

**BEFORE THE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

**EXECUTION APPLICATION NO. 9 OF 2023  
in  
APPEAL NO. 15 OF 2020**

M/s. Telangana State Power Generation Corporation Limited  
...Applicant

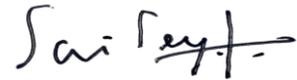
Verses

The Conservation Action Trust & Others  
....Respondents

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Dated at Chennai this the 27<sup>th</sup> day of October 2023



Sai Srujan Tayi  
Counsel for MoEF& CC/1<sup>st</sup> Respondent  
Contact No: 98414 41438  
Mail ID: sai@girisai.com

**BEFORE THE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

**EXECUTION APPLICATION NO. 09 OF 2023(SZ)  
IN  
APPEAL NO. 15 OF 2020(SZ)**

**IN THE MATTER OF:**

M/S. TELANGANA STATE POWER  
GENERATION CORPORATION LIMITED ...APPLICANT

VERSES

THE CONSERVATION ACTION TRUST & OTHERS ....RESPONDENT

**COUNTER AFFIDAVIT ON BEHALF OF MINISTRY OF  
ENVIRONMENT, FORESTS & CLIMATE CHANGE, RESPONDENT NO.**

**3**

I, Shri. Tarun Kathula, S/o Shyamala Rao, aged about 46 years working as Director/ Scientist 'F' in the Ministry of Environment, Forest and Climate Change, having office located at 6<sup>th</sup> Floor, Aranya Bhavan, Saifabad, Hyderabad do hereby solemnly affirm on oath and state as under:

1. That, I am presently working as Director/Scientist 'F' in the office of the Respondent No.1 and as such am well acquainted with the facts and circumstances of the case on the basis of the records available in my office and am thus duly authorized to file this Affidavit on behalf of the Respondent No. 1 herein, i.e. the Ministry of Environment, Forest & Climate Change. Specifically admitted hereunder:
2. That, the instant execution application has been filed for implementation of the final order dated 30.09.2022 passed by the Hon'ble NGT Chennai in the



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Appeal No. 15 of 2020 wherein the Ministry of Environment, Forest & Climate Change was directed to issue additional ToR and conduct public hearing if the project proponent intends to switch over to 100% indigenous coal. The said appeal was filed before this Hon'ble Tribunal challenging the Environmental Clearance (hereinafter referred to as 'EC') granted by the 3<sup>rd</sup> respondent/Ministry of Environment, Forests & Climate Change (hereinafter referred to as 'MoEF&CC') to the applicant viz., M/s. Telangana State Power Development Corporation Limited for their 5 x 800 MW Super Critical Coal-based Yadadri Thermal Power Station ("Yadadri TPS") vide EC Letter No.J-13012/18/2015-IA.I (T) dated 29.06.2017.

3. That, as per the final order dated 30.09.2022 passed by the Hon'ble NGT, the MoEF&CC has been directed to issue additional ToR to the project proponent for the purpose of conducting further studies on the aspect of radio activity impact, sufficiency of the ash ponds and design and maintenance system and the mitigation measures to be taken a fresh in this regard. The Hon'ble NGT further directed that, if the project proponent intends to switch over to 100% indigenous coal, then they will have to conduct further study on this aspect and that can be done only by filing an application before the MoEF&CC for this purpose and if any further ToR is required that also must be issued by the MoEF&CC and the public hearing will have to be conducted and all other procedure to be followed. The operative extract of the order issued by the Hon'ble Tribunal is reproduced below:

*" 74. In the result, the appeal is allowed in part and disposed of with the following directions:*

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...(III) The MoEF&CC is directed to issue additional ToR to the project proponent for the purpose of conducting further studies on the following aspects:-

a. They will have to specify the coal linkage for conducting the study on radio activity impact and they will have to conduct the study on those aspects as directed by this Tribunal in Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.) by Judgment dated 27.05.2021 confirmed by the Hon'ble Apex Court in Civil Appeal No. 1846 of 2021.

b. If the project proponent intends to switch over to 100% indigenous coal, then they will have to conduct further study on this aspect and that can be done only by filing an application before the MoEF&CC for this purpose and if any further ToR is required that also must be issued by the MoEF&CC and the public hearing will have to be conducted and all other procedure to be followed as directed by the Hon'ble Apex Court in Key Stone Realtors Private Limited Vs. Anil V Tharthare & Ors. (Civil Appeal No. 2435 of 2019) as mere amendment of the EC already granted will not be sufficient and this Tribunal also ignored the Office Memorandum issued by the MoEF&CC, Government of India in this regard while considering this issue in Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.) by Judgment dated 27.05.2021 confirmed by the Hon'ble Apex Court in Civil Appeal No. 1846 of 2021.

(IV) While considering these aspects, the MoEF&CC is also directed to issue a direction to the project proponent to conduct additional studies (if any) to be conducted regarding the sufficiency of the ash ponds provided



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*and design and maintenance system that has to be provided and the mitigation measures to be taken a fresh in this regard in view of the discussion and findings made by this Tribunal on these aspects as well.*

*(V) The project proponent is also directed to conduct the Ambient Air Quality Modelling and cumulative impact assessment as directed by this Tribunal in Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.) taking into account the impact of the same taking 25 Km radius as protected area is also available in that area and other industries and villages are also available in that area to assess the actual impact of the same and mitigation measures to be taken in this regard.*

*(VI) The project proponent is also directed in co-ordination with the PCCF & Chief Wildlife Warden, State of Telangana to ascertain the exact distance between the project area and the boundary of the Amrabad Tiger Reserve and if the distance is within 10 Km of default eco-sensitive zone, then they must be directed to obtain necessary Wildlife Clearance from the NBWL as required under the Wildlife (Protection) Act, 1972 and also Office Memorandums issued by the MoEF&CC in this regard.*

*(VII) After obtaining the Wildlife Clearance and after getting the concerned reports as directed, then the EAC is directed to reappraise the project and take independent decision regarding the recommendation or otherwise and intimate the same to the MoEF&CC and on that basis, the MoEF&CC is directed to take appropriate decision in this regard either by imposing additional conditions or other decisions to be taken on the basis of the recommendations made by the EAC and pass appropriate orders in this regard.*



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*(VIII) The entire exercise must be completed by the project proponent and the EAC and the issuing authority within a period of 9 (Nine) months.”*

The copy of the order dated 30.09.2022 is annexed as **Annexure R-1**.

4. That, in compliance of the aforesaid order of the Hon'ble NGT, the matter was taken before the EAC in its 32nd meeting held on 02.11.2022 wherein the EAC while examining the need of repeat public hearing in the case of change in fuel quality and quantity (Imported coal to Indigenous coal) observed the following:

*“Change in source of fuel may not affect the public issues/concerns which have already been considered during appraisal of project for grant of EC, so this may not provide the new information for the estimation of social concerns; however, during reappraisal of the aspects by the EAC, the EAC desired in this specific case a Public Consultation as per the EIA Notification, 2006 be conducted to address the further issues, if any. The PP needs to conduct studies w.r.t. incremental increase in the pollution load and radioactivity studies in the indigenous coal handling as pointed out by the Hon'ble Tribunal in view of the change in the source of coal. As per the data submitted by the PP, there is no change in land area, plant location, influx of population from outer areas etc. Under such circumstances, in place of public hearing the public consultation is recommended for addressing the additional issues, if any. However, MoEF&CC may examine this issue from administrative point of view in consideration with related various Office Memorandums of the MoEF&CC and take appropriate decision in the matter.”*

The copy of the 32<sup>nd</sup> EAC meeting held on 02.11.2022 is annexed as

**Annexure 2.**

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5. That, the matter was examined by the Ministry along with the recommendations/suggestions of EAC and it was observed that there exist no explicit provisions in the EIA Notification, 2006 regarding conducting public hearing in case of change of coal source. Instead, the Office Memorandum dated 11.11.2020 issued by the MoEF&CC provides that all the Thermal power plants (including Captive Power Plants) having EC can change the coal source (from imported to domestic, domestic to domestic, and domestic to imported) including lignite, directly through e-auction/short term linkage/long term linkage/other linkage option of Ministry of Coal or any organization recognized for allotting coal linkage, without seeking the amendment in Environmental Clearance, subject to the certain conditions and thereby making earlier conditions in the EC regarding coal source redundant.

The relevant extract of the OM dated 11.11.2020 is reproduced below:

*“....5. The process of dealing with change in coal source is to apply at PARIVESH, subsequent appraisal by the Expert Appraisal Committee (EAC), processing of EAC recommendations and granting the amendment to the EC. The whole process would approximately take about 2-3 months.*

*6. The various environmental impacts due to change in coal source viz. increased ash quantity and its management, increased emissions, and impacts of transportation have already been addressed and adequate mitigation measures have been stipulated by the Ministry vide notifications dated 7.12.2015, 28.6.2018 and 21.5.2020.*

*7. In order to simplify the procedure for change in coal source and encourage Thermal Power Plants to use domestic coal, the Ministry has decided the following procedure:*

INTEGRATED REGIONAL OFFICE  
Ministry of Environment, Forest and Climate Change  
Aranya Bhavan, Hyderabad, Telangana-500 004.



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*All thermal power plants (including Captive Power Plants) having environmental clearance can change the coal source (from imported to domestic, domestic to domestic, and domestic to imported) including lignite, directly through e auction/short term linkage/long term linkage/other linkage option of Ministry of Coal or any organization recognized for allotting coal linkage, without seeking the amendment in Environmental Clearance, subject to the following conditions and thereby making earlier conditions in the EC regarding coal source redundant:*

- a. *Details regarding change in coal source (location of the source, proposed quantity, distance from the power plant and mode of transportation), quality (Ash, Sulphur, moisture content and Calorific value) shall be informed to the Ministry and its regional Office. The quantity of coal transported from each source along with the mode of transportation shall be submitted as part of EC compliance report.*
- b. *Ash content in the coal and coal transportation is governed by the Ministry's Notification vide S.O. 1561 (E) dated 21.05.2020. As far as possible, coal transportation shall be done by rail/conveyor or other eco-friendly modes. However, road transportation is allowed with tarpaulin covered trucks till the railway/conveyor belt infrastructure is made available. A progress (physical and financial) of rail connectivity from nearest railway siding or conveyor connectivity to the power plant shall be submitted in the EC compliance report.*
- c. *Additional ash pond is not allowed due to increase in ash content in the raw coal as against the ash pond permitted in the Environmental Clearance. The 100% fly ash utilization is to be achieved within 4*



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*years in line with fly ash notifications dated 14.09.1999, 27.08.2003, 3.11.2009 & 25.1.2016 and amended time to time or extant regulations on fly ash utilization.*

- d. *In case of exceptional circumstances, project proponents may approach the Ministry for seeking permission to use an emergency ash pond with cogent reasons, if any.*
- e. *The details regarding monthly generation, utilization, and disposal of fly ash (including bottom ash) shall be submitted to the Ministry and its Regional Office....”*

6. That although, as mentioned in the foregoing para, the sectoral EAC has deliberated on the issue of repeat public hearing in the instant matter, however, this Hon'ble Tribunal vide order dated 30.09.2022 has directed to conduct public hearing in case of change of coal source. The relevant extract of the order in this regard is reproduced hereunder:

*“...If the project proponent intends to switch over to 100% indigenous coal, then they will have to conduct further study on this aspect and that can be done only by filing an application before the MoEF&CC for this purpose and if any further ToR is required that also must be issued by the MoEF&CC and the public hearing will have to be conducted....”*

7. That, in the meanwhile, a matter namely, O.A. No. 74 of 2021 titled as K Saravanan vs Union of India pending before this Hon'ble Tribunal wherein the said OM dated 11.11.2020 was challenged came up for hearing on 24.05.2023. Vide order dated 24.05.2023, the MoEF&CC was directed to revisit the Office Memorandum No. J-13012/8/2009-IA.II (T) dated 11.11.2020 regarding 'Amendment in Environmental Clearance for change

  
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in coal source by Thermal Power Plants' for modifying/sustaining/withdrawing the same. The Hon'ble Tribunal vide its order dated 24.05.2023, has passed the following directions:

*"1. We heard the learned counsels in part. As it is stated that the Office Memorandum under challenge is diluting the conditions already imposed in the Environmental Clearance, it may require a revisit by referring the same to the Expert Appraisal Committee.*

*2. The learned counsel appearing for the MoEF&CC and also the officials from the CPCB as well as the MoEF&CC who are present before us agree to the same.*

*3. Accordingly, we are granting time for them to consider this aspect and to revisit the Office Memorandum for modifying/sustaining/withdrawing the same."*

8. That, in compliance of order dated 24.05.2023 passed by the Hon'ble Tribunal, the MoEF&CC decided to refer the matter to the EAC for further examination of the issues. The EAC discussed the issues involved in the matter in its meetings held on 19.06.2023, 01.08.2023, 16.08.2023, 27.08.2023 and 04.09.2023. Accordingly, after thorough examination of the information received on certain aspects from CEA and detailed deliberations on the findings/analysis report of the sub-committee, the EAC finalized its recommendations.

