year subject to certain conditions. Further, based on the recommendation of EAC, the Ministry vide letter dated 29.09.2015 has accorded permission for continuation of transport of maximum 1.5 MTPA coal through NW-1 for another one year i.e. till 30.07.2016 and also sought additional information based on the study being carried out by CIFRI. It was also stipulated that, after a period of 6 months, the NTPC shall submit/present findings of the study and EAC shall review the findings of the studies and if need be, would undertake a site visit.
- (2.3.2) NTPC vide letter dated 25.07.2016 has inter-alia stated that IWAI has already undertaken studies suggested by MoEF&CC and the same would required another six months to be completed. It was requested to accord permission to continue the transportation of coal through IWT by M/s JITF for another six months i.e. upto 31.01.2017.
- (2.3.3) *The EAC recommended for continuation of the permission for transport of maximum 1.5 MTPA coal through NW-1 for another six months i.e. upto 31.01.2017 subject to continuation of the study being carried out by CIFRI and submission of the additional information sought earlier.*

### **2.4 2x520 MW Coal based Thermal Power Plant at Village Palavalasa, Taluk Pedagantyada, District Vishakhapatnam, Andhra Pradesh by M/s Hinduja National Power Corporation Ltd. – reg. amendment of EC**

- (2.4.1) The PP along with their environmental consultant, B S Envitech Pvt. Ltd., Secunderabad made a presentation and inter-alia, provided the following information:
- (i) EC was accorded by MoEF&CC for the above TPP in September, 1996 and amendments to the same were accorded subsequently. Consent to Operate (CTO) were accorded by AP State Pollution Control Board for Unit I & II in October, 2015 and March, 2016, respectively. The Unit I & II were commissioned in March & July, 2016 respectively. To meet the requirement of Coal for Power Plant, M/s Hinduja National Power Corporation Ltd has tied up the supply of coal with Mahanadi Coalfields Ltd (MCL). Coal from Talcher Coalfields of MCL will be transported by Indian Railways using its existing railway system as per the EIA. The proposed railway siding of HNPCL is under progress. Hence HNPCL is seeking temporary permission for transportation of coal by road.
  - (ii) The NTPC Simhadri Power Plant has a dedicated Railway line from Jaggayapalem. The distance from Jaggayapalem to Devada Railway crossing is about 20 km. From Dasarpeta Railway crossing to NTPC Simhadri plant is about 4.4 km. This railway line is now operational and catering to the requirement of NTPC. It is now proposed by HNPCL to lay the dedicated railway line from Dasarpeta Railway crossing to HNPCL plant covering a distance of 4.8 km. The land belonging to HNPCL is available for laying the railway siding adjacent to the by-pass road. The following is the progress of the railway work.

Till now, 40% of civil work has been completed. 15% of Permanent Way works completed. Contract awarded for Overhead Electric traction work. Contract awarded for Signalling and Telecom work. It is expected that the works will be completed in about two year's time. HNPCL has obtained the permission from the East Coast Railway to unload 2 rakes a day in NTPC Simhadri railway siding. HNPCL has also obtained the permission from NTPC Simhadri for movement of about 4 rakes per day from Jaggayapalem to Duvvada section & also for HNPCL siding taking off from NTPC siding at Chainage after 19.0 km to HNPCL plant premises.

- (iii) The present proposal is to seek permission of MOEF&CC to transport the coal by road from Bayyavaram Railway siding (45 km to TPP), Kantakapally Railway siding (63 km to TPP) and NTPC Ltd Simhadri, Railway siding (8.5 km to TPP) for a period of three years until the private railway siding of HNPCL is commissioned. The Traffic Impact Assessment Study due to the movement of HNPCL coal trucks was studied and it is observed that there is no significant impact with the addition of HNPCL trucks on the traffic of the studied roads.

(2.4.2) The EAC, in this meeting on 29-30th Aug 2016 noted that:-

- (i) *as intimated by the PP {ref para 2.4.1 (i) above}, one unit each had already been commissioned, in March 2016, and in July 2016. However, permission for road movement of coal was being sought only now after commissioning of the units, rather than before commissioning.*
- (ii) *the PP was asked to provide data regarding quality of the coal being used/ to be used so that the environmental impact of coal movement could be considered.*
- (iii) *PP was asked to inform steps proposed to be taken to comply with the MoEFCC notification regarding supply and use of coal with ash content < 34% in view of the high ash content of proposed coal sources and distance from the coalfield to the project site, and*
- (iv) *the PP was asked to provide concurrence of the Railways for use of their sidings mentioned in para 2.4.1 (iii) above.*

(2.4.3) The proposal was **accordingly deferred** for want of the above information. The EAC also recommended that the Ministry may look into the aspect of commissioning/ trial operations of the TPP by transporting coal through road before obtaining prior permission for the same.

## **2.5 5x800 MW Super Critical Coal Based Yadadri Thermal Power Station at Village Veerlapalem, District Nalgonda, Telangana by M/s Telangana State Power Generation Corporation Ltd. (TSGENCO) – reg. EC.**

(2.5.1) The proposal was earlier placed before the EAC in its 59<sup>th</sup> & 60<sup>th</sup> meetings held during 14<sup>th</sup> & 15<sup>th</sup> July, 2016 and 27<sup>th</sup> July, 2016, the minutes of which are as under:

**Quote“** The EAC noted that the background documents had not been received by some of the members, and where received, had been received only one day before or on the same day of EAC meeting, thus not giving an opportunity even to such Members to fully study the documents. As such, the EAC was not in a position to consider the case. The

proposal was, therefore, **deferred**. However, to save time for this proposal's consideration in the next EAC meeting, the PP was provided a copy each of the two representations received by the EAC for a detailed reply to be submitted by the PP to the Ministry well before the next EAC meeting, for action in line with the decision recorded under Agenda item 3.1 of this meeting.

Accordingly, the proposal was placed before the EAC in the 60<sup>th</sup> meeting held on 27<sup>th</sup> July, 2016. *However, the EAC was informed that vide letter dt 26<sup>th</sup> July 2016 addressed to the Member Secretary, the PP has requested for **deferment** in view of preparations required to be made for the PMs visit to Telangana.* **"Unquote**

(2.5.2) The EAC inter-alia observed/recommended the following:

*1. Plagiarism, Irrelevant content, and absence of crucial site and plant specific analysis:*

EAC received several complaints about issues such as plagiarism and 'copy-paste' sections of the EIA. On examination, EAC found several such instances. Some examples are reproduced in below table.

<b>Extracts from Final EIA report (July 2016 – Submitted to EAC)</b>	<b>Extracts from Original Document</b>
Final EIA Report - Section 7.6 Risk assessment	Hazards Identification and Risk Assessment in Thermal Power Plant. by Ruchi Shrivastava and Praveen Patel published in International Journal of Engineering Research & Technology (IJERT) Volume 3, Issue 4, April 2014
<p>Introduction</p> <p><i>"The thermal power plant is a large electricity generation industry. It consist a number of process to generate electricity by use of fossil fuel. It also consist several major equipment and operations involve in its process. The purpose of hazard identification and risk assessment in thermal power plant is to identify physical, chemical, biological and environmental hazards in the plant, analyse the event sequences leading to those hazards and calculate the frequency and consequences of hazardous events. Then risk level is assigned to each hazard for identifying required corrective action to minimize the risk or eliminate the Hazard."</i></p>	<p>Abstract</p> <p><i>"The thermal power plant is a large electricity generation industry. It consist a number of process by mean to generate electricity by use of fossil fuel. It also consist several major equipment and operations involve in its process. The purpose of hazard identification and risk assessment in thermal power plant is to identify physical, chemical, biological and environmental hazards in the plant, analyse the event sequences leading to those hazards and calculate the frequency and consequences of hazardous events. Then risk level is assigned to each hazard for identifying required corrective action to minimize the risk or eliminate the Hazard."</i></p>
<p>"7.6.1 Plant Description</p> <p><i>Thermal power plant is electricity generation plant which converts the fossil fuel stored energy to electrical energy by means of generating electricity. In other</i></p>	<p>"III. PLANT DISCRIPTION</p> <p><i>Thermal power plant is electricity generation plant which converts the fossil fuel stored energy to electrical energy by means of generating electricity. In other</i></p>

<p>words, it is merely a chain of Energy conversion as follow:</p> <ul style="list-style-type: none"> <li>• Chemical energy in the fuel is converted to Heat energy of steam.</li> <li>• Heat energy of steam is converted to Mechanical or rotating energy of a rotating wheel called Turbine.</li> <li>• The mechanical energy of Turbine is converted as Electrical Energy in a Generator.”</li> </ul>	<p>words, it is merely a chain of Energy conversion as follow:</p> <ul style="list-style-type: none"> <li>• Chemical energy in the fuel is converted to Heat energy of steam.</li> <li>• Heat energy of steam is converted to Mechanical or rotating energy of a rotating wheel called Turbine.</li> <li>• The mechanical energy of Turbine is converted as Electrical Energy in a Generator.”</li> </ul>
<p><b>The plant description section mentions no project specific details at all.</b></p>	
<p><b>“A. Coal Handling Plant</b></p> <p>Coal transported to the plant by the rail line and carrier trucks. This coal is transfer from the underground bunker to crusher by series of conveyer belt. In coal crusher coal size reduced up to <math>\frac{3}{4}</math>” after that coal transfer to the boiler’s coal bunker or coal yard. In the case of emergency the coal is fetch from coal yard. Coal feeder control the quantity of coal from coal bunker and send it to the ball mill or roll mill for pulverization process. Where coal crushed to the fine powder and mixed with preheated air come through the air from preheater. This process use for drying the coal and sends coal powder up to the burner of furnace. The rest of impure coal and rocks pass out to the bottom of mill and transfer to the clinker grinder then to the storage.”</p>	<p><b>“A. Coal Handling Plant</b></p> <p>Coal transported to the plant by the rail line and carrier trucks. This coal is transfer from the underground bunker to crusher by series of conveyer belt. In coal crusher coal size reduced up to <math>\frac{3}{4}</math>” after that coal transfer to the boiler’s coal bunker or coal yard. In the case of emergency the coal is fetch from coal yard. Coal feeder control the quantity of coal from coal bunker and send it to the ball mill or roll mill for pulverization process. Where coal crushed to the fine powder and mixed with preheated air come through the air from preheater. This process use for drying the coal and sends coal powder up to the burner of furnace. The rest of impure coal and rocks pass out to the bottom of mill and transfer to the clinker grinder then to the storage.”</p>
<p><b>“D. Turbine and Generator</b></p> <p>The generated steam is passing through the super heater to the high pressure turbine. After driving the turbine a part of this steam sends to the H.P. heater 2 and left pass through the reheater then secondary super heater and regain its pressure to drive Intermediate turbine. Then the steam transfer to the H.P.H 2 and low pressure turbine. Then steam from low pressure turbine transfer to L.P.H 4-5-6 and condenser. In condenser steam is cooled by cooling water and then deaerator circulates it for steam generation. The three turbines used to drive one shaft which drives the rotor of the generator by mean to generate</p>	<p><b>“D. Turbine and Generator</b></p> <p>The generated steam is passing through the super heater to the high pressure turbine. After driving the turbine a part of this steam sends to the H.P. heater 2 and left pass through the reheater then secondary super heater and regain its pressure to drive Intermediate turbine. Then the steam transfer to the H.P.H 2 and low pressure turbine. Then steam from low pressure turbine transfer to L.P.H 4-5-6 and condenser. In condenser steam is cooled by cooling water and then deaerator circulates it for steam generation. The three turbines used to drive one shaft which drives the rotor of the generator by mean to generate</p>

<i>electricity. The various auxiliaries of turbine and generator is cooled by hydrogen gas and cooling oil.”</i>	<i>electricity. The various auxiliaries of turbine and generator is cooled by hydrogen gas and cooling oil.”</i>
<b>The text from the original paper refers to the acronyms (H.P.H 2 etc.) used in a diagram in the paper, which are absent / not relevant in the EIA report diagrams. Also sections B. D.M. Plant, C. Boiler, E. Switch Yard are also exact copy but have not been reproduced here for brevity.</b>	
Section 7.6.3 HAZID  <i>“Risk initiating event likelihood and consequences are assumed by taken reference of visited plant real activities. Risk Classification screening table is given below”</i>	IV RISK ASSESSMENT  <i>“Risk initiating event likelihood and consequences are assumed by taken reference of visited plant real activities. Risk Classification screening table is given below”</i>
Table 7.80 :Risk Classification Screening	TABLE I: RISK CLASSIFICATION SCREENING TABLE
Table 7.81: Risk Classification	TABLE II: RISK CLASSIFICATION ASSOCIATED WITH TABLE I
<b>Above tables are exact copy-paste of the same source cited above. They are not reproduced for brevity.</b>	

In addition to above ‘copy-paste’ exercise, EAC also observed several **incorrect or irrelevant statements** in the Final EIA report. For example,

- Section 7.8, Occupational Health and Safety - “As a **small business owner** one has certain rights and responsibilities regarding health and safety in the workplace.” (a project of 4000 MW cannot be called ‘small business’).
- Section 7.6.3.1 subheading Handling of heavy bags -“**Handling of heavy bags of the final products** may lead to occupational injuries like strains, sprains and cramps. This can be avoided by going for mechanical handling of the product or minimising the weight for manual handling.” (in case of this project final product is electricity !).

Further it is also observed that two important Sections of the EIA Report, namely 7.6 “Risk Assessment” and 7.7 “Disaster Management Plan” are almost entirely generic and contain hardly any site or project specific aspects. For example, though Tungapadu Vagu passes through the project site and EAC has directed specific measures for the protection of the same, there is no mention of Tungapadu Vagu in either section 7.6 or section 7.7. Instances such as possible effects of its flooding and /or embankment breach on the plant or impact of a disaster at plant on the Vagu and its environment / downstream, which should have been properly assessed in these two section, are completely missing.

Based on above observations, it is amply clear that several parts of the EIA/EMP have been prepared simply based on ‘copy-paste’ approach, without application of mind and considerations of site specific factors for crucial aspects such as Risk Assessment and Disaster Management. Above is a representative and not exhaustive list, indicating a casual approach towards the preparation of the EIA report on the Project Proponent’s

part. So, in light of the allegations of significant plagiarism and above mentioned observations, the MoEFCC may take necessary action on the relevant stakeholders.

2. *Absence of FGD in plant layout, and consequent processes:*

PP has contended that the plant will comply with MOEFCC notification dt. 7<sup>th</sup> December 2015 regarding stack emission, and that FGD will be installed. EAC asked PP about the location of FGD in the plant layout. In response to this query, PP admitted that FGD has not been included in the plant layout yet. Similarly, FGD and associated processes are also not covered in water balance, process flow and mass balance calculations.

*In light of this, the plant layout needs to be revised to include FGD and allied equipment / processes, and various plant processes need due consideration of issues like disposal of sludge in solid waste management, sulphur balance, water balance etc.*

3. *Absence of crucial details and data regarding water withdrawal and availability:*

In response to a query regarding specific water withdrawal point, PP informed that specific water withdrawal point has not been specified / considered in the EIA. In the absence of specific water withdrawal point, it would not be feasible to assess issues such as sustainability of water even in lean period, ecological impacts arising out of withdrawal of water, downstream uses and impact thereon etc. Further, the committee also observed that crucial data regarding water availability is quite dated and recent data, which is most relevant, has not been considered. For example, in Table 7 regarding monthly observed discharge at Pondugala G & D site, data only upto year 1999 – 2000 has been considered. *These deficiencies need to be addressed and adequate study of downstream impact of water withdrawal and water availability during lean period need to be included in the EIA.*

4. *Need for firm commitment from Irrigation Department to maintain minimum ecological flows in Tungapadu Vagu*

Additional ToR#7 states that “To sustain the downstream ecology of the Tungapadu Vagu, the **Irrigation Department should release** minimum ecological flows from the reservoirs constructed in the upstream. (emphasis added). In response, the PP has merely stated that “*Irrigation Department will be informed ..... and will be requested to take necessary action....*” (Slid. 126 of the presentation). This clearly shows that as yet there is no firm commitment of the irrigation department to release minimum ecological flows. *Hence, a firm commitment from irrigation department needs to be obtained and the same should be included in the revised EIA.*

5. *Explore the feasibility of ACC instead of WCC.*

6. *Cumulative impact study of various industries in buffer zone has not been made with details on emission data, stack heights and distances from plant site.*

7. *The impact of fugitive emissions on ambient air quality, with prediction of PM<sub>10</sub> and PM<sub>2.5</sub> has not been made from the sources such as Coal Handling Plant, Coal Storage yard, Ash Pond, lime handling and storage including gypsum that will be generated*

*from FGD unit. Impact of fugitive emission due to transportation of material is also required to be assessed.*

- 8. The coal linkage documents for imported and domestic coal cannot be considered as firm coal linkage. Imported coal MoU says non-enforceable and also doesn't specify the quality of coal and source of coal is also not specified. The MoC allocation/approval for domestic coal is required.*
- 9. Coal analysis report from BHEL regarding use of blended coal.*
- 10. EIA report as well as subsequent responses by PP indicate substantial confusion and lack of details regarding actual coal unloading and transportation arrangements. Some places it is mentioned that coal will be transported from two ports and some other places four ports are mentioned. Hence, complete and specific details regarding coal import ports and coal transportation routes need to be provided. Clear permissions from Railways and Port Authorities for imported coal should be obtained.*
- 11. ToR 17, details of the mineralogical map from the State Geology Dept. Accordingly, MoC permission.*
- 12. The PP submitted a detailed response to all the recommendations made by the Sub-Committee in its report on the Site Visit in the 50<sup>th</sup> EAC (T&C) meeting held during 28–29 January, 2016. The PP should provide action plans on the recommendations relating to restoration of degraded forest areas in the project area and creation of a permanent corpus fund for tribal welfare and adequate compensation for land losers irrespective of their status besides best possible R&R package and extending social welfare schemes and healthcare systems for local communities.*
- 13. As per the EIA report, the soil characteristics suggest that the land in the study area is a fertile land. Therefore, provision should be made to collect the top soil from the project area and preserve for raising plantation, etc.*
- 14. Approximately, 75% and 25% areas are having under the category of forest and non-forest land, respectively. The forest land (including degraded) proposed to be included in the minimum 33% green belt should be treated as rejuvenation of forestland, instead otherwise may be.*
- 15. The PP should give proper & detailed response along with an Action Plan in respect of queries raised during the Public Hearing along with CSR budgetary details provided during the stage of commissioning of the Project.*
- 16. In light of the major shortcomings as noted above, EIA/EMP needs to be redone (though currently used baseline data can be used) which needs to address above mentioned points, and public hearing is also to be conducted again based on the redone EIA/EMP.*

*(2.5.3) The proposal was accordingly, **deferred**.*

**2.6 Expansion of 4x250 MW by addition of 4x600 MW Coal Based Thermal Power Plant at Tamnar, Tehsil Gharghoda, District Raigarh, Chhattisgarh by M/s Jindal Power Ltd. - reg. amendment of EC.**

(2.6.1) The above proposal was last considered by the EAC in its 59<sup>th</sup> Meeting held during 14<sup>th</sup> -15<sup>th</sup> January, 2016, the minutes of which are as under: **Quote “**

(2.6.1) The proposal of PP requesting for amendment of EC for change in location of ash pond was considered earlier by the EAC in its 50<sup>th</sup> Meeting held during 28<sup>th</sup>-29<sup>th</sup> January, 2016, the minutes of which are as under:

(2.7.1) The PP made a presentation and *inter-alia*, provided the following information:

- (i) EC Clearance for the above expansion project was accorded on 18.03.2011 for Units #1 & 2 and 04.11.2011 for Units # 3 & 4. Subsequently, all four units of 2,400 MW have been synchronized and three units have achieved COD. The requested amendment is for change in ash dyke location.
- (ii) Initially, ash dyke for 4x600 MW was proposed to be constructed on an area of 491 Ha, comprising of 250 ha land near Dolessara village and another 241 ha land near Rodapali village. Details of both patches were included in the Draft and Final EIA report and both the patches of land were part of Public Hearing. In order to optimize the land requirement, JPL requested MoEF to consider only 241 ha of land near Rodapali village for proposed ash dyke. Accordingly, MoEF while granting EC to the project has approved 241 ha of land near Rodapali village for locating the ash pond for the expansion project. However, land near Rodapali village could not be acquired for construction of ash dyke, as the same became part of Gare Pelma Sector-II coal block.
- (iii) Due to delay in acquisition of land for ash dyke, JPL requested MOEF to permit use of existing ash dyke of 4x250 MW for expansion project of 4x600 MW. Same was permitted by MoEF for period of 3 years i.e. till 09.01.2017. Now, JPL proposes to construct the ash dyke near Dolesara village on an area of 239 ha. This land has already undergone Public Hearing as a part of EIA for 4x 600 MW.
- (iv) Regarding the land acquisition status of proposed new dyke area, in-principal approval for land acquisition has been received from State Industrial Promotion Board. Compensation of Rs. 57.36 crores has already been deposited with Chhattisgarh State Industrial Development Corporation (CSIDC), Raipur. R & R plan for the land has been approved by CSIDC, Raipur vide letter dated 03.08.2015. Section 11 notification for land acquisition completed on 31.08.2015. Issue of section 12 for preliminary survey of land completed on 15.11.2015. Issue of Section 15 for hearing of objection of Section 11 completed on 18.01.2016.

(2.7.2) While the PP had not intimated about any court case, the Committee noted that the Ministry was informed by the representative of Appellant in Appeal No. 6/2012, Mehnatkash Majdoor Kisan Ekta Sangthan & Anr. Vs. UoI & Ors. that its appeal against the EC of 2011 is still under consideration of Hon'ble N.G.T. and any amendment in EC should not be considered by EAC. *In this regard, the Committee requested the Ministry to study the NGT Orders and clarify whether there is any direct or implied stay by NGT on the project in general and the requested amendment in particular.*

(2.7.3) *After detailed deliberations, the Committee sought the following and **deferred** the decision on the proposal.*

- (i) *Hydro-geological study of the proposed ash pond area for a minimum one month.*
  - (ii) *Although the Public Hearing for land acquisition was held earlier, to make the public aware about the proposed new location of ash pond, public notices in the leading local newspapers, Gram Panchayats, Website of PP etc. should be published, along with the intimation that the public can send its comments if any to the PP and also MoEF & CC within one month after publication of the public notice.*
- (2.6.2) In this 59<sup>th</sup> meeting on 14<sup>th</sup> -15<sup>th</sup> July, before taking up consideration of the PP's requests, the EAC, with reference to Para (2.7.2) above, inquired about the impact of the NGT's Orders. The PP and the Ministry clarified that the said Appeal was disposed off on 09.03.2016, and the Order does not stay the proposed amendments.
- (2.6.3) For this 59<sup>th</sup> meeting on 14<sup>th</sup> -15<sup>th</sup> July, the PP vide letter dated 07.07.2016 circulated to the EAC Members, had requested the Ministry for change in source of coal for Units 3 & 4 from imported to domestic, and for change in location of the ash dyke near to the Dolesara village. Regarding the change in location of ash dyke, it was inter-alia stated that, as recommended by the EAC, hydro-geological study has been completed and report on the same will be submitted to MoEF and EAC shortly. However, in case the hydro-geological report is delayed, kindly consider request for change in source of coal from imported to domestic so that unit 3 & 4 are commercially viable to operate. Accordingly, the proposal was placed before the EAC. *The EAC pointed out that since the hydro-geological study report was not yet available, the proposal for only change in source of coal for Units 3 & 4 from imported to domestic can be taken up for consideration in this meeting.*
- (2.6.4) Further, in connection with the request for change in location of the ash dyke near to the Dolesara village, the EAC took note of the e-mail representation dated 13.07.2016 received by the Ministry (i) alleging location of the proposed ash dyke falling within the coal mine area of Gare Palma Sector-I which presently stands allotted to the Gujarat State Electricity Corporation, and (ii) enclosing a resolution of the Dolesara Gram Sabha dated 07.10.2015 against the land acquisition for ash dyke, etc. *Notwithstanding that the ash dyke matter cannot be taken up for consideration in this meeting, the EAC, in order to save time for this proposal's consideration in the next EAC meeting, requested the Member Secretary to make available to the PP a copy of the representation for a detailed reply to be submitted by the PP to the Ministry well before the next EAC meeting, for action in line with the decision recorded under Agenda item 3.1 of this meeting.*
- (2.6.5) Also in connection with the change in ash dyke location, the PP's attention was drawn to the Dolesara Gram Panchayat's "no objection" document dt. 22.8.2015 attached to the PP's letter dated 07.07.2016 circulated to the EAC Members. *The EAC was not clear why this document dt. 22/8/2015 had not been placed before the EAC, when the case was earlier taken up by the EAC in its January, 2016 meeting (i.e. five months after the "no objection"). The PP was also asked to clarify the discrepancy in the area for the ash dyke – while the Gram Panchayat mentioned a total of approximately 190.5 ha, the requirement indicated by the PP*

*in the Jan., 2016 meeting of the EAC was 239 ha {as reproduced in para 2.7.1 (iii) above}.*