9. That, in view of the above, after thorough examination, the MoEF&CC has accepted the recommendation of the EAC and accordingly, the OM dated 11.11.2020 is sought to be amended. In this regard, the EAC report has been

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already filed before the Hon'ble NGT, Chennai in the matter OA No 74 of 2021.

Since the compliance of the final order dated 30.09.2022 in the instant matter involves EIA policy intervention w.r.t the OM in question therefore, the MoEF&CC will be in a suitable position to provide further necessary directions to the applicant, (for issuance of additional ToR and other related proceedings as per the directions of the Hon'ble Tribunal), after the decision regarding the OM dated 11.11.2020 in the matter OA No 74 of 2021 is pronounced by this Hon'ble Tribunal.

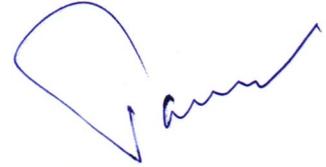
A copy of the OM dated 11.11.2020 and the EAC Report is annexed as **Annexure 3** and **Annexure 4** respectively.

10. That, it is most humbly submitted that the MoEF&CC intends to comply with the directions of the Hon'ble Tribunal with utmost priority, without causing any delay. It is actively pursuing to ensure compliance of the directions however, it is also necessary to consider both the matters holistically and comprehensively by the MoEF&CC, in consultation with the EAC so that the directions of this Hon'ble Tribunal are given effect in letter & spirit.

11. Thus, in view of the fact that the OM dated 11.11.2020 which has been challenged in OA No 74 of 2021 is pending for decision before the Hon'ble Tribunal, MoEF&CC seeks extension of at least 6 months' time (starting from grant of additional ToR and submission of additional information by the Project Proponent and decision by the competent authority) to ensure compliance of the final order dated 30.09.2022 passed in the instant matter.

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Ministry of Environment Forest and Climate Change  
Aranya Bhavan, Hyderabad, Telangana-500 004.

12. That, the answering respondent has taken necessary steps to implement the order passed by the Hon'ble Tribunal and the delay is due to reasons mentioned above and the same is neither intentional nor deliberate.



Tarun Kathula  
**DEPONENT**

Director/Scientist 'F' (C)  
Integrated Regional Office,  
Ministry of Environment Forest and Climate Change  
Aranya Bhavan, Hyderabad, Telangana-500 004.

### VERIFICATION

I, the above-named deponent do hereby solemnly affirm and state that the contents of the aforesaid affidavit are true and correct to my personal knowledge and have been derived from the official records maintained by the Respondent. No part of it is false nor has anything material been concealed therefrom.

Verified at Hyderabad on this 26<sup>th</sup> day of October, 2023.



**DEPONENT**

Tarun Kathula

Director/Scientist 'F' (C)  
Integrated Regional Office,  
Ministry of Environment Forest and Climate Change  
Aranya Bhavan, Hyderabad, Telangana-500 004.

**BEFORE THE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

*(Through Video Conference)*

**Appeal No. 15 of 2020 (SZ)**

**IN THE MATTER OF**

**The Conservation of Action Trust**  
5, Sahakar Bhavan, 1<sup>st</sup> Floor, LBS Road,  
Narayan Nagar, Ghatkoper (W),  
Mumbai - 400 086  
Rep. by its Executive Trustee  
Mr. Debi Goenka and Anr.

...Appellant(s)

*Versus*

**The Union of India**  
Ministry of Environment, Forest & Climate Change  
Through its Secretary  
Paryavaran Bhawan,  
CGO Complex, Lodhi Road,  
New Delhi - 110 003 and Ors.

...Respondent(s)

For Appellant(s): Mr. Ritwick Dutta along with  
Mr. G. Stanley Hebzon Singh.

For Respondent(s): Mr. G.M. Syed Nurullah Sherriff for R1.  
Mrs. H. Yasmeen Ali for R2.  
Mr. T. Sai Krishnan along with  
Ms. J. Dayana for R3.  
Mr. J. Ramachandra Rao, Addl. Adv. General  
along with Mr. Y. Ramaroa,  
Mr. B. Lakshminarasimhan and  
Mr. Y. Sai Sankalp for R4.

**Judgment Pronounced on: 30<sup>th</sup> September 2022.**

**CORAM:**

**HON'BLE Mr. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER**

**HON'BLE Dr. SATYAGOPAL KORLAPATI, EXPERT MEMBER**

**ORDER**

Judgment pronounced through Video Conference. The appeal is disposed of with directions vide separate Judgment.

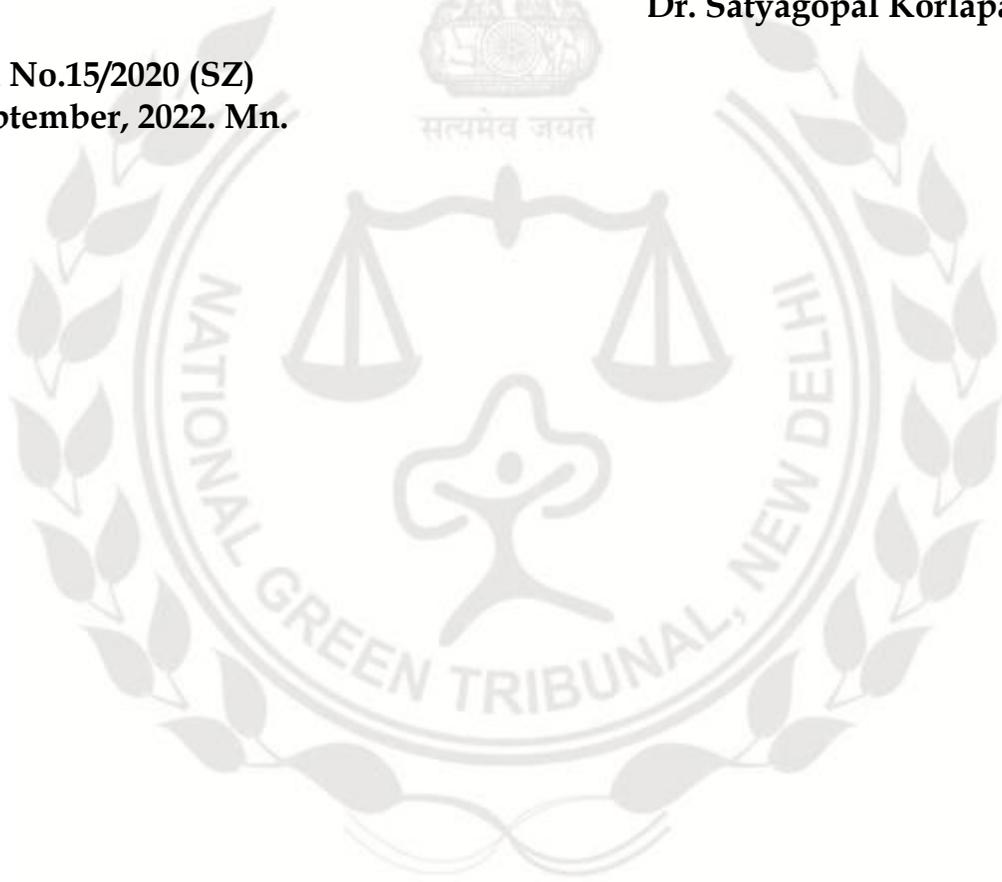
Pending interlocutory application, if any, shall stand disposed of.



Sd/-  
Justice K. Ramakrishnan, J.M.

Sd/-  
Dr. Satyagopal Korlapati, E.M.

Appeal No.15/2020 (SZ)  
30<sup>th</sup> September, 2022. Mn.



**NGT**

**BEFORE THE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

*(Through Video Conference)*

**Appeal No. 15 of 2020 (SZ)**

**IN THE MATTER OF**

**1) The Conservation of Action Trust**

5, Sahakar Bhavan, 1<sup>st</sup> Floor, LBS Road,  
Narayan Nagar, Ghatkoper (W),  
Mumbai - 400 086  
Rep. by its Executive Trustee  
Mr. Debi Goenka.

**2) Samata**

Through its Executive Director  
R. Ravi  
Dabbanda Vill, Gandigundam PO,  
Mamidilova Panchayat  
Anandpuram Mandal  
Visakhapatnam - 531 173  
Andhra Pradesh.

...Appellant(s)

*Versus*

**1) The Union of India**

Ministry of Environment, Forest & Climate Change  
Through its Secretary  
Paryavaran Bhawan,  
CGO Complex, Lodhi Road,  
New Delhi - 110 003.

**2) State of Telangana**

Department of Environment, Forests, Science & Technology  
Through its Secretary  
D Block, 2<sup>nd</sup> Floor, Secretariat Building  
Hyderabad, Telangana - 500 022.

**3) Telangana State Pollution Control Board**

Represented by the Member Secretary  
Vidyut Soudha, Khairatabad Road  
Somajiguda, Hyderabad  
Telangana - 500 004.

**4) M/s. Telangana State Power Development Corporation Limited**

Vidyut Soudha, Khairatabad Road  
Somajiguda, Hyderabad  
Telangana - 500 004.

...Respondent(s)

For Appellant(s): Mr. Ritwick Dutta along with  
Mr. G. Stanley Hebzon Singh.

For Respondent(s): Mr. G.M. Syed Nurullah Sherriff for R1.  
Mrs. H. Yasmeen Ali for R2.  
Mr. T. Sai Krishnan along with  
Ms. J. Dayana for R3.  
Mr. J. Ramachandra Rao, Addl. Adv. General  
along with Mr. Y. Ramaroa,  
Mr. B. Lakshminarasimhan and  
Mr. Y. Sai Sankalp for R4.

**Judgment Reserved on: 22<sup>nd</sup> July 2022.**

**Judgment Pronounced on: 30<sup>th</sup> September 2022.**

**CORAM:**

**HON'BLE Mr. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER**

**HON'BLE Dr. SATYAGOPAL KORLAPATI, EXPERT MEMBER**

Whether the Judgment is allowed to be published on the Internet - Yes.

Whether the Judgment is to be published in the All India NGT Reporter - Yes.

### **J U D G M E N T**

*Delivered by Justice K. Ramakrishnan, Judicial Member*

1. The above appeal has been filed challenging the Environmental Clearance (EC) granted by the 1<sup>st</sup> respondent/Ministry of Environment, Forests & Climate Change (*hereinafter referred to as "MoEF&CC"*) to the 4<sup>th</sup> respondent viz., M/s. Telangana State Power Development Corporation Limited for their 5 x 800 MW Super Critical Coal-based Yadadri Thermal Power Station (*hereinafter referred to as "Yadadri TPS"*) vide their Proceedings Letter No.J-13012/18/2015-IA.I (T) dated 29.06.2017, evidenced by Annexure - A1.

2. The first appellant who is the public charitable trust registered under the Bombay Public Trusts Act, 1950 and the second appellant who is the registered organization that has been working on issues concerning environment, tribal and rural communities for the last few decades and the appellants' organization have been instrumental in raising important issues before the Courts including the National Green Tribunal and the resolutions authorizing the appellants No.1 & 2 of their representative organization to represent before this Tribunal were produced as Annexure - 2 (Series).
3. It was alleged in the appeal memorandum that the Yadadri TPS proposes to add 5 super critical units of 800 MW each, with a total capacity of 4000 MW using blended coal (50% Indigenous and 50% Imported Coal) or 100% Imported coal, as an estimated coal requirement of 12.205 MTPA @ 85% PLF (blended coal)/11.02 MTPA @ 85% PLF (imported coal) for the purpose of collecting ash pond of 400 Acres have been proposed within the project site adjacent to the Krishna River and Tungapahad Vagu which is a tributary of the Krishna River passes through the proposed project site. The total extent of the land required for the project to be estimated 2800 Acres, of which, 2095.28 Acres of forest land falling under Veerapalem Reserved Forest and 704.12 Acres consists of patta land, Government land, Udafa patta land and D - Patta land in Veerappagudem and Veerlapalaem Village, Damercheral Mandal, Nalgonda District, Telangana State which is partly under cultivation. Nagarjuna Sagar Tiger Reserve (Amrabad Tiger Reserve) is situated at a distance of 14.03 Km South West and interstate boundary of Telangana and Andhra Pradesh at 0.8 Km South East. There are atleast four Schedule - I species in the project area viz., the Indian Peafowl, Indian Python, Monitor Lizard and Indian Softshell Turtle.
4. It was further alleged in the appeal memorandum that Tungapahad Vagu passes through the Krishna River is just 0.5 Km South of the proposed project site. The Musi River is 7.4 Km East from the proposed project site. The water requirement of the project is 10,000 m<sup>3</sup>/hr (or 2.4 lakhs m<sup>3</sup>/day - 97.8 Cusec - 3.10 TMC per year) and is proposed to be met from the

River Krishna. The Government of the Telangana, Irrigation and CAD Department vide their letter dated 30.01.2015 have allocated 208 Cusec of water (6.6 TMC/year) from the river Krishna which is more than double requirement of the proposed project. There were about 173 families and another 413 families which are likely to be affected or displaced on account of the establishment the project. The green belt is proposed to develop in 1,352 Acres which will include restoration of forest area of 1,049 Acres and development of greenbelt in non-forest area of 303 Acres. The cost of the project is estimated to be Rs.25,099.42 Crores. According to the revised EIA Report, the budget of Rs.5,597 Crores (capital) and Rs.430 Crores/Annum (recurring) has been earmarked for environmental protection measures. The 1<sup>st</sup> respondent had granted the requisite approval under the Forest (Conservation) Act, 1980 for this project on 27.04.2015 (Stage - I) and 07.07.2015 (Stage - II) and the Environmental Clearance was issued for diversion of 1,892.35 Ha. (4676.1 Acres of 4334.01 Ha. or 10,709.57 Acres) for the establishment of coal-based Thermal Power Station of capacity 4400 MW at Veerlapalem Village and 2400 MW at Dilawarpur Village of Dameracherla Mandal in Nalgonda District, evidenced by Annexure - A3/ Stage - II approval granted. There were lot of discrepancies in the description of land of the project for which clearance was sought for. They required building of railway line from Vishnupuram Railway Station to the project site, for which, the environmental impact of this corridor has not been included in the EIA and nothing was mentioned as to whether the Indian Railway has agreed for the same. The environmental and ecological impact of the transmission lines that will be required to evacuate the power from this proposed project has also not been examined or assessed. There are lot of industries functioning and proposed industries within 15 Km radius of the proposed project which was detailed in the EIA Report which was reproduced in the appeal memorandum as follows:-

Table - 4.3  
OPERATING AND PROPOSED INDUSTRIES WITHIN 15 KM RADIUS

	Distance (km)	Direction	Capacity		
			Cement Plant (MTPA)	Captive Power plant (MW)	Captive Limestone Mines (MTPA)
<b>Operating industries in 15 km radius</b>					
India Cements Limited	4.8	E	4.275	55	3 mines Mine-1:1.4 Mine-2:1.4 Mine-3:1.85
Parasakti Cements	8.0	SW	2.26		3.5
Panna Cements	9.6	ENE	1.00	77	1.50
Deccan Cements	11.3	E	1.5	15	2.3
Andhra Cements	11.7	SE	2.31	30	3.0
<b>Proposed industries in 15 km radius</b>					
TSGENCO	0	0	-	4000 MW	-
Krishna Godavari Power Plant (Not commissioned)	4.5	SE	-	60 MW (Independent Power Plant)	
My Home Industries Ltd Plant (Green field project)	11.9	ESE	2.5	-	4.0

5. It was further alleged in the appeal memorandum that the project proponent had applied for ToR on 19.09.2015 and even at that time of filing this appeal, the Form - I application as required under the EIA Notification is not available on the 1<sup>st</sup> respondent's website. The EAC (Thermal) has considered the proposal in its 45<sup>th</sup> Meeting held on 29<sup>th</sup> - 30<sup>th</sup> October 2015, wherein it was observed that a tributary of the River Krishna (Tungapahad Vagu) passes through the project site. It was decided that a visit by a Sub Committee would be required to ascertain the situation on the ground and the relevant pages of the Minutes of the 45<sup>th</sup> Meeting of the Reconstituted EAC held on 29<sup>th</sup> - 30<sup>th</sup> October 2015 was produced as Annexure - A4. The Sub Committee visited the site on 05.12.2015 and the standard ToR was granted before the visit of the Sub Committee vide their letter No.J-13012/18/2015 - IA. I(T) dated 02.11.2015 and additional ToR was granted vide letter No.J-

13012/18/2015 - IA.I(T) dated 16.02.2016. The copies of the letter dated 02.11.2015 and relevant pages of the minutes of the 50<sup>th</sup> Meeting of the Re-constituted EAC held on 28<sup>th</sup> - 29<sup>th</sup> January 2016 containing the original ToRs and recommending additional ToRs were produced as Annexure - A5 to A7 respectively. The project proponent had hired M/s. Bhagavathi Ana Labs Private Limited as environmental consultants to carry out the EIA / EMP Studies and prepare a report accordingly. The public hearing was held on 31.05.2016 and the proposal for the project had come for consideration in the 59<sup>th</sup> Meeting of the Reconstituted EAC (Thermal) held on 14<sup>th</sup> - 15<sup>th</sup> 2016, wherein it was observed that all background documents had not been provided and the consideration of proposal was deferred. The project was further deferred in the 63<sup>rd</sup> EAC Meeting held on 29<sup>th</sup> - 30<sup>th</sup> August, 2016 at the request of the project proponent. Thereafter, during 63<sup>rd</sup> EAC meeting held on 29<sup>th</sup> - 30<sup>th</sup> August, 2016, it was found that there were major shortcomings in the preparation of the final EIA/EMP. The EAC received several complaints pertaining to irrelevant content and absence of crucial site and plant specific analysis pertaining to risk assessment, disaster management, FGD in plant layout, water withdrawal and availability, among other things. It was also observed that the EIA Report is nothing but plagiarism and cannot be accepted. The EAC had recommended that the EIA be revised in light of the same. The copy of the relevant extract of the minutes of the 63<sup>rd</sup> EAC Meeting held on 29<sup>th</sup> - 30<sup>th</sup> August, 2016 was produced as Annexure - A8. The contract with M/s. Bhagavathi Ana Labs Pvt. Limited was terminated and new consultant viz., M/s. B.S. Envi Tech Private Limited was engaged for revising the EIA Report. The revised EIA Report was considered in the 1<sup>st</sup> Meeting of the Reconstituted EAC (Thermal Power) held on 28.12.2016, wherein the EAC recommended the proposal to be exempted from re-conducting a public hearing subject to certain conditions concerning baseline data and uploading of the Revised EIA/EMP on SPCB website for a period of three weeks, seeking public comments. The decision was communicated to the project proponent on 22.02.2017 and the relevant pages of the minutes of the 1<sup>st</sup> meeting of the Reconstituted EAC (Thermal Power) held on 28.02.2016 and letter dated 22.02.2017 were produced as Annexure A9

and A10 respectively. Pursuant to the same, the SPCB uploaded the revised EIA Report on 01.02.2017 for the public comments for three weeks and a notice was published in Namasthe Telangana (Telugu Daily) and The Hindu (English daily) to invite the public comments/suggestions on the same within three weeks. Only four public representations were received and the project proponent submitted the revised final EIA/EMP report on 03.04.2017. The EAC recommended the project to grant EC in their 5<sup>th</sup> Meeting of the Reconstituted EAC (Thermal Power) held on 26.04.2017, evidenced by Annexure - A11. Based on that the impugned Environmental Clearance was granted by the 1<sup>st</sup> respondent.

6. The impugned Environmental Clearance was challenged on the following grounds:-

5.1 There were discrepancies between the FC and the impugned EC regarding the nature of project for which the FC was sought and the nature of project for which the EC was sought and there was no specific bifurcation of the land required for each project. They have given the breakup components of the land required in the FC application as follows:-

<i>Component wise breakup</i>				
<i>Sl. No.</i>	<i>Component</i>	<i>Forest Land (ha.)</i>	<i>Land</i>	<i>Non-forest Land (ha.)</i>
1.	<i>C-Station-Dilawarpur (3 x 800 MW)</i>	954.27		0
2.	<i>Future Expansion for Solar Power Plant at Dilawarp</i>	725.13		0
3.	<i>Township at Gangadevigattu</i>	264.87		0
4.	<i>Future Expansion for Solar Power Plant at Veerlapa</i>	624.28		0
5.	<i>A-Station-Veerlapalem (2 x 600 MW)</i>	475.11		0
6.	<i>B-Station-Veerlapalem (4 x 800 MW)</i>	1272.35		0

5.2 Further, the siting criteria for the power projects issued by the MoEF&CC were not followed in this case. As per the general siting factors, in any particular selected site, the following factors must also be recognized, "No forest land shall be used for non-forest activity for the sustenance of the industry." The guidelines of Central Electricity Authority, Government of India for site selection of coal-based thermal power stations, following things were mentioned

*“First priority is given to the site those are free from forest, habitation and irrigated/agricultural land. Second priority is given to those sites that are barren i.e. wasteland, intermixed with any other land type, which amounts to 20% of the total land identified for the purpose.”* The guidelines for site selection of coal-based thermal power station set by the MoEF&CC was as follows: *“Location of thermal power stations are avoided within 25 Km of the outer periphery of the following: a) metropolitan cities, b) National Park and Wildlife Sanctuaries c) Ecologically sensitive areas like tropical forest, biosphere reserve, important lake and coastal areas rich in coral formation. Forest or prime agricultural lands are avoided for setting up of thermal power houses or ash disposal.”* Neither the EAC/FAC nor the MoEF&CC had considered these aspects and commented anything about the site selection for this project but against the guidelines it was issued. The Google Earth Image dated 18.02.2016 showing the location of 2,800 Acres, 5 x 800 MW Yadadri TPS on the 4676.1 Acres of land mentioned in the FC was produced as Annexure - A12. There was no explanation given as to why this area has been considered. This aspect was raised by one G. Mohan, State Secretary and N. Harinder, General Secretary, Human Rights Forum, Nalgonda, Telangana by sending representation and the same was replied by the project proponent as follows:-

Sl. No.	Query Raised	TSGENCO Response
22.	Why have you obtained Forest Clearance to the extent of about 4,800 Acres when the land requirement for the project is only about 2,800 Acres? What is the purpose of acquiring such huge amount of land?	Forest Clearance obtained with a view to establish 6800 MW Plant. Now, it is proposed to establish 4000 MW in first phase and 2800 MW in second phase as an expansion project.

- 5.3** The work for this project was started even in August 2015 after the issuance of Stage - II, but long before the impugned EC granted. The copy of the newspaper report dated 17.08.2015 projecting this issue was produced as Annexure - A13. The office memorandum of the 1<sup>st</sup> respondent dated 27.06.2013, under which the project that has commenced construction prior to grant of EC, the work needs to be suspended till the EC is obtained. If the project had

commenced preparation work without obtaining EC action should have been taken under the EIA Notification, 2006, Environment (Protection) Act, 1986, Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 but that was not done.

**5.4** Even in the recommendation portion, the team which inspected had categorically stated about the less density of forest in that area and necessity for improving the forest cover and suggested to avoid diversion of forest land in those areas. But in spite of that they have selected this area. Further, the site selection process was also not proper as there is no proper alternate site suggested and reason for selecting this was also not correctly mentioned. A reading of the reasoning's given by them will go to show that they have selected two places as alternate site which cannot otherwise be recommended knowing that it will not be recommended and it is not fit and they have selected this land even long prior to the application for EC and the EIA Consultant has no role in preferring the site. Further, this land was identified by the Hon'ble Chief Minister by aerial visit and that will not be sufficient for identifying the land as fit for this purpose. Further, since the Hon'ble Chief Minister has involved in this matter for site selection and approved the site, there is no possibility of the state officials going against the directions of the Chief Minister and the decision itself was taken on 'dictating terms' of the Chief Minister and as such, there is no proper appraisal. The copy of the relevant pages of the EIA Report regarding the site selection was produced as Annexure - A14.

**5.5** The impact of the project on the sanctuary etc. were not correctly considered. The copy of the justification note provided for the site selection was produced as Annexure - A15. The site was selected against the siting criteria given by the Central Electricity Authority by their notification issued under Section 177 of the Electricity Act, 2003, where ecologically or other sensitive area within 5 Km should be avoided, coastal area must be about half a kilometre away from

the HTL and flood plain for riverine system has to be avoided by providing 500 Meters distance. The Subcommittee appointed as per the decision of the 45<sup>th</sup> Meeting of the EAC held on 29<sup>th</sup> - 30<sup>th</sup> October 2015 also mentioned about the nature of the land, evidenced by Annexure - A16. These things have not been properly considered and the EIA Report was silent about all these aspects. So, there is no proper application of mind.