- (2.6.6) Regarding the change in source of coal for Units 3 & 4 from imported to domestic, and its transportation to the project, the PP stated that they already had permission for transportation of coal by road, but were unable to switch to domestic coal because the EC stipulates usage of imported coal. Regarding environmental impact of change in source of coal, the following was stated in the PP's letter dated 07.07.2016 circulated to the EAC Members:- "Furthermore, we would like to supplement that in the EIA report, the air quality modelling was based upon the domestic coal and characteristics of imported coal considered for grant of Environmental Clearance were same as for domestic coal. Hence there will be no change in impact on environment, including air quality, due to change in source of coal". Similarly, in the presentation circulated during the meeting, in slide 11, it has again been reiterated that "Hence, due to change in source of coal from Mozambique to domestic, there will be no change in impact on environment, including air quality". Also, as stated in slide 9 of the presentation, domestic coal is proposed to be procured through the "special forward e-auction".
- (2.6.7) As is very well known to all PPs in the thermal power sector, and as has been repeatedly brought out in the various O.Ms etc. issued by the MoEF&CC, one of the primary responsibilities of the EAC is to examine the impact on the environment of coal usage, and the impact on account of the mode and route of its transportation from the coal source to the project site. In this context, on its enquiry, the EAC was informed that the following condition had been stipulated in the EC amendment dt 27<sup>th</sup> March, 2015 issued to the PP:- *"The coal for the proposed expansion project will be crushed near MCL mines by installing coal crushers by its subsidiary Company Uttam Infralogix Ltd, and the crushed coal will be transported to the plant site at Tamnar through Close Circuit Pipe Conveyer (CCPC). However, as an interim arrangement, the domestic and imported coal may be transported by road from MCL / SECL mines and Raigarh, respectively for a limited period of two years by which time the CCPC will be put in place for coal transportation and crush the same within the plant site by installing coal crusher"*.
- (2.6.8) As is clear from the above EC condition, the transportation route for the imported coal was stipulated from Raigarh. On enquiry, the PP stated that procurement of domestic coal through e-auction (as stated in their presentation) would have to be from MCL / SECL mines. Since these mines are in a completely different direction from Raigarh, it became clear on further enquiry from the PP that substitution of imported coal by domestic coal would necessarily also involve a change in the entire transportation route. In other words, the substitution of coal source for the 1200 MW of Units 3 & 4 would result in an additional movement of five-six MTPA coal on the road network from MCL / SECL mines to the project site. *The EAC was unable to appreciate how the PP had not brought out this basic and fundamental fact in its submissions, and the position had emerged only as a result of specific queries to the PP. It was also obvious that before the PP's request could be considered, due permissions would have to be obtained from the concerned Authorities for road usage, in addition to studies that may also require to be conducted regarding road carrying capacities etc. The EAC took a serious view of such suppression of vital*

*information for appraisal of the proposal, especially by a company of its magnitude and cautioned the PP for non-repetition.*

(2.6.9) Since the March, 2015 EC amendment had clearly specified a limited time frame of two years for road transportation (viz, “.....as an interim arrangement, the domestic and imported coal may be transported by road from MCL /SECL mines and Raigarh, respectively for a limited period of two years by which time the CCPC will be put in place for coal transportation.....”), the PP was asked to indicate the readiness of the CCPC. The PP indicated that the CCPC was currently only at the engineering stage. It thus becomes clear that operationalising the CCPC is very much behind schedule, and will take a few more years. *The EAC was unhappy to note that because of this, coal transportation by road would necessarily have to continue in future also. The EAC therefore desired that the PP should take immediate steps to commission the CCPC at the earliest so that road transportation could be avoided.*

(2.6.10) *In the light of the position given in the preceding paras, the PP was asked to respond to the issues mentioned above in paras 2.6.4, 2.6.5, 2.6.8 and 2.6.9. The proposal was accordingly **deferred**” Unquote.*

(2.6.3) The reply to above information sought by EAC in both the meetings was submitted by the PP to MoEF&CC and accordingly, the proposal was again placed before the EAC in this 63<sup>rd</sup> meeting on 30.08.2016, wherein the PP along with their hydro-geological consultant, Volcons Solutions, Rourkela and environmental consultant, Min Mec Consultancy Pvt. Ltd., New Delhi made a presentation on the information sought.

(2.6.4) As per PP, MOEF vide letters dt. 10.01.2014 and 27.03.2015, (PP presentation sld no 20) had granted temporary permission for coal transport by road and that CCPC shall be put in place by that time. This temporary permission is valid till 23.03.2017. PP has requested for extension of this temporary permission till 26.03.2020, i.e. by three more years, by when PP proposed to complete CCPC. This would imply permission for coal transportation by road for over 6 years from COD of first unit. PP has also sought permission to use domestic coal for units 3 and 4, which would result in an additional movement of five-six MTPA coal on the road network from MCL / SECL mines to the project site. Regarding the coal transportation arrangement, PP stated that in EIA report it was proposed to transport coal from railway station to the project site through pipe conveyor. (PP presentation sld 19). Coal for units 1 and 2 is already being transported through road from Raigarh railway station. PP further stated that total coal transportation requirement for units 3 and 4 would be 13187 Tonnes / Day and it proposes to use 40 Tonnes dumpers, requiring hourly 28 to and fro dumper movements, which would be a 40 tonne dumper movement every 2 minutes. It further stated that the proposed road for coal transportation is undivided, two lane road, with minimum width of 5.6 mts., maximum width of 16.5 mts. and average width of 7.7 mts. Out of 21 points on the proposed road transport route, road width at 18 points is less than 7.2 meters, for 1 point it is 10.1 meters and for only two points it exceeds 16 meters. (Impact assessment due to transportation of coal study Aug. 2016, – table 1, pg. 4). Thus for most of the road length, road width is less than 7.2 meters.

In sum, though coal transportation by CCPC was proposed long ago in the EIA itself, temporary permission was granted for road transport till 23.03.2017, the construction for CCPC is way behind the schedule and is now proposed to be completed only in 2020. Also most of the road proposed for coal transportation for units 3 and 4 is of

less than 7.2 meters wide. Considering all these factors and observations in para 2.6.8 and 2.6.9 above (i.e. MoM's of 59<sup>th</sup> meeting), EAC recommends that coal transportation for Units 3 and 4 may not be environmentally safe option and the PP may re-examine the issue.

Decision regarding extending temporary permission for coal transport by road beyond 23.03.2017, only for units 1 and 2, can be taken based on consideration of detailed action taken and progress made for CCPC, status of land acquisition, etc.

(2.6.5) *After detailed deliberations, the EAC sought the following information/documents and accordingly, **deferred** the proposal.*

- (i) *The sampling & analysis of ground water & soil of the proposed ash dyke area and fly ash characterization & leachate studies by an accredited consultant and laboratory.*
- (ii) *A copy of the Notification issued by the State Govt. for acquisition of land for construction of Ash Pond under Section 19.*
- (iii) *The alignment of pipeline for ash slurry, etc.*
- (iv) *Load bearing capacity of the existing roads for the proposed routes for Unit III & IV.*
- (v) *Detailed action taken and progress made for CCPC, status of land acquisition, etc.*
- (vi) *Detailed justification for use of the existing water reservoir.*
- (vii) *Detailed justification for use of the existing ash dyke.*

## **2.7 Proposed 5x800 MW Kadaladi TPP at villages Tharaikudi, Kannirajapuram and Narripyur, Taluk Kadaladi, District Ramanathapuram, Tamil Nadu by M/s Tamil Nadu Generation & Distribution Corporation Ltd., (TANGEDCO)- reg. ToR**

- (2.7.1) The PP proposes to set up the above TPP based on sea water, and applied to MoEF&CC for ToR with three alternate sites. The three sites proposed are: (i) Site 1 (preferred site) at Tharaikudi, Kannirajapuram Narippaiyur villages of Kadaladi taluka; (ii) Site 2 (designated as alternate Site 1) located at Kondalampatti village in Kadaladi taluka and; (iii) Site 3 (designated alternate Site 2) located at Valinokkam and Siraikulam villages of Kadaladi taluka.
- (2.7.2) The EAC noted that all the three sites are in Ramanathapuram District of Tamilnadu, and **are located within the buffer zone of Marine National Park of the Gulf of Mannar Biosphere Reserve. Further, all the three sites are located within 5.5 km – 11.0 km from biologically rich Coral Reef island ecosystems of the Marine National Park of Gulf of Mannar Biosphere Reserve.** Since all the three sites selected by PP are in the ecologically sensitive area, i.e. within the buffer of Marine National Park and close to biologically rich Coral Reef island ecosystems, the EAC rejected all the three sites proposed by PP for location of TPP and suggested to PP to explore 3 new sites for location of TPP and submit the same to MoEF&CC for further consideration.

- (2.7.3) A copy of the representation received by the EAC was provided to PP for their information and necessary action.

### **3.0 Any other item with the permission of the Chair**

#### **3.1 Bhadradi Thermal Power Project of 1080 (4x270) MW at Villages Ramanujavaram, Eddulabayyaram & Seetharampuram, Mandals Manuguru & Pinapaka, District Khammam, Telangana by M/s Telangana State Power Generation Corporation Ltd. (TSGENCO)**

- (3.1.1) The Order dt. 11.07.2016 passed by the Hon'ble NGT (Southern Zone) in connection with the above proposed project was discussed by the EAC in its last meeting dated 27.07.2016 for compliance to the directions therein. The relevant MoM are as follows:

#### **Quote“**

(3.1.1) On being made aware of certain directions to the EAC (through the MoEFCC) contained in the Order dt 11<sup>th</sup> July 2016 passed by the NGT (Southern Zone) in connection with the proposed 4x270 MW Bhadradi Thermal project, the EAC had desired its Member Secretary to obtain a copy of the said Order and place it before the EAC in its meeting scheduled for today ie 27<sup>th</sup> July 2016. {{This advance action was taken by the EAC keeping in mind the short time frame available to the EAC on account of the fact that (i) as directed by the NGT, its directions are to be complied with within a period of eight weeks from the date of the Order ie by 11<sup>th</sup> Sep 2016, (ii) after the meeting on 27<sup>th</sup> July 2016, the next and last meeting of the EAC has earlier already been scheduled for 29<sup>th</sup> and 30<sup>th</sup> August 2016, and (iii) the tenure of the present EAC expires on 01<sup>st</sup> Sep 2016}}. Accordingly, the MoEFCC placed the Order before the EAC for further action by the EAC on the directions issued to it by the NGT.

(3.1.2) A perusal of the NGT's Order showed that the specific directions to the EAC are contained in paras 36, 37 and 39 of the Order. The first step to be taken by the EAC is contained para 39 (1) of the Order ie “However, the first respondent shall through EAC proceed with the appraisal in which event EAC shall take a preliminary decision as to whether proper impact assessment is possible by virtue of the activities already carried out by the third respondent”. As directed in para 36, this task has to be performed by the EAC “on a spot inspection”. Subsequent action by the EAC is dependent on this first step.

(3.1.3) Accordingly:-

- (a) The EAC constituted a Sub-Committee under the chairmanship of Prof CR Babu, and consisting of the following Members to visit the site :- Shri NK Verma, Shri GS Dang, Shri Shantanu Dixit, a representative of CEA, and concerned representatives of MoEFCC.
- (b) The Sub-Committee members, keeping in view their prior commitments, indicated that they would carry out the site inspection between 17<sup>th</sup> to 19<sup>th</sup> August 2016.
- (c) The EAC requested the Sub-Committee to circulate its report to the EAC latest by 24<sup>th</sup> August 2016, so that it can be taken up during the EAC meeting on 29<sup>th</sup> and 30<sup>th</sup> August, and the EAC can then take further action as directed by the NGT in paras 39 (2) and (3).

- (d) The Sub-Committee requested the MoEFCC to make available to it documents available with MoEFCC, particularly photographs of the earlier site inspections mentioned in the NGT Order, to better appreciate what was the status of work stated to have been carried out at the time of the earlier site inspections.
- (e) As per practice, the MoEFCC was requested to make necessary arrangements for the site visit by the Sub-Committee” **Unquote.**

(3.1.2) Subsequently, the Sub-Committee scheduled the visit during 17-19 August 2016. Shri G. S. Dang could not join the team due to sudden illness. The report of the Sub-Committee **(annexed to this MoM)** was circulated to the EAC prior to this meeting and was deliberated upon at length during this meeting. The EAC inter-alia, noted that one member has made additional observations, and conclusions. The EAC also observed that the above proposal for EC was not placed before EAC and hence, the EAC did not access the EIA/EMP etc.

(3.1.3) The EAC accepted the report and its conclusion by the majority of the members of Sub-Committee. The said conclusion is as follows:

*“In light of above observations, the Sub-Committee is of the view that the ground preparation activities for levelling and grading, excavation of soil for foundation, concreting of foundation and Steel reinforcement therein for some power plant units over an area of just 1.85% of the total area, temporary stacking of soil, Kachcha roads of short distance for movement of vehicles, the temporary storage of materials and machines, and temporary sheds for storage of sensitive instruments and a small substation, a batching plant, office sites, etc. will not form impediment for appraisal of EIA of the project. As reported by PP, the EIA was conducted before the works started at the site and the area disturbed is a minute fraction of the project area which further substantiates that appraisal of the environmental impacts of project can be done. Moreover, the ground preparation and foundations for Power Plant Units have been done as per the layout considered while according ToR. There are no ecologically sensitive areas such as forests, wetlands etc. within the project site and National Parks, Wildlife Sanctuaries/Corridors, archaeological monuments etc. within the study area”.*

### **(3.2) Bridge Linkage by Ministry of Coal (MOC) to proposed Power Plants**

Ref: Office Memorandum of Coal India Ltd. dated 09 May, 2016.

The above O.M issued by Coal India Ltd. in ref. to the MOC O.M.No. 23021/3/2015 dated 08.02.2016 regarding policy guidelines for grant of Bridge Linkage stipulates on P-1 at A. of the minutes of meeting dated 29.04.2016.