- 5.6 Further, the EIA Report submitted by M/s. Bhagavathi Ana Labs Private Limited was not accepted by the EAC and they wanted to have a revised report alleging that most of the datas given are not reliable and it was a copy-paste report and on that basis, they have terminated the services of M/s. Bhagavathi Ana Labs Private Limited and entrusted M/s. B.S Envi Tech Private Limited for that purpose and they have conducted the EIA study and prepared a draft EIA Report and that was submitted before the EAC seeking for exemption from public hearing giving certain reasons but the EAC did not exempt the public hearing as such but instead of conducting a re-public hearing, they have directed to publish the EIA Report in the public domain giving three weeks time for the public to make their representation and after receipt of the representation, the EIA consultant was directed to prepare the final EIA report. Thereafter, the final EIA report was prepared by M/s. B.S Envi Tech Private Limited for consideration. Even for that also, certain representations were received stating that even the present EIA report also did not reflect the real facts and there were plagiarism when preparing this report as well and such a representation was made by Dr. K. Babu Rao, Chief Scientist (Retrd.), Hyderabad but no response was made to the same. Further, dispensing with the public hearing and adopting another method of public hearing without conducting a physical public hearing near the project place is against the EIA Notification, 2006 and this practice was deprecated by the National Green Tribunal in **Samata Vs. Union of India & Ors.** reported in **2014 All India NGT Reporter 1 SZ Page 1.**

5.7 They have not considered the impact of the Yadadri TPS on wildlife in view of the fact that the distance of Amrabad Tiger Reserve was about 10 Km as noticed by the Sub Committee, evidenced by Annexure - A17 / Report. In cases where the eco-sensitive zone was not declared, 10 Km from the boundary has to be taken as the eco-sensitive zone as observed by the Hon'ble Apex Court in Goa Foundation Vs. Union of India (W.P. No.460 of 2004) dated 04.12.2006 and no such impact was considered in the EIA Report. Further, there are other protected areas like Tiger Reserve, Wildlife Sanctuary, National Park, etc. are situated and the impact of the project on those protected areas and also the movement of the wild animals especially tiger through this area has not been considered. The appellants had produced Annexure - A19 & A20 certain studies on this aspect of movement of tiger and Connectivity of Tiger Populations in the Human-Influenced Forest Mosaic of Central India for strengthening the proposition that a study is required for the purpose of considering the impact on tiger corridor that is likely to occur on account of the nearness of the tiger reserves.

5.8 The baseline data collected were also not correct. There is no source of coal mentioned. The linkage was also not provided for consideration and this is against the EIA Notification and the office memorandum issued by the MoEF&CC in this regard. Further, most of the ToR conditions regarding the collection of baseline data viz., Condition No.42, 43, 44 were violated. Further, there was no fuel linkage or water linkage has been submitted, though the EAC on several occasions directed them to produce the coal linkage documents of the imported coal and the indigenous coal. But in spite of that they have not produced anything. The Office Memorandum insisting for the same dated 13.11.2019 is produced as Annexure - A21. Further, the details given regarding coal linkage with M/s. SCCL also did not suit the proposed Super

Critical Power Station that is envisaged by the project proponent as the calorific value of the coal that is likely to be used will not suit the system and that will not control the fugitive emission and that will not be suitable for this type project as well, evidenced by Annexure - A23.

- 5.9** The FGD system provided is not sufficient to catch the emission of  $\text{SO}_2$  and  $\text{NO}_x$  and reported that there was mercury level detectable from the coal analysis is also not correct. The various analysis report on presence of mercury in the coal used in Thermal Power Plants relied on by the appellant will go to show that the concentration of the mercury in Indian Coal is in the range of 0.01 to 1.1 PPM and 0.08 - 11.4 PPM. Further, when the coal analysis report submitted by the project proponent regarding the radio activity, the EAC has directed the project proponent to conduct a study again by some other agency and that report will have to be considered by the MoEF&CC while granting the EC. There was no opportunity available to the EAC to consider this report and to suggest as to whether any further mitigation measures will have to be taken or not.
- 5.10** Further, the ash ponds and its construction, disposal of ash etc. were not properly considered. Even the calculation of pollution load and mitigation measures provided were also not proper, as they have not identified the port, or railway terminal or transfer system by which they are going to transfer the coal to the project area and without that it is not possible to ascertain the actual Ambient Air Quality considering the pollution to be caused on account of such activities and the mitigation measures to be provided. Nothing was mentioned specifically about the ash utilization and maintenance of the ash pond etc. even in the revised EIA Report. But quite unfortunately, these things were not considered by the EAC or the MoEF&CC. The unrealistic prospective ash utilization by the existing Thermal Power Plants were considered by the CEA evidenced by Annexure - A24 which

will go to show that there was no proper utilization and they are not in compliance with the office memorandum issued in this regard.

- 5.11** There was no hydrological study and mitigation action plan prepared on the basis of the ToR Condition No.22. Though they claim that the study was conducted by Hydro Geosurvey Consultants, Jodhpur, no such report has been produced along with the EIA Report and the EAC has no opportunity to look into the same as well. There was no proper condition imposed in the EC as regards the disposal of ash and gypsum generated and the required pollution control mechanism to mitigate these aspects.
- 5.12** There was no provision made or conditions imposed to prevent the possible groundwater pollution and impact of the project on aquifers in the nearby water bodies. Nothing was mentioned about the protection of the Tungapahad Vagu, an estuary of Krishna River flowing in the project area.
- 5.13** According to the project proponent, the requirement is only 3.10 TMC water, whereas the department has given permission of 6 TMC, evidenced by Annexure - A25 and impact of this withdrawal on the neighbouring user states viz., Karnataka, Maharashtra and Telangana as per the Award given by the Krishna Water Dispute Tribunal constituted under the Interstate River Water Dispute Act, 1956 and impact on the riparian users of the river. These aspects have not been considered by the EAC or the MoEF&CC. The EAC has not considered the other Thermal Power Plants on the Krishna River Basin and the quantity of water that is being used by them and its impact on Krishna river by providing huge quantity of water for this project and they have only given evasive replies on this aspect as follows:-

SNo	Query Raised	TSGENCO Response
9.	<p>Krishna river is perennial in nature and even during the summer, just before the first monsoon rain, the minimum flow (June, 2005) has been measured as 25.72 mm<sup>3</sup>/month at Pondugala G/D station and the minimum flow (June, 2005) has been measured as 27.84 mm<sup>3</sup>/month at Wadenapalli station against the power plant requirement of 7.21 mm<sup>3</sup>/month. Thus the withdrawal percentage is less than 30% in lean season."</p> <p>[Page 260]</p> <p>Why is the Pondugala G/D station flow data not available for the period 2007 - 2016?</p> <p>In 2016 summer some units of Raichur Thermal Power Station in Karnataka on the bank of Krishna River had to be closed down due to paucity of water. Several other plants in other parts of India went through the same fate.</p> <p>A review of published literature on quantitative analysis of ecological response to flow alteration by Poff, N. L. and Zimmerman, J. K. H concludes, "Our analyses do not support the use of the existing global literature to develop general, transferable quantitative relationships between flow alteration and ecological response;</p>	<p>15 % of minimum flow is considered as minimum ecological flow required for the Krishna River. TSGENCO drawl is 30 % of the minimum flow and 70 % of the minimum flow is available for sustaining the ecology of the river stretch</p> <p>TSGENCO has proposed R.C.C Intake well structure type which will not disturb flow conditions and also provide free movement to fishes.</p> <p>Intake structures will be designed to minimize entrainment or impingement by providing strainers.</p> <p>Above details are provided in Chapter -4 of the Revised EIA Report.</p> <p>TSGENCO will regularly monitor the water quality of River Krishna and Tungapaduvagu.</p> <p>Never in the Telangana state the thermal units were shut down for want of water. In case of any poor rain fall in the catchment area of water sources may result such situation in some of the areas. Act of God is beyond prediction.</p>

<p>however, they do support the inference that flow alteration is associated with ecological change and that the risk of ecological change increases with increasing magnitude of flow alteration." [Freshwater Biology (2010) 55, 194-205]</p> <p>"Most rivers are running below thenorm. At this time, the lean rainfall season, the Krishna in southern India has no flow at Vijayawada and is just a medley of scattered stagnant pools of water. The Yamuna in Delhi is down to only 16 per cent of its flow and is reduced to cesspools of sewage. The Ganga, after Haridwar, is not doing much better." –VikramSoni, Emeritus professor of physics and ecological wisdom at JamiaMillialIslamia and Jawaharlal Nehru University, New Delhi, April 2016.</p> <p>[http: / / www. dnaIndia. com / analysis / column-do-not-kill-a-river- 2201895]</p> <p>EIA report is concerned about the availability of water and not about the ecological impacts of drawing huge quantities of water from Krishna River.</p> <p>What is the minimum ecological flow that is required for the Krishna River in the affected stretch?</p>	
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	What are the ecological impacts of drawing the water on aquatic life and vegetation? Why is no attempt made to study these aspects?	
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5.14 So, there is total non-application of mind on these aspects and the appellants also relied on the Annexure - A26 and A27/Portions of the EIA Report relied on by the project proponent on the question of utility of the ash ponds and diversion of water channels etc.

5.15 As regards the pollution that is likely to be caused to the Tungapahad Vagu, the query and answer given by them was as follows:-

S.No	Question	TSGENCO Response
A	The Tungapahad Vagu flows for a distance of 3.9 km through the center of the proposed site, just a few hundred meters from both the proposed plant and the ash dyke. Despite the proximity of the stream to these polluting structures, the EIA claims, irrelevantly and erroneously, that the project activities will not interfere with the Tungapahad	No plant effluent will be discharged into Tungapad vagu and the plant effluents will be treated in the effluent treatment plant and reused for the plant requirement. The ash dyke is being provided with a HDPE liner to ensure that there is no contamination of the ground water. Adequate care will be taken during construction to ensure that there is no impact on Tungapahad vagu.

	Vagu "since there is no extraction of water or discharge." EIA at 263: The Proponent wholly ignores the discharge to the Vagu from contaminated groundwater, which, according to the EIA, flows southeast, directly into Tungapahad Vagu. There are several reasons why the Vagu is particularly vulnerable to receiving contaminated leachate (groundwater discharge) from the ash dyke.	The buffer zone of 100 m on either side of vagu in the plant premises will be developed with thick green belt which will act as a barrier to the vagu. The water quality of vagu will be monitored during the construction phase also. This is as per the recommendations of the Subcommittee of MoEF&CC, Gol visited the project site on 05.12.2015.
B	First, the ash dyke sits just several hundred meters from the Vagu. Any leaching of coal ash contaminants from the ash disposal area will travel with the groundwater to the nearest receiving stream, which is the Tungapahad Vagu	As recommended by the Sub Committee of MoEF& CC, Gol during their site visit on 05.12.2015, the ash pond is shifted 500 m away from the vagu. The formation on the sides of the vagu is completely rocky terrain and there is no possibility of seepage of any water from the ash pond into the vagu area. Further, the ash disposal will be in slurry form. The provision of impervious liner will prevent any leaching.

5.16 That also will not give any indication as to the nature of precautionary methods taken by them for this purpose. The sludge management from the Flue Gas Desulphurization system was also not properly considered. The construction, design and maintenance of ash pond dykes and its possibility of breach and the mechanism to rectify the same etc. were not properly considered. The impact of Flue Gas Desulphurization system also has not been considered and the reply given by them was as follows:-

SNo	Query Raised	TSGENCO Response
12.	Public health impacts from the plant emissions is absent in the revised EIA. Occupational Health and Safety presented is sketchy. In a Writ Petition (Civil) No 79 of 2005 filed by Occupational Health and Safety Association on occupational health and safety at industrial work places and in particular the serious deceases suffered by the workers of coal fired thermal power plants, Supreme court delivered a judgment on 31 January 2014.	Flue gas treatment system proposed which is in compliance with the new norms of MOEF & CC stipulated for thermal power plants will be implemented by TSGENCO.  The emissions from the plant will be 3.3 times less with respect to particulate matter, 5-6 times less with respect to Sulphur dioxide and oxides of nitrogen when compared with the operating power plants which will reduce the Public health impact.