A - Bridge Linkage would be issued for a period of 3 years for allocation of respective coal block/mine. Coal quantification would be done by Coal Controller organisation with the available norms based on the grade/s declared by the coal companies.

In this respect, it is well known that i) coal mine development after allocation takes 4-5 years as G.R., etc. have to be done. ii) Power plant commissioning takes at least 4 years after all clearances.

*It is as such suggested that the Bridge Linkage be done for at least 5 years & till coming to production capacity of the coal block/mine allocated. MoEF&CC may consider taking up this issue with MoC.*

As, there being no agenda item left, the meeting ended with a vote of thanks to the Chair. The Member Secretary expressed gratitude to the EAC on behalf of the Ministry and vice-versa as the tenure of this EAC would be completed on 01.09.2016.

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**REPORT ON THE SPOT INSPECTION OF THE PROJECT SITE  
OF 4×270 MW BHADRADRI THERMAL POWER PLANT OF  
M/S TELANGANA STATE POWER GENERATION  
CORPORATION LIMITED (TSGENCO) (M/S BHADRADRI  
THERMAL POWER STATION) AT RAMANUJAVARAM,  
EDULLABAYYARAM AND SEETHARAMPURAM VILLAGES  
OF MANUGURU AND PINAPAKA MANDALS, KHAMMAM  
DISTRICT, TELANGANA**

## **1.0 BACKGROUND:**

The Telangana State Power Generation Corporation Limited (TSGENCO) applied to MoEF&CC for ToR as part of EC for 4×270 MW subcritical Thermal Power Plant to be set up at Ramanujavaram, Edulla Bayyaram and Seetharampuram (H/o Uppaka Panchayath) villages of Manuguru and Pinapaka Mandals of Khammam district in Telangana. The proposed TPP is urgently needed to augment power in the newly carved out State from erstwhile Andhra Pradesh to supply electricity to the farmers for lift irrigation etc.

### **1.1 ToR**

The EAC (T&C) in its 32<sup>nd</sup> meeting held on 23<sup>rd</sup> – 24<sup>th</sup> February 2015 considered the application and deferred the proposal for want of additional information such as minimum two alternate potential sites for setting up of TPP, reduction in land requirement, change in the layout particularly the shifting of location of ash dyke and township and feasibility of adopting supercritical technology in place of subcritical technology.

The project proponent submitted the additional information required by the EAC i.e. justification for the proposed site, and adoption of subcritical technology, besides reduction of land requirement from 1183.24 acres to 936.92 acres and shifting of ash dyke and township as per MoEF&CC . Accordingly, the project was considered again by EAC (T&C) in its 36<sup>th</sup> meeting held on 19<sup>th</sup> – 20<sup>th</sup> May 2016. The EAC recommended ToR for EIA/EMP by prescribing additional ToR besides the standard ToR. The additional ToR include the approval of MoP for subcritical technology, development of 33% area as greenbelt and thick green belt between the road and River and initiation of greenbelt development before starting any construction activity. Accordingly, the MoEF&CC granted ToR for the said project on 23<sup>rd</sup> June 2015. The ToR inadvertently also included the feasibility of examining two alternate sites, and this should be deleted/ amended from the ToR to avoid any confusion in future.

### **1.2 Litigation**

On behalf of the Human Rights Forum, Kanneboina Venkata Narasaiah, General Secretary (Mulakalapalli village, Khammam District, Telangana) filed an application [Application No. 206 of 2015 (SZ)] before the Hon'ble National Green Tribunal (NGT), Southern Zone on 16<sup>th</sup> November 2015 stating that the project proponent started illegal construction works right after granting of the ToR without Environmental Clearance under EIA Notification 2006/2011 and

without public hearing and appraisal with a prayer to direct: (i) the project proponent (Respondent 3) for restoration of the area where the work started, (ii) the officers of the project proponent to be prosecuted for commencing work without approval under Air Act (1981), Water Act (1974) and Environment (Protection) Act 1986 and (iii) the EAC and MoEF&CC should not consider the project and that no further steps in the EIA process be initiated till the areas are restored, action initiated and the project should be examined *de novo*, right from the scoping stage.

The Applicant made three Respondents in the case: Union of India through the Secretary, MoEF&CC (No. 1), Telangana Pollution Control Board (No. 2) and Telangana State Corporation Ltd. (No. 3).

The Hon'ble NGT in its order of 12 December 2015 admitted the application and ordered to issue notices to the respondents & stay the ongoing activities at the site without EC

### **1.3 Responses of Respondents**

The Respondent 3 filed reply on 26 February 2016 denying the allegations made by the Applicant and admitted that, construction activity was initiated before the EC but after granting ToR, after completion of EIA study and the reasons for starting the construction work before EC. In its reply filed by MoEF&CC on 25 February 2016 it stated that, the Applicant also brought to the notice of MoEF&CC about the illegal construction activity without EC and consent, and the site inspection by the Scientist 'C' of the regional office of MoEF&CC, Chennai on 9 January 2016 also confirmed the construction activity undertaken at the site. The Scientist 'C' (Dr. M. T. Karupiah), who visited the Site, submitted a Report which was also filed. The Report mentioned continuation of some of the activities in spite of the stay and the presence of waterbody like structure. The Respondent 3 denied the allegations made by the Scientist 'C' in his Report on the continuation of the construction activities and presence of waterbody through the reply filed on 10 May 2016 along with the comparison of photographs taken and presented by Scientist 'C' on 9.01.2016 and photographs taken and presented by TSGENCO on 03.05.2016 as an evidence that no activity was undertaken after the Court order.

The Respondent 2 stated in its reply filed on 27 May 2016 that on the request of Respondent 3, a public hearing was conducted on 17 March 2016 and the proceedings were submitted to the NGT and also to the Respondent No. 1. It may be noted that, in the public hearing it was brought to the notice of public about the construction activity started and the litigation that stayed the

construction activity. Further one participant (Shri Nageswara Rao) questioned 'why this public hearing was not conducted prior to start of the project works. Is it right to conduct public hearing after stopping the work in response to petition filed in the Court?'

The Respondent No. 2 ordered inspection of the site on 21 May 2016 and an Inspection of the site was conducted by the Environmental Engineer of the Board on 24 May 2016 and the Report was submitted to the Board on 24 May 2016. The Report clearly stated that no activity was observed at the site.

#### **1.4 Judgement of Hon'ble NGT**

After hearing the learned counsels appearing on behalf of the applicant and the respondents and perusal of the voluminous documents and arguments, the Hon'ble NGT passed 29 pages Judgement on 11 July 2016 with the following directions:

*"Accordingly the application stands partly allowed with the following directions:*

- (1) It is not possible to direct the third respondent – project proponent to demolish the structures already put up. However, the first respondent shall through EAC proceed with the appraisal in which event EAC shall take a preliminary decision as to whether proper impact assessment is possible by virtue of the activities already carried out by the third respondent.*
- (2) In the event EAC deciding against the project proponent, the same shall be communicated to the regulatory authority viz., the first respondent which shall pass appropriate orders. Both are to be decided expeditiously by the first respondent in any event, within a period of eight weeks from today.*
- (3) In the event of EAC deciding that the appraisal can be carried on, in spite of the activities carried out by the third respondent, the EAC shall proceed further and complete the process and issue appropriate recommendations to the regulatory authority which shall pass appropriate orders accordingly.*
- (4) Till such orders are passed by the regulatory authority, the third respondent shall maintain status quo in respect of the construction, making it clear that no activity shall be proceeded with till the orders are passed by the regulatory authority.*
- (5) The plea of invoking 'polluter pays' principle is negatived.*

(6) *The authorities competent, including the second respondent shall initiate appropriate penal action against the officials of the third respondent for the violation of EIA Notification, 2006 and Water Act and Air Act and such action shall be initiated within four weeks from today and the prosecution shall be expeditiously completed."*

### **1.5 Constitution of Sub-Committee by EAC**

The EAC in its 60<sup>th</sup> meeting held on 27<sup>th</sup> July 2016 (MoM at **Annexure I**) took note of the Judgement passed by Hon'ble NGT and constituted a Sub-Committee under the chairmanship of Prof CR Babu, and consisting of the following Members to visit the site:- Shri NK Verma, Shri GS Dang, Shri Shantanu Dixit, a representative of CEA, and concerned representatives of MoEFCC. The EAC requested the Sub-Committee to circulate its report to the EAC latest by 24<sup>th</sup> August 2016, so that it can be taken up during the EAC meeting on 29<sup>th</sup> and 30<sup>th</sup> August, and the EAC can then take further action as directed by the NGT in paras 39 (2) and (3).

### **2.0 SITE VISIT:**

The Sub-Committee scheduled the visit during 17<sup>th</sup> – 19<sup>th</sup> August 2016. All the members of the Committee were present except Shri G. S. Dang who could not join the team due to sudden illness.

On 17<sup>th</sup> August 2016, the Sub-Committee met at the Guest House of M/s Singareni Collieries Company Ltd. (SCCL) Kothagudem, and discussed the Judgement of Hon'ble NGT and the representation made by Shri V. Krishna of Human Rights Forum. The Report of the Scientist 'C' of the Regional Office of MoEF&CC, Chennai, the application filed by Human Rights Forum before Hon'ble NGT, the ToR granted and minutes of relevant EAC (T&C) meetings were also discussed.

The members, after detailed deliberations, decided that the core issue is whether the activities undertaken by the project proponent form impediments in the appraisal of the impact assessment or not? The Committee also discussed the kinds of activities undertaken and their impediments, if any, in the appraisal process of Environmental Impact Assessment. The issue on what extent the activities undertaken impacted on the EIA prepared and submitted, and public hearing conducted was also discussed.

On 18<sup>th</sup> August 2016, the Sub-Committee along with the group of Project Site Officials and locals including their leaders, representatives of farmers associations etc. visited the site and undertook intensive surveys by walking a distance of about 15 km in criss-cross manner across the site. Before undertaking the survey, the maps of the project sites considered by EAC at the time of granting ToR and the maps used for the activities undertaken were examined (**Figure 1 & 2**) to ensure that the site where the activities carried out is the same site approved in the ToR.

During the Survey the members visited all the locations where activities were undertaken and walked along the two major streams that pass through the project site (including proposed ash dyke area), and also examined the surface features of the terrain where no activity was undertaken.

The Committee also met and heard to the local MP (Prof. A. Seetaram Naik), MLA (Shri P. Venkateswarlu), and other local leaders/representatives, officers of the revenue department, many farmers & farmer groups, who have given their lands and other locals, who also submitted their requests/representations.

On 19<sup>th</sup> August 2016, the Sub-Committee discussed about the draft of the Report.

### **3.0 OBSERVATIONS:**

The following are the salient observations made on the issues mentioned below:

#### **3.1 Landscape Ecology**

(i) The major landscape features around the project site (within 10 km radius) include River Godavari on the East (0.8 km from the project boundary) and it flows from North to South East direction with respect to the site; Peddavagu on the North which runs from West to North to join River Godavari; Reserve Forest on South West; a large waterbody (Perantala Cheruvu) in the South; and North West are agricultural fields with small waterbodies connected by 2<sup>nd</sup> order channels. There are also some villages, one of which is situated close to the boundary wall along the roadside. There are agricultural fields all around the site (**Figure 2 & 3**).

(ii) The Manuguru–Eturnagaram highway (road) fragments the site and runs from North-West to North-East direction across the site. There is a cart track which runs from south to North and joins the main road of Manuguru–Eturnagaram and it also connects to Sambayya Gudem on

the East after passing along the Perantala Cheruvu and also along a narrow deep depression (small waterbody) located to the North of Perantala Cheruvu (**Figure 3**).

(iii) There are 1<sup>st</sup> and 2<sup>nd</sup> order drainage channels and these essentially drain the project area and paddy fields during monsoon into 3<sup>rd</sup> order stream which discharge its contents into Godavari. Small irrigation canals originating from large waterbodies, besides surface drainage channels also drains the excess water from large waterbodies and paddy fields into 2<sup>nd</sup> and 3<sup>rd</sup> order channels (**Figure 4 & 5**).

(iv) Block II (Ash dyke area) is separated from Block I (plant area) and Block III (Township area) by Manuguru–Eturnagaram road and has a 2<sup>nd</sup>/ 3<sup>rd</sup> order channel originating from South and runs Northwards to join River Godavari and pass through ash dyke and township areas (**Figure 5 & 6**), one 2<sup>nd</sup> order channel originating from the left side and one on the right side of the road join the 3<sup>rd</sup> order stream within the project area; the right side 2<sup>nd</sup> order stream originates from a small waterbody which receives spill over from the Perantala Cheruvu and also the drainage from surrounding paddy fields (**Figure 6**).

In the entire Block II (ash dyke area of 250 acres), no activity was carried out; (**Figure 7**). The township area of 50 acres was provided to Bharat Heavy Electricals Limited (BHEL) for storage of materials and machinery; no earth work was carried out in the area (**Figure 8**) but erected two temporary sheds for storage of sensitive equipments.

(v) There are two 3<sup>rd</sup> order streams passing through the project area. It drains vast tracts of agricultural fields. One originates from Reserve Forest and runs from north-west to eastwards with respect to the site and joins Godavari (**Figure 6**). The stream showed 4 steep meanders within 2 kms and has 10 m wide channel and has a depth of about 10 m from the top of embankments; and it has floodplain of 30-50 m wide (including of both sides) in side project area (**Figure 6**). This stream was not disturbed. A 2<sup>nd</sup> order stream which originates from south of the Block I and on the left side of the Manuguru–Eturnagaram road, enters into Block I through a culvert to join the 3<sup>rd</sup> order stream (**Figure 6**). This nallah and some primary channels were disrupted due to earthworks. This 2<sup>nd</sup> order channel can be easily diverted and should have been done before the earthwork was undertaken. It may be noted that this disruption of some 1<sup>st</sup> order channels and one 2<sup>nd</sup> order channel is not an impediment for the impact assessment, as storm water drainage of the site is not yet put in place and it can be diverted along the periphery of the project site, the design of the same should be a part of appraisal of EAC

(vi) The terrain of the project site is uneven with few scattered shallow depressions also used for paddy cultivation. These may hold water for very short period as the soil is clayey (black cotton). In fact, no water was observed in such shallow depressions but the soil has high moisture content. The entire project area has clayey soil in the top 3 m depth and beneath it is laterite except for some patches where the soil is lateritic clay. There are no waterbodies in project site and the small waterbody located in Block II (ash dyke area) was excluded from the project site and hence no impediment in the appraisal of the environment impact. The absence of waterbodies in the project areas is also evident from the toposheet (**Figure 2**) which clearly shows about 5 extremely small dots representing shallow depressions. It may be noted that the area has irrigation canals, which not only irrigate the fields with water released from large waterbodies but also drains the excess monsoon water from the fields.

(vii) The land use of the project area and its surroundings is predominantly agricultural. Some patches of uncultivated land (common lands) were also observed within the project area. Paddy is extensively grown in the area. It appears that there is only a single crop but areas close to large waterbodies may have potential for two crops depending upon the availability of water for the second crop.

(viii) The vegetation in Block I (plant area) and Block III (township) is mostly composed of weeds usually found in paddy fields and are represented by sedges and grasses. No tree/ shrub were observed except along the two major streams (3<sup>rd</sup> order channels). The Block III, a part of the proposed water reservoir area of Block I and Block II were under paddy cultivation.

### **3.2 Activities undertaken and their likely impediment in the appraisal of environmental impacts of the project:**

(i) The quantitative details regarding the activities undertaken etc. were sought by the Committee. The same have been submitted by the PP and are at **Annexure II**.

(ii) The entire Block II (ash dyke area) of 250 acres was unaltered, i.e. no activity including construction of boundary was undertaken (**Figure 7**) and hence no impediment on the appraisal process of the environmental impacts.

(iii) The Block III of about 50 acres + 9.203 acres outside the project area (township area) was given to M/s BHEL (to which the work of design, engineering manufacture, supply, erection, testing and commissioning of main plant including balance of plant equipment and

civil works for 4×270 MW Bhadradri TPP was awarded) for storage of materials and some earth moving machines, and the BHEL constructed two temporary sheds for storage of sensitive instruments. The BHEL also constructed their office and mess in Block I. Since there is no major earth work in this area, except for movement of vehicles, which might have contributed to dust emission temporarily, and hence no impediment for the appraisal process.

(iv) The earthworks carried out in the Block I did not impact the two major nallahs (streams of 3<sup>rd</sup> order) that runs through the project area, but disrupted abandoned irrigational canals and 1<sup>st</sup> and 2<sup>nd</sup> order drainage channels. Only one 2<sup>nd</sup> order channel was disrupted due to earthwork in Block I (**Figure 4**). This can be diverted to the periphery of the project area with its natural gradient. The storm drainage of the plant area is yet to be designed and this is possible only after levelling and grading of the area. In light of above, there is no impediment in the appraisal process of impacts on the natural drainage. However, the PP can provide the design for the diversion of this channel at the time of appraisal of EIA.

(v) The earthworks involving the cut (upper layer) and filling for levelling and grading in 4 zones of plant area having different contour levels (74 m, 71 m, 69 m and 67 m), the excavation of the foundation of plant units and concreting of the foundation including and Steel reinforcement therein for certain equipments/ machines (**Figure 9**) was carried out. The area excavated, the quantity of concreting of the foundation and reinforcement of Steel and other works are given in **Annexure II**. As reported by PP, a total of 17.288 acres was disturbed out of 936.92 acres, i.e. just 1.845% of the area was disturbed (details in Annexure II). Apart from this, 2 acres of land was used for Batching plant for mixing concrete (no earth work). Two concrete platforms were constructed over an area of 1 acre for stacking heavy equipment. The excavated earth was transported to distances ranging from 100 m to 200 m distance from the site of excavation for dumping within the site. The dumped soil will be used for levelling and grading. The total area under dumps may not exceed 10-acres. These activities might have enhanced the levels of SPM emissions temporarily in the area. It was reported by the PP that the preparation of EIA was completed before the earthwork started and the baseline data was collected much earlier than the work started. This was evident from the dates of work orders placed to M/s Vimta Labs Ltd. and M/s BHEL. In order to avoid the monsoon season, the baseline data on air and water were generated for summer season. Consequently, the above activities carried out by the project proponent in Block I do not form impediment for appraisal of environmental impacts.

(vi) About 9 feet high RCC boundary wall of about 4 km length was erected around Block I. The total length of boundary wall around Block I is 7 km. Along the boundary wall one row of 6-8 feet tall treelets were planted (**Figure 10**). This activity was carried out to secure the land and initiated green belt development as stipulated in ToR. The major green belt activity can be taken up only after levelling and grading of the site is completed. These activities do not form impediment in the appraisal processes.

(vii) The already existing cart tracks within the plant site were used for transportation of soils. Kachha roads were also laid and this internal network of kachha roads laid may be 4–5 km long. This activity does not form any impediment for appraisal processes.

(viii) The erection of electrical substation, storage of materials and machinery, assembling temporary sheds for office sites and storage of sensitive equipment and batching plant (**Figure 11**) do not form any impediment for appraisal, although these activities might have caused temporary enhancement of dust emission in the area.

(ix) With respect to subcritical or supercritical technology, the EAC/MoEF&CC may look into the matter.

### **3.3 Requests/Representations received from the people**

Most of the people who met the Committee including through the representations received have welcomed the project. But some of the farmers losing land for the project have raised issues regarding their livelihood, compensation etc.

## **4.0 CONCLUSION:**

In light of above observations, the Sub-Committee is of the view that the ground preparation activities for levelling and grading, excavation of soil for foundation, concreting of foundation and Steel reinforcement therein for some power plant units over an area of just 1.85% of the total area, temporary stacking of soil, Kachcha roads of short distance for movement of vehicles, the temporary storage of materials and machines, and temporary sheds for storage of sensitive instruments and a small substation, a batching plant, office sites, etc. will not form impediment for appraisal of EIA of the project. As reported by PP, the EIA was conducted before the works started at the site and the area disturbed is a minute fraction of the project area which further

substantiates that appraisal of the environmental impacts of project can be done. Moreover, the ground preparation and foundations for Power Plant Units have been done as per the layout considered while according ToR. There are no ecologically sensitive areas such as forests, wetlands etc. within the project site and National Parks, Wildlife Sanctuaries/Corridors, archaeological monuments etc. within the study area.

However, one member has made additional observations, and conclusions which are annexed as **Annexure III.**



**N. K. Verma**



**Shantanu Dixit**



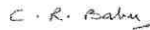
**N. S. Mondal**



**Dr. M. Ramesh**



**Dr. M. T. Karuppiiah**



**Prof. C. R. Babu**

**MINUTES OF THE 60<sup>th</sup> MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER & COAL MINING PROJECTS**

**3.0 Any other item with the permission of the Chair**

- (3.1.1) On being made aware of certain directions to the EAC (through the MoEFCC) contained in the Order dt 11<sup>th</sup> July 2016 passed by the NGT (Southern Zone) in connection with the proposed 4 x 270 MW Bhadradi Thermal project, the EAC had desired its Member Secretary to obtain a copy of the said Order and place it before the EAC in its meeting scheduled for today ie 27<sup>th</sup> July 2016. {{This advance action was taken by the EAC keeping in mind the short time frame available to the EAC on account of the fact that (i) as directed by the NGT, its directions are to be complied with within a period of eight weeks from the date of the Order ie by 11<sup>th</sup> Sep 2016, (ii) after the meeting on 27<sup>th</sup> July 2016, the next and last meeting of the EAC has earlier already been scheduled for 29<sup>th</sup> and 30<sup>th</sup> August 2016, and (iii) the tenure of the present EAC expires on 01<sup>st</sup> Sep 2016}}. Accordingly, the MoEFCC placed the Order before the EAC for further action by the EAC on the directions issued to it by the NGT.
- (3.1.2) A perusal of the NGT's Order showed that the specific directions to the EAC are contained in paras 36, 37 and 39 of the Order. The first step to be taken by the EAC is contained para 39 (1) of the Order ie "However, the first respondent shall through EAC proceed with the appraisal in which event EAC shall take a preliminary decision as to whether proper impact assessment is possible by virtue of the activities already carried out by the third respondent". As directed in para 36, this task has to be performed by the EAC "on a spot inspection". Subsequent action by the EAC is dependent on this first step.
- (3.1.3) Accordingly:-
- (a) The EAC constituted a Sub-Committee under the chairmanship of Prof CR Babu, and consisting of the following Members to visit the site :- Shri NK Verma, Shri GS Dang, Shri Shantanu Dixit, a representative of CEA, and concerned representatives of MoEFCC.
  - (b) The Sub-Committee members, keeping in view their prior commitments, indicated that they would carry out the site inspection between 17<sup>th</sup> to 19<sup>th</sup> August 2016.
  - (c) The EAC requested the Sub-Committee to circulate its report to the EAC latest by 24<sup>th</sup> August 2016, so that it can be taken up during the EAC meeting on 29<sup>th</sup> and 30<sup>th</sup> August, and the EAC can then take further action as directed by the NGT in paras 39 (2) and (3).
  - (d) The Sub-Committee requested the MoEFCC to make available to it documents available with MoEFCC, particularly photographs of the earlier site inspections mentioned in the NGT Order, to better appreciate what was the status of work stated to have been carried out at the time of the earlier site inspections.
  - (e) As per practice, the MoEFCC was requested to make necessary arrangements for the site visit by the Sub-Committee.

\*\*\*\*\*

**Note submitted to the Sub Committee of the MoEF, GoI, New Delhi on (4X270 MW)  
Bhadradi Thermal Power Station, Manuguru (M), Khammam Dist.**

- Purchase order dated 29.11.2014 was placed on M/s. Vimta Labs Limited, Hyderabad for preparation of Comprehensive EIA report on the above project in advance to save the time.
- Form-I and pre-feasibility report submitted to MoEF & CC, GoI, New Delhi on 03.02.2015.
- The proposal was discussed during 32<sup>nd</sup> meeting of the reconstituted EAC (Thermal Power) held on 23<sup>rd</sup> and 24<sup>th</sup> February, 2015 wherein the committee after detailed deliberations directed to optimize the land requirement, revise the plant layout by shifting the ash pond and township, etc.
- Accordingly, revised Form-I duly optimizing the land requirement as per CEA norms to Ac. 936.92 against Ac.1183.24 and revising the plant layout by shifting the location of ash pond and township, was submitted on 16.04.2015.
- The proposal was reconsidered in the 36<sup>th</sup> meeting of reconstituted EAC (Thermal Power) held on 19<sup>th</sup> and 20<sup>th</sup> May, 2015 and recommended for issue of ToR for the above project.
- Terms of Reference (ToR) was issued for the above project vide Lr. No. J-13012/02/2015-IA.1(T), dt. 23.06.2015 by MoEF & CC, GoI, New Delhi.
- Base line data collection/ EIA studies were carried out by M/s. Vimta Labs Limited, Hyderabad during the period from March,2015 to May,2015 in line with Standard Terms of Reference (ToR).
- Draft EIA report including the one complete season data (i.e. pre-monsoon season) was prepared and furnished by M/s. Vimta Labs Limited, Hyderabad to TSGENCO vide their Lr. No. VLL/11/F.15-16/TSPGCL/634, dt.08.09.2015.
- The Letter of Intent for design, engineering, manufacture, supply, erection, testing & commissioning of main plant including balance of plant equipment and civil works for 4 x270 MW Bhadradi Thermal Power Plant was issued to M/s BHEL vide LOI No:CEE/SE-IV/BTPS (4 x270 MW)/D.No:72/15, Dt:21.03.2015 for a value of Rs. 5,044 Crores.