5.17 The impact of the project on housing colony and township has not been properly dealt with. Further, the necessity for the new Thermal Power Plant depending upon the demand for electricity has not been properly considered especially when there are other power plants functioning in the State of Telangana which are sufficient for the purpose of meeting the need and even the electricity generated in those units were not properly utilized and the Telangana is a power surplus state and the energy and peak requirements were extracted as follows:-

Region	Energy				Peak			
	Require ment	Availabil ity	Surplus/ Deficit (-)		Demand	Availabil ity	Surplus/ Deficit (-)	
	(MU)	(MU)	(MU)	(%)	(MW)	(MW)	(MW)	(%)
Northern	349,172	343,513	-5,659	-1.6	53,372	52,612	-760	-1.4
Western	345,247	345,127	-120	0.0	48,531	48,313	-218	-0.4
Southern	305,586	305,107	-480	-0.2	42,232	42,232	0	0.0
Eastern	127,783	126,868	-916	-0.7	18,908	18,788	-120	-0.6
North-Eastern	15,140	14,720	-420	-2.8	2,487	2,475	-12	-0.5

5.18 Further, lot of other reusable energy generation system are being adopted for the purpose of reducing the exploitation of natural resources for production of electricity and this is being considered by the Central Government and if that is properly implemented, there will not be any necessity for a new power plant in the State of Telangana which has not been properly appreciated by the EAC or the issuing authority.

7. So, according to the appellant, the EC granted is vitiated and the same is liable to set aside for the reasons stated above.
8. The 1<sup>st</sup> respondent filed counter in the form of affidavit contending that the appeal is not maintainable and none of the grounds alleged in the appeal memorandum are sufficient to set aside the EC granted in favour of the 4<sup>th</sup> respondent. The allegations that the EAC and the issuing authority have not considered the various environmental aspects before recommending and issuing the EC in favour of the 4<sup>th</sup> respondent for the impugned project are not correct and hence denied. The Telangana State Power Generation Corporation Limited was granted EC with validity period of 7 years as per proceedings dated 29/06/2017. On the basis of the application submitted by the 4<sup>th</sup> respondent the EAC considered the project, conducted inspection of the site by a Sub Committee to ascertain the feasibility of the area and on that basis, originally ToR was issued as recommended by the EAC by the 1<sup>st</sup> respondent vide their Letter dated 16.02.2016 for conducting a detailed EIA study and carrying out public consultation. As per the EIA Report, the 4<sup>th</sup> respondent proposed to set up 5x800 MW Supercritical Coal based Yadadri Thermal Power Station, at Veerlapalem Village, Dameracheral Mandal, Nalgonda District, Telangana State. The coal requirement for the proposed power project based on station heat rate of 2109.4 kcal/kwh, Gross Calorific Value (GCV) of coal as 4550 kcal/kg and 85% as Plant Load Factor (PLF) was estimated to be as 13.81 Million Tons Per Annum (MTPA). The makeup and consumptive water requirement assessed to be as 9,755 m<sup>3</sup>/hr and is to be sourced from Krishna river. The proposed site was mostly reserved forest, semi-agricultural and partly revenue land with isolated pockets of

habitation. The extent of total area for establishment of power station was 2800 acres, including 100 acres for colony and 1300 acres for greenbelt development. The Forest Clearance was granted by the Ministry vide letter dated 07/07/2015 for diversion of 1892.35 ha (4334.01 ha proposed originally) of forest land in favor of TSGENCO for the establishment of Coal Based Thermal Power Station of capacity 5x800 MW at Veerlapalem (V) and 2400 MW at Dilawarpur (V) of Damaracherla (M), in Nalgonda District in the State of Telangana. The project displaced about 174 families and for that TSGENCO had deposited an amount of Rs.285.81 Crores vide letter dated 04/01/2016 towards land compensation, R&R benefits for Project Displaced Families & Project Affected Families, infrastructure and unforeseen items, etc. The public hearing was held on 31/05/2016 in the premises of proposed site at Veerlapalem(V), Damaracherla(M), Nalgonda District as per Environment Impact Assessment Notification. The nearest railway station to the project site is Vishnupuram which is 5 km away from the plant and that no railway track and National Highway is located within 500 m. Originally, it was proposed to establish 6800 MW coal based TPP at Veerlapalem, Dameracherla, Nalgonda Dist. Accordingly 6.6 TMC of water has been allocated for the project from Krishna river by Telangana State Government. But it was decided to establish 4000 MW TPP in the above area in first phase and take up the balance 2800 MW in second phase. The water requirement for the 4000 MW is about 3.03 TMC per annum and that alone will only be drawn from Krishna River out of the allocated 6.6 TMC per annum. The transmission line falling within the wildlife areas corridor and forest area require clearances from concerned authorities. The proposal for grant of EC was deliberated by the Expert Appraisal Committee (EAC) for Thermal Sector in its 45<sup>th</sup>, 48<sup>th</sup> & 50<sup>th</sup> meetings held during 29<sup>th</sup> - 30<sup>th</sup> October, 2015, 18<sup>th</sup> December, 2015 and 29<sup>th</sup> January, 2016 respectively. The EAC comprising of domain experts of different fields, after detailed deliberations on the proposed project and taking note of the confirmations given by the Project Proponent, and clarification submitted to its queries, recommended for grant of EC for the project subject to compliance of certain terms and conditions for implementation of various environmental safeguards. After taking

cognizance of environmental concerns and the mitigation measures proposed by the EAC, the EC for the project was granted by the Ministry on 29/06/2017. The allegations that the EAC has not applied its mind etc. are incorrect. In fact, this was discussed in several meetings and certain clarifications were sought for and only thereafter, they have recommended the project and it is only on that basis, incorporating the recommendations, the EC was granted. The total land requirement for the proposed project is 2800 acres which is within CEA norms of 0.7 Acres/MW. Out of total land requirement, 2095.28 acres is the forestland falling under Veerapalem Forest Block. Remaining 704.12 acres consists of Patta land, Government Land, Udafa Patta Land and D-patta land in Veerappagudem and Veerapalem villages, Damercharla Mandal, Nalgonda District, Telangana State which is partly under cultivation. The Stage-II Forest Clearance has been accorded for diversion of forest land vide Ministry's letter dated 07/07/2015. The proposed site is located near Veerlapalem village, Damercherla Mandal, Nalgonda District and comprises of 75% of reserve forest land and remaining land is mostly non-agricultural, uninhabited, partly agricultural, revenue land with isolated pockets of habitation. The total extent of land for establishment of proposed power project is 2800 acres (Forest land is 2095.28 acres, Patta Land, Government Land, Udafa patta Land and D-Patta Land etc. is 704.12 acres). As per the EIA Report, three sites had been evaluated based on environmental sensitivity, R&R issues, road and rail connectivity, proximity to source of water. Finally, the proposed location at Veerlapalem village was selected after due deliberations on alternate sites. In terms of R&R Studies as per the EIA report, the District Collector, Nalgonda had raised a demand note vide his letter dated 02/12/2015 for deposit of an amount of Rs.285.81 Crores towards LA compensation, R&R benefits for Project Displaced Families & Project Affected Families, infrastructure and unforeseen items, etc., which is worked out as per LA and R&R Act, 2013 and that amount was deposited by the 4<sup>th</sup> respondent on 04/01/2016. In terms of agricultural land as per the EIA report, since 275 m stacks are planned for the proposed power project and adequate control measures are planned, the pollutants like particulate matter, SO<sub>2</sub> and NO<sub>x</sub> will be minimum and

shall not have any significant impact on the surrounding residential and rural areas and also will not cause any significant impact or damage to the existing vegetation present near the plant. However, the proposed development of about 50 to 100 m wide greenbelt all along the boundary of the project site is expected to contribute positive impact towards improved soil stabilization, prevention of top soil erosion, increased vegetative cover, density and diversity of flora, etc. It will also improve the aesthetic look of the surrounding area. Primarily the land required for setting up of Thermal Power Plant was agricultural land and there are not many large trees. The floral significance at the proposed plant site was negligible and impact of construction on flora would be negligible. As per the EIA Report, TSGENCO will encourage the use of water treated fly ash as a soil ameliorator and as a source of micro-nutrients and secondary nutrients for improving agricultural productivity. The public hearing was held on 31.05.2016 in the premises of proposed site at Veerlapalem(V), Damaracherla(M), Nalgonda District as per Environment Impact Assessment Notification dated 14<sup>th</sup> September 2006 and as per TOR conditions issued by MoEF&CC. The press notification indicating date and venue of the public hearing was issued by Regional Office, Telangana Pollution Control Board (TSPCB), on 30/04/2016 in prominent newspapers Viz. Namaste Telangana, Telugu Daily Newspaper and the Hindu, English daily Newspaper with project details inviting suggestions, views, comments and objections from the public regarding the above mentioned project. As per the EIA report, there are no National Park, Sanctuary, Elephant/ Tiger Reserve, migratory routes/wildlife corridor, within 10 km of the project site. One complete season baseline data was collected during winter season of 2015-16, i.e., from 6<sup>th</sup> December, 2015 to 5<sup>th</sup> March, 2016 and incorporated in the EIA report in line with the condition of standard TOR issued on 2<sup>nd</sup> November, 2015 by MoEF&CC for the proposed project. The work was entrusted to M/s Bhagavathi Ana labs Ltd., Hyderabad who are accredited consultants certified by NABET. Additional baseline data was collected for one month during October, 2016 by M/s B.S. Envi-Tech (P) Ltd. The proposed project site was selected after careful examination of ecologically sensitivities and the proposed plant site was found to be

have least impact on the environment. There are some streamlets flowing through the plant area which meet Tungapahad Vagu. As per the report, these streamlets which originate due to rainfall within the plant area will stop flowing as storm water drainage system will be designed before constructing the plant and it will be allowed to meet the Tungapahad Vagu as and where feasible. As per the EIA Report, it is depicted that a major stream enters the plant area from north western side and meets Tungapahad Vagu which passes through the plant area. The flow of Tungapahad Vagu will not be disturbed and the four streams of 1<sup>st</sup> order and major stream meet Tungapahad Vagu will be maintained by giving necessary diversion so as to reach the Tungapahad Vagu on the western-central part. With the proposed two diversions, the surface drainage will not be affected and the surface drainage will join the natural drainage without affecting the surface water regime due to the plant. The detailed hydro geological study of the area was carried out by M/s Vimta Labs Ltd. After conducting the comprehensive hydro geological assessment studies of the plant area and its buffer zone, it was concluded that area had adequate ground water resources of which hardly 30% was being exploited for irrigation and there was surplus which could be exploited in future. The fly ash management has been properly considered in the EIA Report. They have more or less reiterated the steps taken for mitigating the possible pollution on account of the proposed project and they have satisfied with the mitigation measures suggested in the EIA Report and it is thereafter that they have recommended the project with stipulation that all mitigations provided in the EIA Report has to be strictly complied with by the project proponent. Since they proposed to adopt ZLD system, there is no possibility of any effluent being discharged into the natural stream and pollution being caused to the water bodies. All necessary conditions required for the purpose of mitigating the possible pollution that is likely to be caused to air, water and soil has been considered and necessary conditions have been imposed in the EC. So, they prayed for accepting their contentions and dismissal of the appeal.