- The Zero date of the project is 21.03.2015 and contract period is 24 months from the zero date and subsequent units to be commissioned with a phase gap of 2 months for each unit. After issue of letter of intent, M/s. BHEL have started packing and forwarding of equipment available from their different manufacturing units to the site and procurement of reinforcement and structural steel materials required for BOP works so as to complete within 24 months.
- The project construction works were commenced in the last week of September, 2015 after completion of Environmental Impact Assessment (EIA) studies and preparation of draft EIA report and submitting of the same to TSGENCO on 08.09.2015.
- The Civil construction works such as earthwork excavation and concreting for civil foundation for certain plant equipment/ Machinery were taken up. The details of the executed quantities are as follows. These works have been carried out from 26.09.2015 to 13.12.2015

S. No.	Name of the equipment/ Foundation	Extent of area (Acres)	Qty. of Earthwork excavation (Cum)	Qty. of Concreting (Cum)	Qty. of Reinforcement Steel (MT)
1.	Power House U#1	1.431	38260	430	119
2.	Power House U#2	1.431	25507	286	80
3.	Power House U#3	1.297	36055	115	59
4.	Power House U#4	1.297	24037	0	0
5.	Boiler & ESP U#1	3.006	97861	1504	180
6.	Boiler & ESP U#2	2.505	53122	410	128
7.	Boiler & ESP U#3	2.809	65241	1003	120
8.	Boiler & ESP U#4	2.34	35414	274	86
9.	Chimney U #1	0.508	13575	127	374
10.	Chimney U #2	0.566	17401	127	302
11.	Switch yard	0.10	1296	---	---
<b>Sub Total</b>		<b>17.288</b>	<b>407769</b>	<b>4276</b>	<b>1448</b>
12.	Material Storage yard	59.203	---	---	---
13.	BHEL Office Building and Mess	0.321	---	---	---
<b>Total</b>		<b>76.913</b>	<b>407769</b>	<b>4276</b>	<b>1448</b>

Total extent of the land for the proposed project : 936.92 Acres

Extent of area in which foundation works carried out: 17.288 Acres

Percentage of area : 1.845 %

- The foundations carried out are below ground level and incomplete. No structures/equipments have been erected.
- All the works of the project have been suspended from 14<sup>th</sup> December, 2015 as per the status quo orders issued by the Hon'ble NGT (SZ), Chennai and the entire project works have come to stand still thereafter.
- No deviation/changes are made in the plot plan approved along with TOR.
- No activity has been taken in the ash pond area.
- No diversion of existing nallahs/streams have been taken up till date.
- Township area to an extent about 55 Acres is handed over to M/s. BHEL for temporary storage of construction materials and balance area is provided within the plant premises. Two temporary sheds are constructed for storage and to safeguard the Controls and Instrumentation (C&I) materials.
- Batching plant is established in 2 Acres of land.
- Two Nos Cement Concrete platforms with an area of 1 Acre are paved for stacking of heavy equipment.
- The plant area is having contour levels varying from 66 m to 74 m above MSL. The total plant area is divided into 4 zones having different levels of 74 m, 71 m, 69 m and 67 m, so that levelling has been carried out to minimise cutting and filling in each zone.
- TSGENCO has deposited an amount of Rs. 50,51,54,153/- towards R&R and exgratia for 751 members to an extent of Government/Assigned land of 1031.19 Acres. Further, the District Revenue Authorities have identified additional beneficiaries of about 200 Nos and requested TSGENCO to deposit an additional amount of Rs. 10 Crores towards R&R.

- During Public Hearing it was assured by TSGENCO that all 346 applicants will be provided employment under land loser quota and also Rs. 50000/- per head has been paid to them for one time resettlement allowance (i.e. for acquiring required qualification).
- TSGENCO has also deposited an amount of Rs. 9,06,47,640/- towards land compensation for patta lands to an extent of land for 148.05 Acres.

*Y. S. Rao*  
18/8/15

SUPERINTENDING ENGINEER/CIVIL  
Bhadradi Thermal Power Station,  
Manuguru - 507117

**Details on various issues as sought by the Sub Committee of the MoEF, GoI, New Delhi on (4X270 MW) Bhadradri Thermal Power Station, Manuguru (M), Khammam Dist after site visit on 18.08.2016.**

- The contour maps of Plant area, Township area and Ash dyke area are already submitted.
- The satellite imageries of the site before and after excavation and also before and after stagnation of rain water in the plant area are not readily available.
- The area of activities taken up in the plant area is 17.288 Acres and that of no activity is 509.00 Acres.
- The name of the activity, extent of area and depth are as follows.

S. No.	Name of the Activity	Length (m)	Width (m)	Depth (m)	Extent of area (Acres)
1.	Power House U#1	96.50	60.00	8.10	1.431
2.	Power House U#2	96.50	60.00	7.10	1.431
3.	Power House U#3	82.00	64.00	7.10	1.297
4.	Power House U#4	82.00	64.00	4.50	1.297
5.	Boiler U#1	82.60	72.469	7.30	1.479
6.	Boiler U#2	80.90	75.287	5.60	1.505
7.	Boiler U#3	82.50	73.656	6.10	1.502
8.	Boiler U#4	80.80	64.881	4.60	1.295
9.	ESP U#1	78.90	78.30	7.10	1.527
10.	ESP U#2	62.262	65.011	4.60	1.000
11.	ESP U#3	74.00	71.50	5.60	1.307
12.	ESP U#4	67.036	63.06	4.60	1.045
13.	Chimney U #1	3.14*(51.20*51.20)/4		8.90	0.508
14.	Chimney U #2	3.14*(54.00*54.00)/4		6.90	0.566
15.	Switch yard	12*6.00*6.00		3.00	0.10
Total in Acres					17.288

- Total Length of compound wall along plant boundary is 7.760 Km. Out of which construction of 4.00 Km length is completed. Height of the compound wall is 2.40 m (9.00 feet) including coping. Balance to be executed is 3.360 Km.

- Total length of internal kutchra roads is 2.29 km.

a) Main road (LXB)	:	960.00 m X 8.00 m -	7680 Sq.m
b) Road along (LXB) Compound wall	:	1330.00 m X 3.00 m -	3990 Sq.m

The area occupied by the roads is 11670.00 Sq.m (2.88 Acres)

- The shortest distance between dug area and over burden dumped area near vagu passing in the plant area is 1.10 Km and the longest distance is 1.60 Km.
- Area occupied by M/s BHEL for temporary storage of construction material in town ship area is about 55.00 Acres and balance area of about 4 acres in plant area.
- Area occupied by the temporary sheds (3 nos of 60.00 m X 18.00 m each) for storing C&I materials in stock yard of M/s BHEL is 3240 Sq m.
- The area of over burden and their height are as follows.

S No.	Location of dump	Area of dump (Sq.m)	Height of dump (M)
1.	Near proposed raw water reservoir (near stream)	24282	15
2.	Near proposed TG Building for units 1 & 2	4333	12
3.	Near proposed TG Building for units 3 & 4	3308	12
4.	Near proposed Unit-4 for boiler & ESP Units 3 & 4	3866	12
5.	Near proposed Unit-1 for boiler & ESP Units 1 & 2	3149	12
6.	Near proposed Chimney-1	2900	6
7.	Near proposed Chimney-2	1697	8

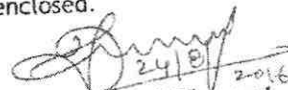
- After completion of civil foundations in the power house area, all the dumped earth will be used for refilling in the foundations.
- Area occupied by the sub station is 35.00 m X 31.50 m i.e 0.272 Acres.
- Two Nos Cement Concrete platforms with an area of 1 Acre are provided for storing of heavy equipment in power house area.
- Area occupied by the site office of TSGENCO with smart cabin is 6.00 m X 3.00 m (i.e. 18.00 Sq.m).

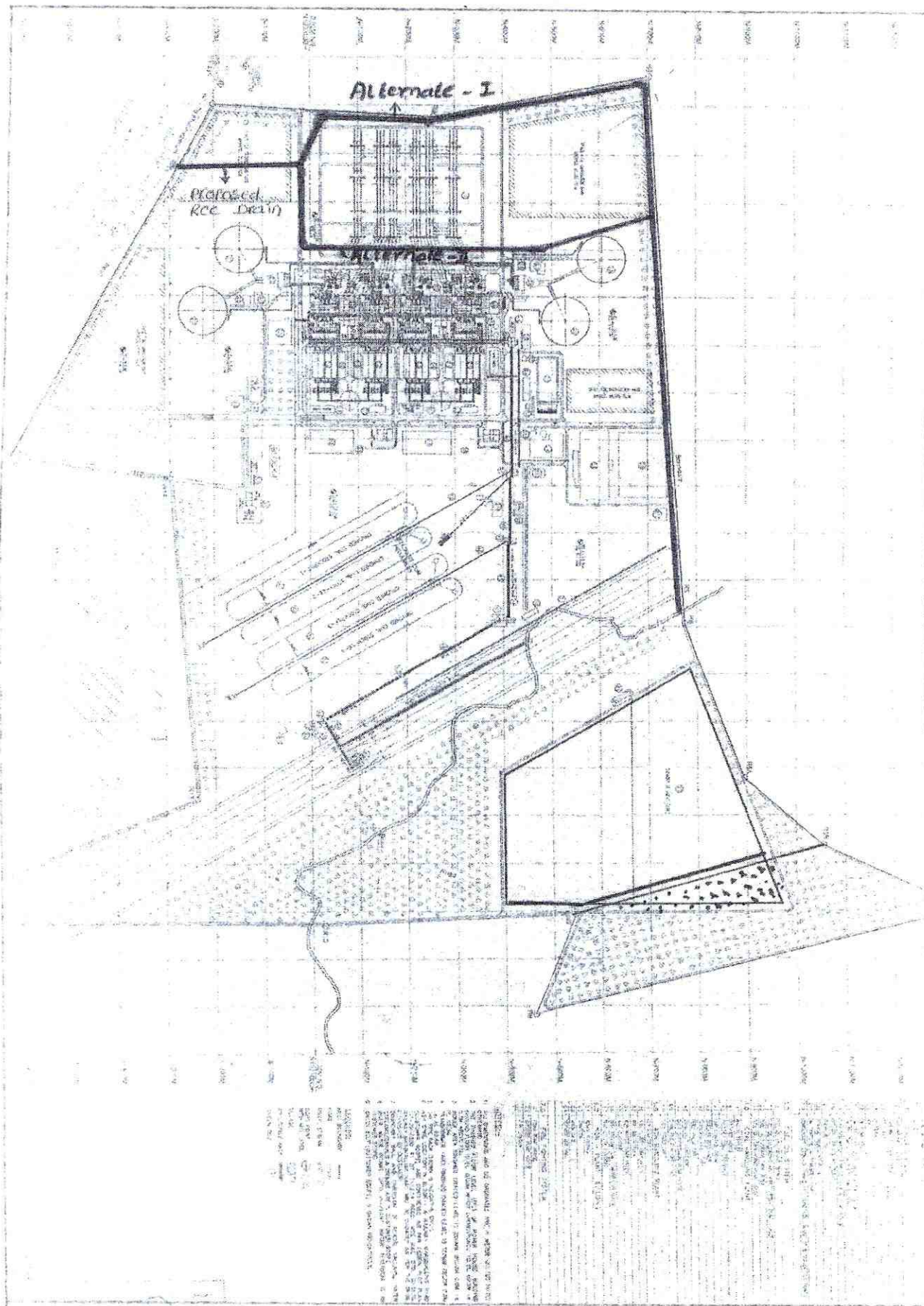
- Total area of 1734 Sqm occupied by BHEL for site office of size (41.00 m X 24.00 m) prefabricated steel structure with plasto crete panel wall and galvalume blue coloured roofing sheet including canteen area of size 25.00 X 30 m with hollow brick wall and galvalume blue coloured roofing sheet and 7 Nos portable smart cabins of different sizes (sintex porta cabin) having area of 500 Sqm. The above sheds are for temporary usage and they will be dismantled after completion of the project.
- Major equipment received at site are
- From BHEL unit, Hyderabad - Generator Stator with rotor ( 2 nos), Mills (20 nos.), Dereator (4 nos.), Heaters, BFP, CEP & other accessories.
  - From BHEL Unit, Tirichy - Boiler Drums (2 nos), Prefabricated Structural steel materials including ceiling girders, headers, tubes & pressure parts panels, valves etc.
  - From BHEL Unit, Haridwar - HP turbines (2 nos), LP turbines (2 nos), IP turbine (1 no) & other accessories.
  - From BHEL unit, Bhopal - HP turbine(1 no), LP turbines (2 nos), IP turbines (2 no), Heaters, Tanks, Condensers & other accessories.
  - From BHEL Unit, PSSR, Chennai - CW piping, LP & power cycle piping & structural steel materials
  - From BHEL unit, Ranipet - ID & FD Fans, APH, ESP materials & other accessories.
  - From BHEL unit, PEM, Delhi - Cable tray, Cables, GI Flats, structural steel materials.
  - From BHEL unit, Jagdishpur - Ceramic bends, Insulator & structural steel materials.
  - From BHEL unit, ISG, Bangalore - Ash water recovery system pipes.
  - From BHEL unit, PSWR, Nagpur - Structural Steel Plates, M.S. Angles, M.S.channels, M.S. Girders, TMT reinforcement steel, etc.)

➤ The percentage of material received at site is as follows.

S No.	Description of material	Total quantity in MT	Received quantity in MT	Balance quantity in MT	percentage
1.	Structural steel	42,000.00	16,250.00	25,750.00	38.60%
2.	Reinforcement steel	38,000.00	11,400.00	26,600.00	30.00%
3.	Plant equipment	1,26,000.00	35,450.00	90,550.00	28.00%

- The Plot plan showing the proposed diversion of drain from main road (Manuguru - Etrurunagaram) to natural drain (maddhula vagu) is enclosed.

  
 Chief Engineer/Civil/Thermal  
 TSGENCO/Vidyut Soudha/Hyderabad



**REPORT ON THE SPOT INSPECTION OF THE PROJECT SITE OF 4x270 MW BHADRADRI THERMAL POWER PLANT OF M/S TELANGANA STATE POWER GENERATION CORPORATION LIMITED (TSGENCO) (M/S BHADRADRI THERMAL POWER STATION) – 17 – 19 August 2016**

**Additional Observations, and Conclusions by Mr. Shantanu Dixit, Member Sub Committee for on the spot inspection and Member, EAC**

These are additional observations to the report of the subcommittee on the spot inspection of the project site.

In addition to the directions and extracts of the Honourable NGT's judgement dt. 11<sup>th</sup> July 2016, reproduced in the subcommittee report, said judgement in para 34, pg 21 also observed

*"34. The question is as to whether by making such preliminary construction activities, the project proponent has made it as fait accompli situation and virtually prevented the EAC from making appraisal which is in the form of Impact Assessment."*

Below is the short summary of important dates and milestones in the process (Table 1) and a short summary (Table 2, Table 3 and Table 4) of the construction activities carried out at the site (as submitted by project proponent – PP)

**Table 1: Important dates and milestones in the process**

Date	Event
03-02-2015	Date of Submission for ToR
24-02-2015	Project considered in 32nd EAC meeting for ToR, solicited additional information
21-03-2015	Letter of Intent to BHEL by TSGENCO for Engineering Procurement & Construction of 4X270 MW power plant based on subcritical technology
March 2015- May 2015	Baseline data collection and EIA study for EIA report by Vimta labs – (Though baseline data has been collected before grant of ToR this is not recorded in Minutes of the meeting of 36 <sup>th</sup> EAC which recommended ToR )
19-05-2015	36 <sup>th</sup> Meeting of EAC and recommended ToR for the project
23-06-2015	MoEF granted TOR
08-09-2015	Draft EIA report done by Vimta labs based on TOR granted (Ref. information submitted to Subcommittee)
26-09-2015	Commencement of construction activities (Ref. information submitted to Subcommittee)
06-10-2015	NGT case applicant's 1st visit to power plant location (Ref. NGT Judgement 11 July 2016)
30-10-2015	NGT case applicant's 2nd visit to power plant location (Ref. NGT Judgement 11 July 2016)
12-12-2015	NGT ordered status quo
14-12-2015	Construction activities suspended - as per PP – ref. information submitted to Subcommittee
09-01-2016	MoEF scientist visited site location
03-02-2016	EIA report submitted to TSPCB

25-02-2016	MoP letter regarding use of subcritical technology
17-03-2016	Public hearing conducted
07-04-2016	NGT ordered MOEF not to proceed with appraisal of the project until further orders
11-07-2016	NGT judgement for EAC to determine feasibility of environmental appraisal
17-19 August 2016	EAC sub-committee visit to Bhadradri TPP

**Table 2 Details of construction activities**

Particulars	Area (Acres)
Excavation and foundation work	17.3
Roads	2.9
Construction material storage (Township area)	55.0
Construction material storage (Plant area)	4.0
Stock yard	0.8
Overburden dumping area (Total) (height about 6 to 15 meters)	10.8
Sub station	0.3
<b>Total area affected</b>	<b>91.0</b>
<b>Total project area</b>	<b>936.9</b>
<b>% of project area affected due to construction activity</b>	<b>9.7%</b>

**Table 3 Details of construction on actual power plant area**

Details	Area (acres)
Area of main power block and auxiliaries (additional information submitted by PP (letter dt 16-4-15 in response to 32 <sup>nd</sup> EAC meeting requirement)	42.8
Extent of construction activities on main power block area (as per PP information submitted to subcommittee)	17.3
<b>% of main power block area under construction</b>	<b>40%</b>

**Table 4 Quantities of excavation, materials used and received at the project site (as per PP information submitted to subcommittee)**

Particulars	Quantity
Earth material excavated	4,07,769 cum
Concreting undertaken	4,276 cum
Reinforcement steel used	1,448 MT
% of structural steel requirement received on site	38%
% of reinforcement steel requirement received on site	30%
% of plant requirement received at site	28%

Based on the above summary tables and information provided in the report of the subcommittee and information provided by PP, which is annexed to the subcommittee report following pertinent observations need to be noted.

- Letter of intent to BHEL was issued on 21<sup>st</sup> March 2015 for plant configuration of 4 x 270 MW subcritical plant, after 32<sup>nd</sup> EAC meeting wherein following additional information was solicited and even before the project was considered by EAC in its 36<sup>th</sup> meeting, based on which ToR was issued by MOEFCC on 23<sup>rd</sup> June 2015.

**Additional information solicited in 32<sup>nd</sup> Meeting of EAC**

*I. Minimum two alternate potential sites on a topo sheet.*

*II. Optimize the land requirement as per CEA norms.*

*III. Revise the Plant layout by shifting the locations of ash pond and township.*

*IV. Examine the feasibility of switching to super-critical technology and accordingly, revise the configuration of proposed Units."(emphasis added)*

- After considering additional information submitted by the PP, in 36<sup>th</sup> Meeting of EAC held on 19 -20<sup>th</sup> May 2015, the EAC recommended grant of ToR. The ToR dt. 23<sup>rd</sup> June 2015 issued pursuant to this recommendation stipulates that *"i) (PP) Shall explore the feasibility of installing Super Critical Technology. If subcritical is proposed, prior approval of MoP shall be submitted. Accordingly the EIA / EMP shall be prepared"* (emphasis added)
- MoP letter regarding use of subcritical technology was issued on 25<sup>th</sup> February 2016, (pg. 333 EIA report dt. April 2016 available on MOEFCC website). As evident from on the spot inspection and information provided by PP, substantial construction activity (covering about 17 acres, i.e. about 40% of main power block and auxiliaries area) (details in Table 3), relating to excavation and foundation for power house, boiler, ESP, Chimney etc. has been carried out as per plant configuration and layout for subcritical 4 X 270 MW technology. As per PP this construction activity was carried out during the period 26<sup>th</sup> September 2015 to 13<sup>th</sup> December 2015 - i.e. before receipt of MoP letter mentioned above.
- MoP letter regarding subcritical technology is dated 25<sup>th</sup> February 2016, but the draft EIA report, submitted to TSPCB on 3<sup>rd</sup> February 2016 for public hearing (i.e. before MoP letter), is based on use of subcritical technology.
- Major equipments such as generator stator rotor 2 nos, boiler drums, HP and LP turbines according to subcritical 4 X 270 MW configuration has been received at project site.
- Letter of intent to BHEL was issued on 21<sup>st</sup> March 2015. As per PP, draft EIA report was completed by 8 September 2015 and construction activity started on 26<sup>th</sup> September 2015, that is nearly six months after the letter of intent (which stipulates commissioning of first unit within 24 months). Construction activity was stopped on 13<sup>th</sup> December 2015 in light of NGT directives. That is total period of construction activity claimed by PP is 79 days. Considering substantial excavation, concreting and steel reinforcement activity (4,07,769 cum excavation, 10.8 acres of overburden dump of height ranging from 6 to 15 meters, 4276 cum of concreting containing

1448 MT of reinforcement steel - see Table 2 & Table 4) that has been carried out, it is necessary to independently assess feasibility and validity of carrying out such construction activity within just 79 days. This is necessary because if the construction activity was carried out before or after this period then it either implies that construction activity was being carried out even before finalisation of draft EIA or it continued even after NGT order dt. 12<sup>th</sup> December 2015. Here it is also pertinent to note that, in response to subcommittee request for satellite imageries, PP has submitted that *"The satellite imageries of the site before and after excavation and also before and after stagnation of water in the plant area are not readily available"*(information submitted by PP to subcommittee)

- The issue of undertaking construction activity before receiving EC was also raised by people during the public hearing.

#### Conclusion:

The construction activity at main power block and auxiliaries has taken place on the basis of plant layout for 4 x 270 MW sub-critical units with significant excavation and foundation work being carried out for ESP, Boiler, and Chimney etc. Admittedly this subcritical plant configuration was committed to even before issue of ToR dt. 23<sup>rd</sup> June 2015 and major construction activity was carried out many months before the MoP letter dt. 25<sup>th</sup> February 2016 and even before public hearing on 17<sup>th</sup> March 2016. This makes it akin to fait accompli and onerous for EAC to conduct proper Impact Assessment and appraisal of the project, specifically on issues such as plant technology / configuration, plant layout, precautions / conditions to be adhered to at the construction stage. Such significant construction activity may also compromise meaningful public hearing regarding the project as scale of construction activity before the public hearing makes it akin to fait accompli.