9. The 3<sup>rd</sup> respondent filed counter contending that as far as the 3<sup>rd</sup> is concerned, they had facilitated the conduct of the public hearing as provided under the EIA Notification. The 4<sup>th</sup> respondent had submitted the draft EIA to the Regional Office of this Board, Nalgonda on 29/04/2016 with a request to conduct the Public Hearing. The District Collector, Nalgonda fixed the date of public hearing on 31/05/2016 at 10 AM near the proposed site. The press notification regarding the Public Hearing was issued in Namaste Telangana (Telugu daily) and The Hindu (English daily) newspapers on 30/04/2016 duly giving 30 days time to the public to submit their opinions, objections, suggestions etc. in writing. The Executive summaries both in Telugu and English and the draft EIA reports were displayed for access to the public at designated offices. The Public Hearing was conducted on 31/05/2016 at 10 AM and the minutes of the same were communicated to the 1<sup>st</sup> respondent, evidenced by Annexure -1. During the Public Hearing held on 31/05/2016, the representative of the 4<sup>th</sup> respondent had stated that Rs.2,410 crores was envisaged towards implementation of pollution control measures. However, in the revised final REIA report, it was mentioned that the 4<sup>th</sup> respondent has allocated a sum of Rs.5,597 crores towards implementation of pollution control measures. The CFE application for proposed Thermal Power Plant of was received through online under TSI PASS was processed and the CFE was issued on 25/07/2017, evidenced by Annexure-2. They have conducted the public hearing in accordance with the provision of the EIA Notification and minutes of the public hearing along with annexure attached to the same were sent to the MoEF&CC as required under the EIA Notification and they have not committed any violation. So, they prayed for accepting their contentions and passing appropriate orders.
10. The 4<sup>th</sup> respondent filed counter affidavit contending the appeal is not maintainable and the grounds alleged in the appeal memorandum are not correct and it is devoid on merit and as such, they are not sufficient to set aside the EC granted which according to them is legal. They denied most of the allegations made in the appeal memorandum and given their explanation in the counter affidavit. Initially, they proposed to establish

5200 MW Coal based thermal power station at Veerlapalem (V), Dameracherla (M), Nalgonda Dist. Accordingly, the Govt. of Telangana, I & CAD department has accorded the permission for drawl of 208 Cuses (6.60 TMC throughout the year) from the river Krishna vide G.O. Ms. No. 13, dated. 30.01.2015. For operation and maintenance of 4000 MW coal based thermal power station, the maximum requirement of water is 3.714 TMC @ 3.00 cu.m. per hour as per new standards fixed by MoEF & CC, GoI vide Gazette notification dated. 16.10.2017 and they will utilize only 3.714 TMC of water per year from the above allocation of 6.60 TMC per annum. The surplus water allocation will be utilized for expansion projects by obtaining necessary statutory approvals. According to Revised EIA Report, a budget of Rs. 5597 crores (capital) and Rs 430 Crores/ annum (recurring) has been earmarked. In the record of the Public Hearing notes, this figure was shown as Rs. 2410 Crore wherein the FGD system was not considered. This has been done to comply with the new emission norms. Additionally, the Flue gas Desulphurisation (FGD) system, Nox Control equipment and High efficiency ESP are part of this additional control equipment. The MoEF& CC, GoI had accorded Stage - II clearance for diversion of 1892.35 Ha of forest land under Veerlapalem forest block, Dameracherla (M), Nalgonda Dist in favour of the 4<sup>th</sup> respondent for establishing 6800 MW coal based thermal power plant vide letter F. No. 8-07/2015-FC, dated 07.07.2015. No forest land was diverted for establishing 2400 MW coal based thermal power plant under Dilawarpur forest block, as the diverted forest land to an extent of 1892.35 Ha under Veerlapalem forest block is sufficient for establishing total 6800 MW thermal power plant (4400 MW + 2400 MW). The 4<sup>th</sup> respondent had handed over an equivalent Non-forest land to an extent of Ac. 1892.35 Ha (Ac. 4676.00) under old Nalgonda District to the Forest department for raising compensatory afforestation by the Forest department. An amount of Rs. 80.13053 Crores was deposited with Forest department on 02.05.2015 for the above purpose. The MoEF&CC, GoI had diverted 1892.35 Ha of forest land for establishing 6800 MW thermal power plant (4400 MW + 2400 MW) but not for 4400 MW. The consultant empanelled by the Railways has to be nominated. They shall prepare the Feasibility Study Report (FSR). A conceptual plan has to be prepared

which is presented to the Railways. An In-Principle clearance or Rail Traffic Clearance has to be obtained. A DPR shall be prepared and Engineering Scale Plans are to be submitted for approval of the Railways. The construction of the same will be started after receiving the above approvals. Currently, they have completed the following activities pertaining to the Railway line. "1. They have appointed the consultants i.e. M/s. RITES Limited, Secunderabad for preparation of Feasibility Study for the proposed Railway siding from Vishnupuram to project site including marshalling yard vide P.O. No. CC-0055/CE/Civil/TH/SE/TCD-I/YTPS/F. RITES Dameracherla/D. No. 254/2015, dated. 22.08.2015. Subsequently, M/s. RITES Limited, Secunderabad have furnished the Feasibility study report including conceptual plan to M/s. South Central Railways on 05.01.2018. M/s. South Central Railways have accorded the In-Principle approval to the Feasibility Study report on 25.09.2019, vide Lr. No. T.143/GNT/496, dated 25.09.2019 after various reviews. DPR was submitted to South Central Railways by M/s. RITES Limited, Secunderabad on 10.01.2020 and the approval to the DPR from the SC Railways is awaited. ii) Only after finalizing the railway line alignment and approval of M/s. South Central Railways, the land acquisition for laying the connecting railway line for a length of 10.66 km from Vishnupuram Railway Station to project site will be taken up. Now as the alignment of railway line is finalized and M/s. South Central Railways has also communicated its In-principle approval vide letter dated. 25.09.2019, the requisition was filed with the District Collector for acquisition of required land. iii) Indian Railways will not build the required connecting railway line. TSGENCO has to take up the same after obtaining the necessary approvals of the Railways." The environmental and ecological impact of the transmission lines have not been included in the scope of the EIA or the standard TOR. However, all statutory clearances will be obtained by the Agency appointed by TSGENCO/ TSTRANSCO for the transmission lines. The forest land that has been allotted is a highly degraded forest land. As per the report given by the Additional PCCF, MoEF & CC, Regional Office, Chennai vide Lr. No. 13.3 (9)/INS/ ROSEZ/ 2014/26, dated. 20.02.2015, there are no endangered/ rare/unique species of Flora and Fauna present in the above forest. Also there is no protected archaeological/heritage/ defence or any other important monuments in the area. The area is not having wildlife sanctuary or national park. Nearest protected area is Amrabad

Tiger reserve at about 10 km distance from the above diverted forest land. There were about 1200 encroachers and also 1194 pattedars provided with ROFR, UDAFA, Assignment, D-Form patta in the above diverted forest land, which clearly shows that the above land is completely degraded forest land. Further, the Sub Committee of EAC (T&C), MoEF&CC, GoI, New Delhi has visited the proposed project site on 05.12.2015 and inspected the entire proposed project area and after thorough inspection & satisfying with the site conditions, recommended for issue of ToR to TSGENCO for setting up of 5 X 800 MW coal fired Super critical thermal power plant at Veerlapelm (V), Dameracherla (M), Nalgonda duly including their recommendation in the TOR besides other generic ToR vide their report, evidenced by Annexure -1. The impacts of Yadadri Thermal Power plant on all the aspects i.e. river Krishna, Tungapahad vagu, Wildlife, Transportation and storage of coal, railway lines, etc were already discussed in the Revised EIA report. The EAC was satisfied with the information provided in the Revised EIA report by TSGENCO and recommended the Environmental clearance for the project proponent and recommended for EC. In view of the fact that the EIA/EMP report prepared by M/s. Bhagavathi Ana Labs Pvt. Ltd, Hyderabad was not satisfactory as pointed out by EAC, MoEF&CC during the 63<sup>rd</sup> EAC meeting held on 29<sup>th</sup> - 30<sup>th</sup> August, 2016. They have changed the consultants and appointed M/s. B.S. Envi-Tech Pvt. Ltd, Hyderabad for revising the EIA/EMP report based on the comments and observations given by the EAC. Accordingly, revised EIA/EMP report was prepared by M/s. B.S. Envi-Tech Pvt. Ltd, Hyderabad and the same was uploaded in the TSPCB website on 01.02.2017 for seeking the comments of the public within 3 weeks. This was after complying to the MoEF&CC minutes of the 63<sup>rd</sup> EAC meeting, final revised EIA/EMP report was prepared and it was presented before the EAC and taken up on 5<sup>th</sup> EAC meeting held on 26.04.2017 and in that meeting, they have recommended for grant of environmental clearance for the above project. The Additional TOR was issued including the shifting of Ash Pond area and non-disturbance of Tungapahad stream etc. and those things were properly considered in the EIA Report. The allegation that the siting criteria has not been considered is not correct. The Sub Committee of the

EAC and MoEF&CC had inspected the area and only after satisfaction, they issued the additional ToR for the project. Even in the earlier proceedings, the siting criteria was directed to be revised and revisited by the MoEF&CC in line with the current scenarios since the guidelines were promulgated "wayback" in 1987, considering the new scientific methodologies available in dealing with the case of M/s. Nagarjuna Construction Company Ltd., Srikakulam in the year 2012. They further mentioned that whenever they are going for any expansion of the plant capacity, they will approach the MoEF&CC and obtain necessary clearance as per the statutory guidelines. They denied the allegation that they have proceed with the construction etc. are not correct. The BHEL was awarded the site levelling and grading works to the following agencies vide LOIs noted against each and they have commenced the works on 13.05.2018 which were produced as Annexure -2&3 and detailed in the table below:-

S. No.	Name of the Agency	LOI issued by M/s. BHEL	Date of Commencement of work
1	M/s. RK Infracorp Pvt. Limited, Hyderabad	Lr. No. BHEL:PSSR: SCT:1699-Package - 1/2018/363 dated 18.04.2018	13.05.2018
2	M/s. Sri Raja Rajeswari Constructions India Pvt. Limited, Hyderabad	Lr. No. BHEL:PSSR: SCT:1699-Package - 2/2018/395 dated 24.04.2018	13.05.2018

11. They also properly considered the alternate site and this was considered as one by the Government as well as the EIA consultant and it was approved by the EAC and MoEF&CC as well. There will be no impact on Tiger Reserve since the Project is implementing the FGD and Nox control unit which will control the outlet emission to exceptionally low values (i.e 98% of the emission is controlled). The impact on the ambient air quality has been evaluated and presented in the Revised EIA. The site visit report specifically mentions that the Amrabad Tiger Reserve at about 10 km whereas the EC mentions that the Yadadri TPS is at a distance of 14.03 km from the Nagarjuna Sagar Tiger Reserve based as per the Survey of India Toposheet. The exact aerial distance was furnished in the Revised EIA report. There was no discrepancy in this regard. The PCCF & Chief Wildlife Warden, Govt. of Telangana has categorically stated the

following: “1. The Amarabad Tiger Reserve does not fall within the 10km of the boundary of the proposed Yadadri Thermal Power Station at Veerlapalem village 2. No Wild animal migratory path or Wild animal corridor is located within 10 kms of the boundary of the proposed Yadadri Thermal Power Station (Annexure 2A of the revised EIA report”. The revised EIA showcased the Landuse pattern of the site using latest satellite imagery. The site is Reserved forest land but it is degraded. The change in land use have been clearly mentioned along with proposed development of greenbelt and they have no intention for diversion of Tungapahad vagu, strengthening the banks of the vagu etc as per the recommendations of the sub-committee report. They have also given the garland drain for the purpose of the surface runoff during rain and provision will be made to join the Vagu which ultimately reaches the Godavari River. All the environmental impact on forest etc. were considered by the Forest Department and MoEF&CC before granting the Stage - II approval. The second physical public hearing was exempted and that was substituted by uploading the revised EIA and getting necessary inputs and that was also considered while preparing the final EIA by M/s. B.S. Envi Tech Private Limited. They have given the coal analysis which is intended to be used for the power project as follows:-

Description	Unit	Indian Coal (based on SCCL data)	Imported Coal (based on MSTC's Imported Coal)	Blended Coal (50% Indian Coal and 50% Imported Coal)
<i>Proximate Analysis</i>				
Fixed Carbon	%	33.0	42.94	37.97
Volatile Matter		27.00	28.92	27.96
Moisture		10.00	13.14	11.57
Ash		30.00	15.00	22.50
Calorific Value	Kcal/kg	4530	5700	5115
Total				
<i>Ultimate Analysis</i>				
Carbon	%	49.41	57.75	53.58
Hydrogen		2.83	3.53	3.18
Sulphur		0.42	0.80	0.61
Nitrogen		0.85	1.08	0.097
Oxygen (difference)		6.49	8.70	7.59
Moisture		10.00	13.14	11.57
Ash		30.00	15.00	22.50

12. This was evidenced by Annexure – 2 (C) and 2 (D) respectively in the EIA Report. The coal analysis considered by BHEL for design of Power Plant and Radio activity and heavy metal content of coal are already mentioned. The MOU with M/s SCCL for supply of Indigenous coal and the commitment letter for supply of coal as per the MOU was enclosed in revised EIA as Annexure - 2E (I) and Annexure - 2E (II). Also, MoU entered with M/s. MSTC for supply of imported coal is revised as directed by the EAC during the 63rd meeting is enclosed as Annexure - 2E (III) with the revised EIA report and they were produced as Annexures 7, 8 and 9 respectively along with the counter. The coal transportation aspects were also considered. The Indigenous coal will be transported using the Rail network and imported coal will be received by ships at Krishnapatnam/Kakinada/Visakhapatnam ports. From the Ports, coal will be transported by Indian Railways to the plant site. The Ministry of Coal (MoC) Govt. of India has taken a decision in 2015 that, fresh applications for grant of coal linkages shall be kept in abeyance, till a new policy is formulated for grant of coal linkages. As such, the Ministry of Coal allocation for valid linkage for the project is not available during submission of EIA. However, they entered into Memorandum of Understanding (MOU) with M/s. Singareni Collieries Company Limited (A Government Company) for supply of 7.0 Million Tonnes of coal per annum to YTPS as mentioned in the EIA Report and also submitted to the EAC for their consideration. The all environmental issues regarding the coal-based Thermal Power Plant and the machineries to be installed is being undertaken by M/s. BHEL who is a reputed agency for detailing with these aspects. Consequent to the Directives of Ministry of Coal (MOC), Govt. of India (GoI) vide notification dt:30.12.2011, the coal gradation has been shifted from UHV ('A' to 'G' grades) to GCV system (G1 grade to G17 grade) w.e.f. 01.01.2012 as tabulated below:

GCV GRADE	GCV RANGE (Kcal/Kg)
G1	Above 7000
G2	6701-7000
G3	6401-6700
G4	6101-6400
G5	5801-6100
G6	5501-5800
G7	5201-5500

G8	4901-5200
G9	4601-4900
G10	4301-4600
G11	4001-4300
G12	3701-4000
G13	3401-3700
G14	3101-3400
G15	2801-3100
G16	2501-2800
G17	2201-2500

13. The project proponent is proposed for utilization of higher grade G9 coal of GCV 4601 Kcal/kg to 4900 Kcal/Kg with ash content less than 34% in compliance with the MoEF Notification dt:07.10.2008 for YTPS to achieve super critical boiler efficiencies. As per the report of M/s. Vimta Labs Limited, Mercury content in the coal samples of SCCL mines is less than 0.1 mg/Kg. Mercury and trace elements will be present in the coal, based on the geological formations. A recent study of TERI has highlighted the following which is significant in the present project, evidenced by Annexure-11 which reads as follows:-

*“The mercury content in Indian coal ranges between 0.01 ppm to 1.1 ppm (Rai, Raman, Choudhary 2013). As mercury boils at low temperatures, thermal power plant emits 90% of its mercury into air and 10% to land. Mercury abatement from the emission can be achieved as co-benefit of reduction of Nox, Sox and dust. A higher degree of focus as of now, therefore is towards the reduction of Sox and Nox emissions which will automatically reduce mercury emission.”*

14. As per the condition stipulated in the EC granted for the above project, the analysis of mercury in the coal has been redone through IICT, Hyderabad. Regular sampling and analysis will be carried out during the operation phase. The amount of mercury available and impacts etc. have been considered and necessary pollution control mechanism and mitigation mechanism have been provided and the nature of pollutants available using coal-based Thermal Power Plants and the existing control technologies were extracted as follows:-

*Widely available control technologies that reduce mercury and other air toxics*

<i>Pollutant Addressed</i>	<i>Existing Control Technologies to Address Toxic pollutants</i>
<i>Mercury</i>	<i>Selective Catalytic Reduction (SCR) with Flue-Gas Desulfurization (FGD), Activated Carbon Injection (ACI), ACI with Fabric Filter (FF) or Electrostatic Precipitators (ESP)</i>

<i>Non Mercury metals</i>	<i>FF, ESP</i>
<i>Dioxins &amp; Furans</i>	<i>Work Practice Standard (inspection, adjustment, and/or maintenance and repairs to ensure optimal combustion)</i>
<i>Acid gases</i>	<i>FGD, Dry Sorbent Injection (DSI), DSI with FF or ESP</i>
<i>Sulphur dioxide</i>	<i>FGD, DSI</i>

15. All necessary studies have been conducted including the particulate matter that is likely to be emitted on account of the fly ash generation and its management etc.. The details of gypsum handling were given in Page 213 of the revised EIA/EMP Report, where it has been clearly mentioned that gypsum will be dewatered and the cake generated will be sent to a gypsum storage shed through a belt conveyor. Necessary MoU has been entered into with the companies which are agreed to supply imported coal. The railways are already implementing the doubling of the track to cater to the cement industries in the area. They have given the details of the nature of precautionary studies conducted by the consultant agency and its sufficiency and consideration by the authorities relying on the necessary pages of the EIA Report. So, they denied the allegations that no proper studies have been conducted and studies are not sufficient to meet the situation and they prayed for dismissal of the appeal. They have strictly complied with the directions issued by the Hon'ble Apex Court vide Judgment dated 31.01.2014 regarding the health impact and the studies to be undertaken and remedial measures to be taken and they will strictly implement the same. The various High Courts have considered the question regarding the economic development, sustainable development the protection of environment and in all these decisions, it was stated that the balance will have to be strike between the same. So, they prayed for accepting their contentions and dismissal of the appeal.
16. The appellant filed rejoinder to the reply submitted by the respondents Nos.1 & 4. They reiterated the various studies/articles relied on by them and produced along with the rejoinder. They also relied on the decision of this Tribunal and the Hon'ble Supreme Court in **Appeal No.50 of 2012 (T. Muruganandam & Ors. Vs. MoEF&CC & Ors.)** dated 10.11.2014, **Appeal No.03 of 2011 (Sarpanch, Gram Panchayat Tiroda Vs. The MoEF&CC)** dated 12.09.201, **Alaknanda Hydro Power Company**

**Limited Vs. Anuj Joshi & Ors. (2014) 1 SCC 769, Vimal Bhai & Anr. Vs. Union of India & Ors. 2012 SCC Online NGT 77, and Prafulla Samantara Vs. Union of India & Ors. 2014 SCC Online NGT 892** in respect of use of forest land for non-forest purposes, importance of public hearing, cumulative impact assessment, application of mind on appraisal process and also relying on various studies in this regard.

17. The appellant also filed additional affidavit reiterating the impact of diversion of river and streams relying on the reports of the Forest Department produced as Annexure – A34 to A38 along with the affidavit.
18. Heard the learned counsel appearing for the appellant and respondents.
19. The learned counsel appearing for the appellants argued that though as per the guidelines issued by the Central Electricity Authority in respect of site selection for the project, wherein it was specifically mentioned that the forest area will have to be avoided. The MoEF&CC while granting the Forest Clearance for this project also did not consider these aspects. There was no option given to the EIA Consultant for site selection process with alternate sites, but they have shown certain sites which are not per se impermissible for this project as alternate site and this site has already been fixed on the basis of the inspection made by the Hon'ble Chief Minister of State of Telangana and the further proceedings were initiated for diversion of the land for seeking FC by the subordinate officials and as such, the subordinate officials will not be able to consider the project and its impact on forest independently and they are bound by the directions issued by the higher officials. Further, the EAC had observed that the report submitted by M/s. Bhagavathi Ana Labs Private Limited is not acceptable and rejected the same and it is on that basis, they have changed the consultant and appointed M/s. B.S. Envi-Tech Private Limited for this purpose and after preparation of the report on the basis of the directions given by the EAC, they sought for exemption from public hearing, but the EAC felt that the public hearing as such cannot be exempted. They have taken a shortcut method of publishing the same in the official portal giving three weeks time and calling for

representations/objections and only three representations were received, whereas originally 3,500 persons have participated in the public hearing. The reasons given by the EAC for selecting an alternate method of public hearing is not envisaged under the EIA Notification, 2006. The real EIA Report was not before the public for the purpose of hearing their view regarding the insufficiency (if any) in the report. Further, the impacts of the project on forest ecology, ecologically sensitive Amrabad Tiger Reserve were not properly considered.

20. The learned counsel also relied on the 'Doctrine of Public Trust' to be applied while considering the environmental issues in the process of diversion of forest land for non-forest purposes, as that has not been considered by the authorities and they were ignored as well. The EAC also recommended the project not satisfying with the radioactivity analysis conducted by the agency adopted by the project proponent, but they directed to conduct the same through some other agency and there was a difference in the radioactivity level and there was no opportunity for the EAC to consider the same before recommending the project and there was no appraisal of that report as well. There are various shortcomings in the EIA Report which were not properly appraised.
21. The learned counsel for the appellants relied on the decision of the Hon'ble Apex Court in **Hanuman Laxman Aroskar Vs. Union of India & Ors. 2019 SCC Online SC 441**. He had also relied on the various decisions referred to above in the appeal memorandum as well as in the rejoinder filed. So, the learned counsel prayed for setting aside the EC.
22. On the other hand, the learned Additional Advocate General along with the Special Government Pleader for the State of Telangana appearing for the 4<sup>th</sup> respondent argued that all necessary studies have been conducted. Each and every aspect has been properly considered by the MoEF&CC on two different occasions, one granting the FC and other considering the EC and only after conducting proper evaluation, the decision has been taken to recommend the project and to issue the EC. Further, there is no necessity to set aside the EC for conducting further studies (if any) to be

directed by this Tribunal and they will abide by the directions and conduct further studies (if any) required and they will carry out the same in its letter and spirit. So, they prayed for dismissal of the appeal.

- 23.** The learned counsel appearing for the MoEF&CC argued that there was proper application of mind and that was the reason why they did not accept the earlier EIA Report and what was exempted is only a physical public hearing but adopted the public consultation process by publishing the same in the official portal giving three weeks time for the public to submit their views and only three persons have submitted their objections and those were considered while preparing the final EIA Report. Further, the appellants are not affected parties and the real affected parties have not projected any issue regarding the establishment of the Thermal Power Plant. The necessary pollution control mechanism have been provided and considered and whatever studies required to be done were directed to be done, the nature of forest that is intended for diversion was also considered before granting the FC as well as the EC for this project. According to them, there is no necessity to interfere with the decision making process undertaken by the statutory authorities.
- 24.** The learned counsel appearing for the State Pollution Control Board argued that their role is only conducting the public hearing and that has been properly done and after the EC granted, the project proponent applied for consent and Consent to Establish was granted, and after establishment process is over, when they apply for Consent to Operate, that will be considered and appropriate orders will be passed in accordance with law.
- 25.** The learned counsel appearing for the State of Telangana argued that all necessary studies have been conducted and the project was independently appraised by the MoEF&CC and the EC was granted after considering the need for power to the newly formed Telangana State.

26. We have considered the pleadings, submissions (both oral and written) made by the learned counsel appearing for the parties and also perused the documents available on record, including the EC file produced by the MoEF&CC.

27. The points that arose for consideration are:

- a. Whether the EC granted is liable to be set aside for any of the reasons stated in the appeal memorandum and the points projected at the time of hearing by the learned counsel for the appellants?
- b. If the Tribunal feels that the EC need not be set aside but applying the '*Precautionary Principle*', whether any further directions to be issued regarding the nature of studies to be conducted and further steps to be taken by the project proponent before commissioning the project to protect the environment and health of the people in the locality?
- c. Relief and costs.

**POINTS:-**

28. Grievance of the appellants in the appeal against the project was that large extent of reserved forest was diverted for non-forest purpose which is a polluting industry and no proper application of mind was made by the authorities before granting permission for converting the forest land for non-forest purpose. No proper public hearing was conducted, after rejecting the earlier EIA Report submitted by the consultant appointed by the project proponent and moreover, no public hearing was conducted after submission of the EIA Report by the new consulting agency appointed by the project proponent, though an alternate method of public hearing was adopted by publishing the same in the public domain calling for objections which is contrary to the procedure provided under the EIA Notification, 2006 as amended from time to time.

29. These allegations were denied by the respondents.

30. It is an admitted fact that huge extent of land viz., 2,095.28 Acres of forest land in this village has been diverted for this project. It will be seen from the Annexure - A4/Minutes of the 45<sup>th</sup> Reconstituted EAC (Thermal Power) Meeting held on 29<sup>th</sup> - 30<sup>th</sup> October, 2015 that this project proposal was considered as Agenda 2.6 and after considering the report submitted by M/s. Bhagavathi Ana Labs Private Limited, Hyderabad, the EAC had noted that *"a tributary/channel of Krishna River is passing across the proposed site and the committee had detailed discussions with the project proponent regarding shifting of the proposed site/revising the layout so that the said channel is not affected"*. Further, they appointed a Sub Committee to go into the question and the decision making was deferred to a future date even for issuance of the ToR. But subsequently they have issued the ToR and after inspection, they have made certain observations and in the 50<sup>th</sup> Reconstitute EAC (Thermal Power) Meeting held on 29<sup>th</sup> - 30<sup>th</sup> January, 2016, they have issued the general ToR and as per the 63<sup>rd</sup> Meeting of the EAC (Thermal Power) held on 29<sup>th</sup> - 30<sup>th</sup> August, 2016, they have considered the report submitted by M/s. Bhagavathi Ana Labs Private Limited and found that they have done some plagiarism in preparing the report and they felt that it is not proper to accept the same. They have made the following observations and recommendations:-

(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
Introduction  "The thermal power plant is a large electricity generation industry. It consist a number of process to generate electricity by use of fossil fael. 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	Abstract  "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

<p>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."</p>	<p>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."</p>
<p>"7.6.1 Plant Description</p> <p>Thermal power plant is electricity generation plant which converts the fossil fuel stored energy to electrical energy by means of generating electricity. In other 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>"III. PLANT DISCRIPTION</p> <p>Thermal power plant is electricity generation plant which converts the fossil fuel stored energy to electrical energy by means of generating electricity. In other 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>"A. Coal Handling Plant</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 ¾" 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>"A. Coal Handling Plant</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 ¾" 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>"D. Turbine and Generator</p> <p>The generated steam is passing through</p>	<p>"D. Turbine and Generator</p> <p>The generated steam is passing through</p>
<p>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 electricity. The various auxiliaries of turbine and generator is cooled by hydrogen gas and cooling oil."</p>	<p>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 electricity. The various auxiliaries of turbine and generator is cooled by hydrogen gas and cooling oil."</p>
<p><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></p>	
<p>Section 7.6.3 HAZID</p> <p>"Risk initiating event likelihood and consequences are assumed by taken reference of visited plant real activities. Risk Classification screening table is given below"</p>	<p>IV RISK ASSESSMENT</p> <p>"Risk initiating event likelihood and consequences are assumed by taken reference of visited plant real activities. Risk Classification screening table is given below"</p>
<p>Table 7.80 :Risk Classification Screening</p>	<p>TABLE I: RISK CLASSIFICATION SCREENING TABLE</p>
<p>Table 7.81: Risk Classification</p>	<p>TABLE II: RISK CLASSIFICATION ASSOCIATED WITH TABLE I</p>
<p><b>Above tables are exact copy-paste of the same source cited above. They are not reproduced for brevity.</b></p>	

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. As the public hearing was valid and it was done very recently, the PP should publish public notices in the leading local newspapers, Gram Panchayats, Website of PP etc. along with the information that the public can send its comments if any, to the PP and also MoEF&CC on the revised EIA/EMP (which shall be available on Ministry's website, PP's website, Regional Office of SPCB, Gram Panchayat etc.) within 15 days after publication of the public notice.