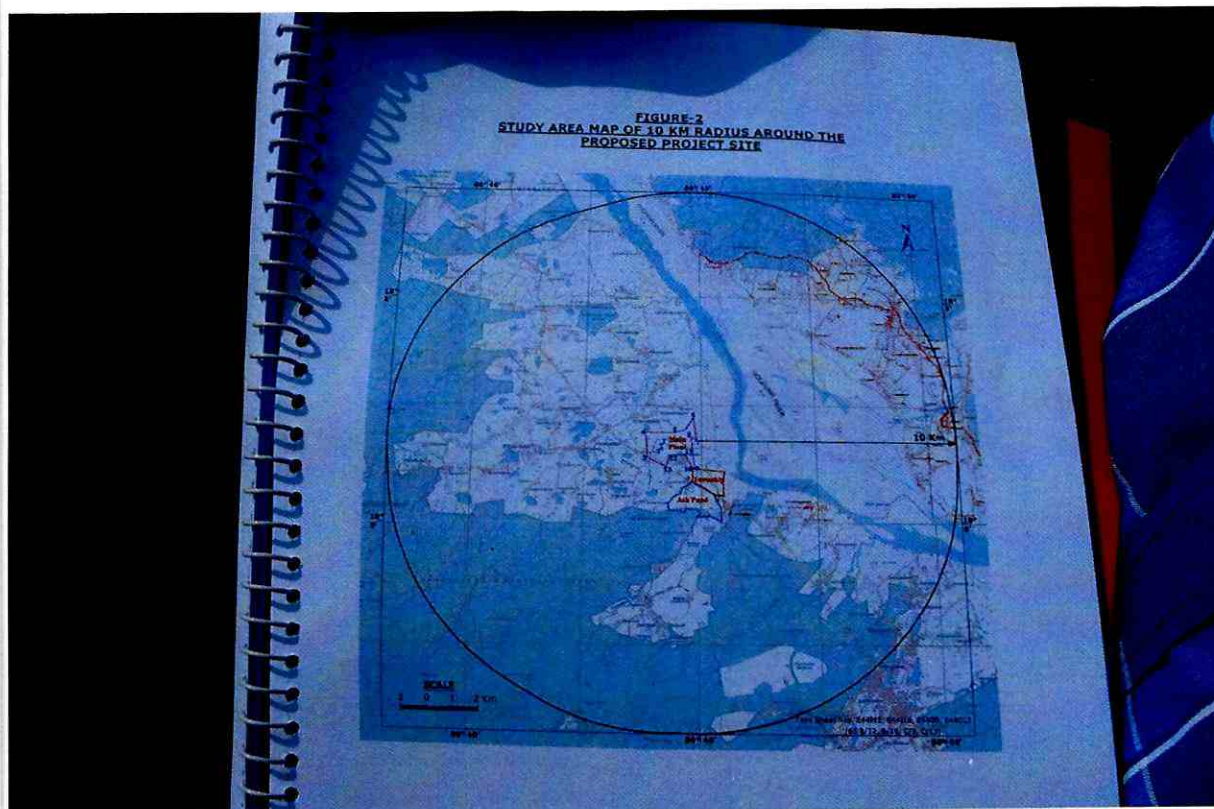


Shantanu Dixit

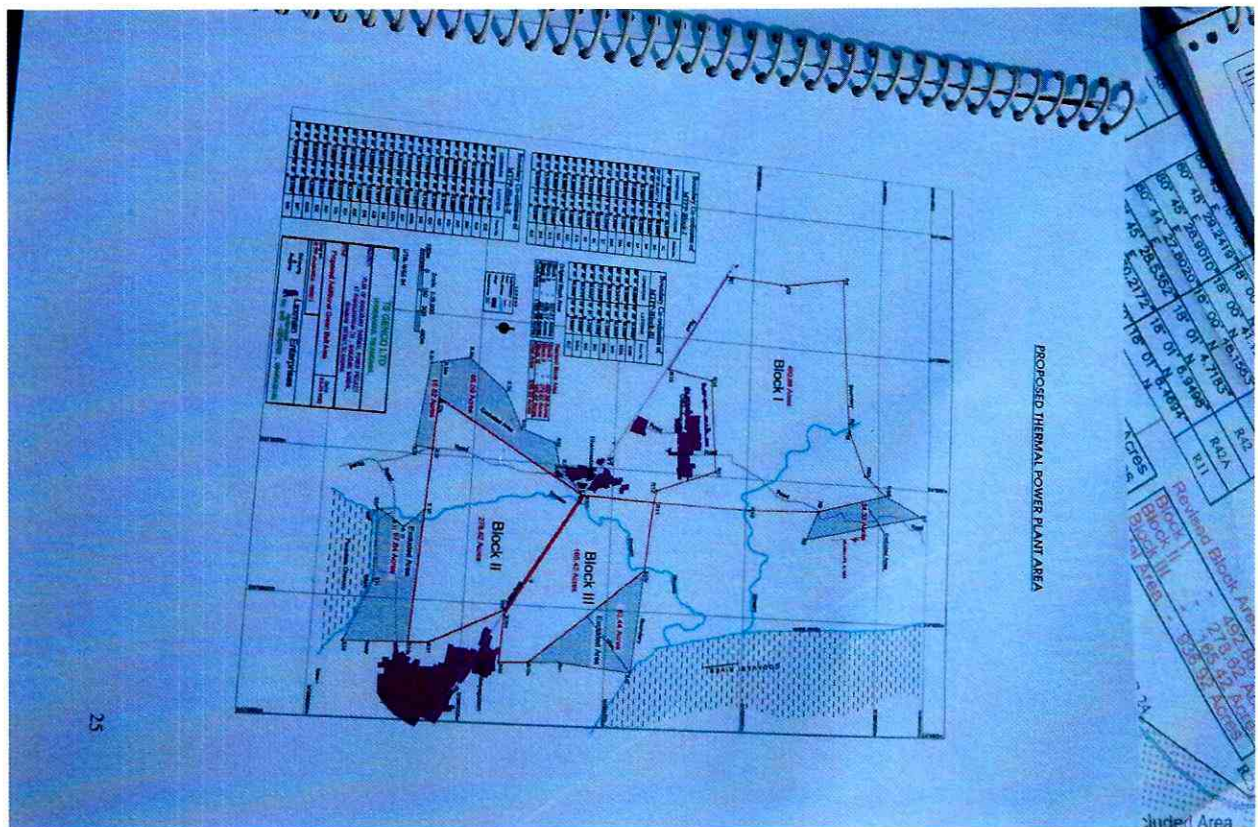
26 Aug 2016



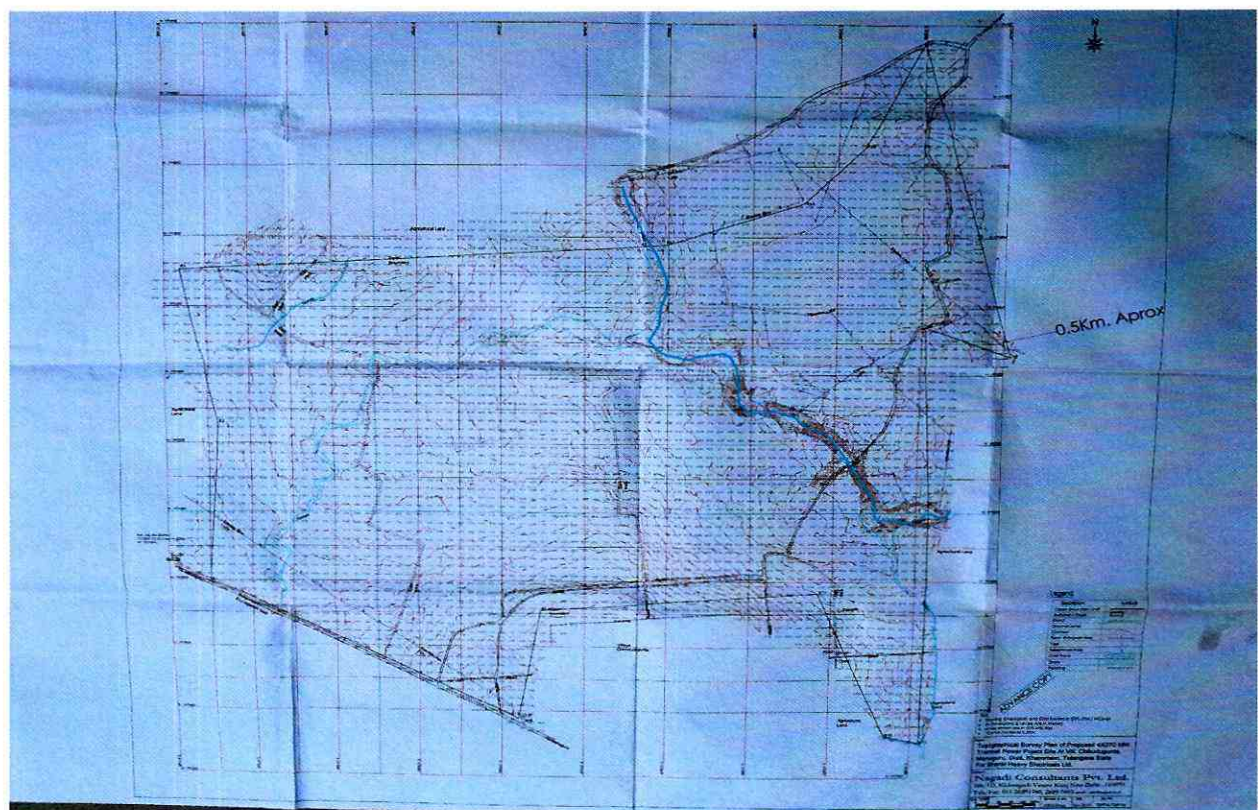
**Figure 1: Entrance at the project site showing, kachha road, part of boundary wall and the team examining the maps.**



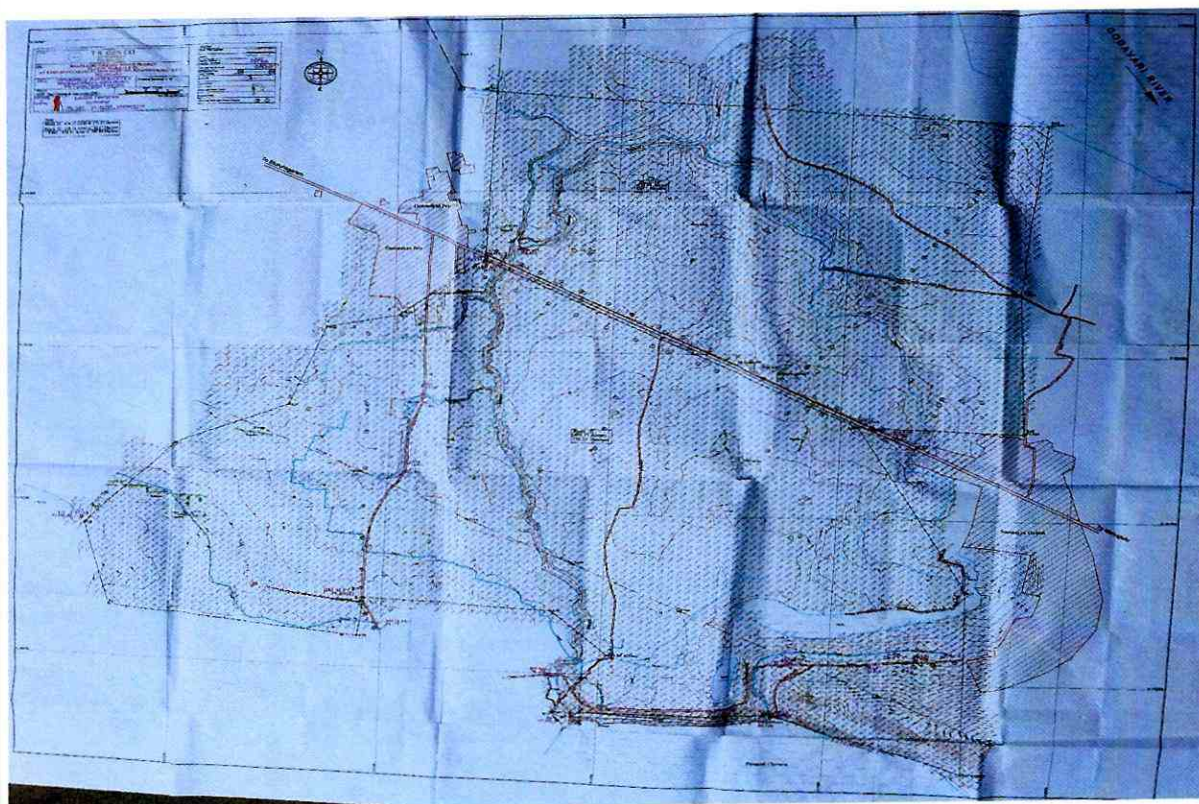
**Figure 2: Toposheet showing the location of the project site and surrounding major landscape features.**



**Figure 3: Map showing the project area and its three blocks.**



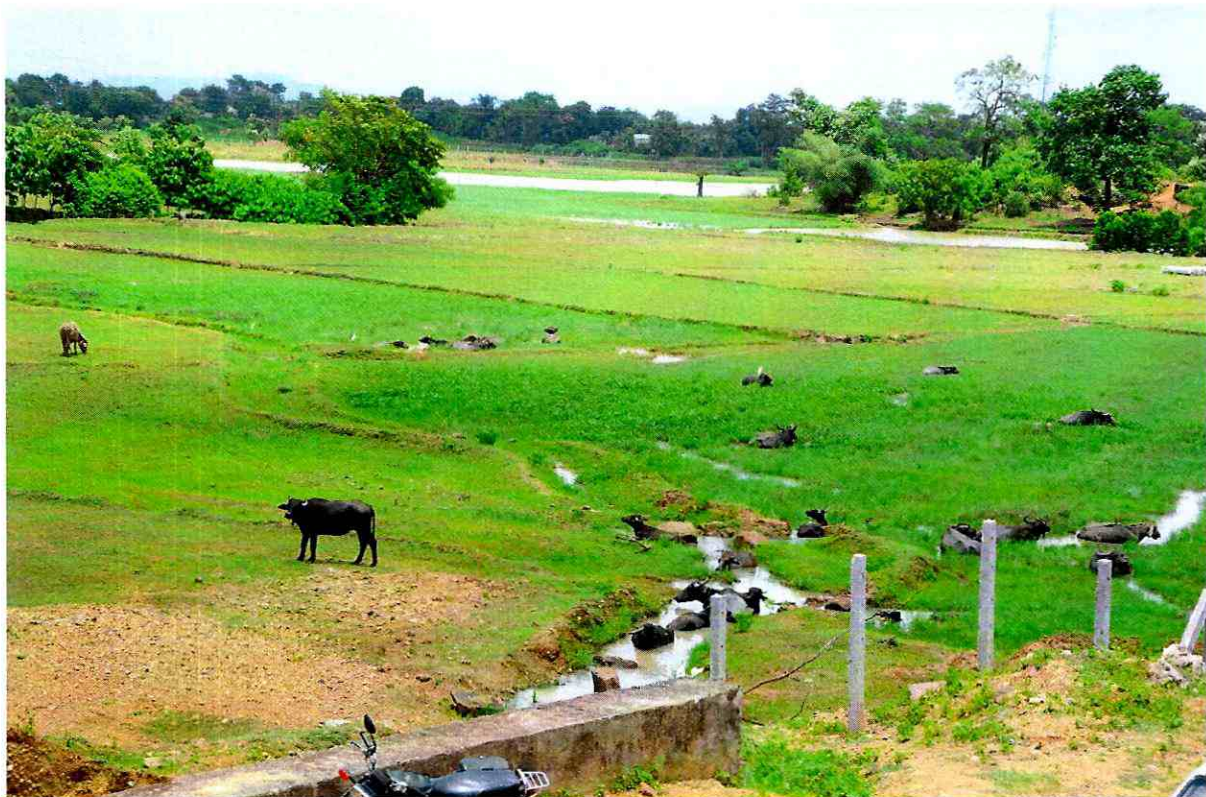
**Figure 4: Contour maps showing the 2<sup>nd</sup> and 3<sup>rd</sup> order channels (streams) passing through the Block I of the project site.**



**Figure 5: Toposheet showing the 2<sup>nd</sup> and 3<sup>rd</sup> order channels (streams) passing through Block II and Block III of the project area.**



**Figure 6: 3<sup>rd</sup> order stream passes through Block I and enters into Godavari.**



**Figure 7: Block II (ash dyke area) showing the unaltered landscape with a small waterbody and 3<sup>rd</sup> order stream passing through the area.**



**Figure 8: Township area used by BHEL for storage of material and machinery.**



**Figure 9: Excavated area for cooling towers which is now holds rain water.**



**Figure 10: Boundary wall along with the rows of trees and kachha road.**



**Figure 11: Temporary sheds made for storing sensitive machinery.**