~~(2.5.3) The EAC suggested to PP to revise EIA in light of above mentioned observations. The proposal was accordingly, deferred.~~

31. It is on that basis, earlier consultant was changed and new consultant was appointed to conduct a study and accordingly, the revised EIA Report was submitted. It was further considered in the 1<sup>st</sup> Meeting of the Reconstitute EAC (Thermal Power) held on 28<sup>th</sup> December, 2016 and they have taken the following decisions, whereby they have decided to avoid physical public hearing, but suggested for an alternate method of public hearing as follows:-

*“(2.7.4) Committee after detailed deliberations, exempted M/s TSGENCO Ltd. for re conducting the Public Hearing subject to the following conditions:*

- a. New EIA consultant B.S. Envi-Tech Pvt. Ltd. should own the baseline data collected. by the earlier consultant and revise the final EIA as per EAC observations. In this regard, a written commitment should be submitted to the Ministry.*
- b. Revised EIA / EMP shall be submitted to Telangana State Pollution Control Board for uploading the revised EIA / EMP on their website for seeking public comments. Notice shall be published in two newspapers preferably one in vernacular language of the locality concerned and another one in English newspapers to seek the public comments / suggestions within 3 weeks from the date of notice.*
- c. PP should address all the public comments received within 3 weeks, incorporate the issues & action plan in the revised EIA and submit the final EIA / EMP to the Ministry for further consideration.”*

32. It is on that basis, the revised EIA Report was published and objections were called for, three representations were received and then, the final EIA Report was prepared for consideration. It may be mentioned here that though earlier, the EIA Report was not considered by the EAC for the purpose of further appreciation of the project for grant of EC but then, they have held that the public hearing earlier conducted was valid after making due publication. The public concern about the project etc. were considered and that was addressed by the present consultant appointed for the conducting the EIA Study. So, there is no provision made in the EIA Notification, 2006 to conduct any further public hearing on the basis of the revised EIA Report. The earlier report was not accepted by the EAC on technical reasons of furnishing not proper data as required.

33. Further, though there was an allegation made by the learned counsel appearing for the appellant that the EIA Report was not available to the people so to make their comments etc. cannot be accepted, as they were denied and there was no document produced by the appellant to prove this aspect as well. Further, they have no case that the period mentioned for calling for objections were not complied with and the EIA Report was not uploaded and it is not available in the official portal etc. Further, certain representations were received on the basis of the publication made through portal and that was considered and on that basis, further report was prepared. There is no dispute regarding the importance of public hearing and its appraisal by the EAC, as observed by the Hon'ble Apex Court in various decisions, including *Hanuman Laxman Aroskar's* case which was relied on by the learned counsel for the appellant. But those are all cases where the public hearing was not conducted properly and necessary details were suppressed before the EAC even at the time when the ToR was issued and those things were not reflected in the EIA Report which was placed before the public hearing and were ignorant about the impact as such, but that was not the case in this case. The entire project was explained by the project proponent in the public hearing and most of the objections were regarding payment of compensation, impact of the project on wildlife and the forest area and nothing more.

34. So under such circumstances, it cannot be said that the public was denied the opportunity of going through the revised EIA Report prepared by the new consultant, thereby the entire process is vitiated and it cannot be accepted and on that ground, we don't think that the EC need to be set aside.

35. As regards the forest area is concerned, it is true that guidelines were issued by the various authorities for siting criteria. It will be seen from the guidelines of siting for Thermal Power Projects of the MoEF&CC that in selection of any particular site, the following factors must also be recognized: "No forest land shall be used for non-forest activity for the sustenance of the industry". As regards the guidelines issued by the Central Electricity Authority, Government of India for selection of coal

based thermal power stations is concerned, first priority is given to the sites those are free from forest, habitation and irrigated/agricultural land. Second priority is given to those sites that are barren i.e., wasteland, intermixed with any other land type, which amounts to 20% of the total land identified for the purpose. The guidelines for site selection of coal based thermal power stations set by the MoEF&CC also says that locations of thermal power stations are avoided within 25 Km of the outer periphery of the metropolitan cities, national park and wildlife sanctuaries, ecologically sensitive areas like tropical forest, biosphere reserve, important lake and coastal areas rich in coral formation and forest or prime agricultural lands are avoided for setting up of thermal power houses or ash disposal. But in this case, the State of Telangana had decided to setup a Coal-based Thermal Power Plant in this location and for that purpose, the Hon'ble Chief Minister has conducted certain site inspection by aerial visit and decided to proceed with the project in this area. It is on that basis, the process for obtaining FC was made. Based on the recommendations made, the MoEF&CC had granted Stage - I Clearance and thereafter, after complying with the conditions imposed, Stage - II Clearance was also granted and subsequently, the FC was granted under Section 2 of the Forest (Conservation) Act, 1980 by the State of Telangana.

36. Though there was an attempt made by the learned counsel appearing for the appellant that applying the principle of '*Doctrine of Acting under Dictation*' by the higher authorities, we don't think that the decision relied on by the learned counsel on this aspect applying the principle of administrative law is not applicable to the facts of this case. Because, it is not a State authority who is granting the clearance, but it is a Central Authority viz., the MoEF&CC is the final authority to approve the clearance process, based on which the final clearance will have to be issued by the State Government under Section 2 of the Forest (Conservation) Act, 1980.

37. Further, the FC granted was not independently challenged and they are not entitled to challenge the same indirectly while challenging the EC. However, the EAC is expected to go through that aspect regarding the selection process for the site and they must satisfy that the site is fit for this purpose irrespective of the fact that the FC was granted or not and there is no dispute regarding this aspect. In this case, the EAC had appointed a Sub Committee to have a site inspection and it is on that basis, site inspection was conducted on 05.12.2015 by the Sub Committee comprising of Prof. C.R. Babu, Mr. T.K. Dhar, Mr. A.K. Bansal, Mr. B.B. Barman and Dr. M. Ramesh and they have considered the various aspects and thereafter, they have given the summary and recommendations in Point No.3 of the report which reads as follows:-

*"3.0 Summary and Recommendations*

*Based on the observations made during Site Visit, discussions held with all the Sub-Committee recommends the following stakeholders including Project Proponent, and critical evaluation of documents submitted, the Sub Committee recommends the following*

*(i) The Tungapadu Vagu is a perennial natural rival and is the lifeline for the local communities by providing water not only for irrigation, and recharging groundwater but also for draining the area into Krishna River.*

*a) The Tungapadu Vagu should not be diverted hat it should be preserved and protected, and enhanced its flows.*

*b) The PP should leave a minimum of 100 m buffer on either side of its banks and this buffer should be developed into native forest.*

*c) No effluent should be discharged into the rivulet or Krishna River.*

*d) In areas where the banks are breached, the breaches should be plugged and strengthened.*

*e) In areas where the riverbed is silted / partially blocked due to landslides, the blocks and silt should be removed in a way that the original gradient is maintained.*

*f) No water from the stream is extracted.*

*g) To sustain the downstream ecology of the Tungapadu Vagu, the Irrigation Department should release minimum ecological flows from the reservoirs constructed in the upstream.*

*(ii) The Project area is above the high flood line as evident from the level of flood plains with respect to the project site and level of water course, and as such the project site, which is a plateau, is not prone to floods. In fact, the plateau is cut deeply by the rivulet and forms a deep gorge.*

*(iii) The plateaus and their slopes within the project area, which are not used for the project purpose, are highly degraded. There should be restored to their original natural forest ecosystem and should be used for the conservation of rare and endemic plants and animals found in the plateaus of the project area. These forests not only serve as green belt to mitigate fugitive emissions, CO<sub>2</sub> and other pollutants, but also serve as a conservation area.*

*(iv) The reserve forest that demarcates the project boundary on the south is also highly degraded. This intact patch should be restored to its original forest ecosystem and should be connected to the forest ecosystem of the project area and other reserve forest in the area. This would not only serve as buffer for the project but also acts as a corridor for wildlife and enhance stream flow. For this purpose the PP should provide grants to the State Forest Department and work should start within a reasonable time of 1-2 years after preparing a detailed site specific action plan.*

*(v) The tribal communities of the area and local MLA welcomed the project. However, they expressed higher compensation for land acquired, the best R & R package available and implementation of social welfare schemes and healthcare system for local communities. The PP should create a permanent corpus fund for tribal welfare and also provide adequate compensation for the land losers irrespective of their status besides best possible R & R package and extending social welfare schemes and healthcare system for local communities.*

*(vi) Cumulative impact assessment of air, water, soil and socio-economics should be carried out in view of a number of cement plants already established / operating in the vicinity of the proposed plant.*

(vi) As agreed by the PP, the area for ash pond shall be minimized by shifting it towards North. Further, a minimum distance of 500 m buffer shall be maintained between the proposed ash pond and Tungapadu Vagu. The buffer shall be developed into thick green belt/natural forest.

(vii) Issue of ToR to TSGENCO for setting up of 5x800 MW coal-fired supercritical TPP at Veerlapalem village of Dameracherla Mandal in Nalgonda District of Telangana State may be considered by including the above recommendations as ToRs besides other generic ToRs."

38. So, it is clear from this, the EAC has not mechanically accepted the FC, but they have made a site inspection and it is on that basis, they have made certain recommendations for the purpose of maintaining the ecological sensitiveness of the forest area and approving the site selection process for this project. That shows the proper application of mind of the EAC, as they have not mechanically accepted the same.

39. Further, the Telangana State being a new state formed, they may require power generation for their development process, for which, they will have to develop further power plants. So, the principle of 'Sustainable Development' will have to be considered, as without economic growth, needs of the people cannot be considered. But at the same time, environment protection cannot be given a go by as well. So, all these aspects have been considered by the EAC and also observed that in the exceptional circumstances, they are accepting this area for the project as the forest area is a degraded forest. Though we are not happy with the manner in which the MoEF&CC, Government of India had granted the approval for grant of FC for the project and the State of Telangana had selected a reserved forest for this project, in future, we direct the MoEF&CC to desist from ordering conversion/diversion of forest land for non-forest purpose for industrial purposes especially those are having more potential for pollution being caused in the area and that is likely to have impact on forest. They should not mechanically grant the permissions even as exceptional circumstances and they must desist from converting the forest land for non-forest purposes for such commercial projects in future. The State Government is also excepted to show their indulgence in selecting the project areas which are not involved in reserved forest or other forest for the purpose of such industries and they must sought for other areas though they will have to pay more compensation for that purpose, especially when the global warming is

increasing and the entire international communities are very much concerned about the global warming which will have more impact on climate change.

**40.** We feel that the MoEF&CC, Government of India and respective State Governments will look into these issues in future very seriously while considering the proposal for conversion of forest land for non-forest purposes especially for industries like Thermal Power Plant and other 'Red' Category industries which are likely to have impact on forest as such. However, considering the exceptional circumstances mentioned above, we are not interfering with the site selection process adopted by the State Government for housing this project in this area, considering the fact that being a new State, it may require more power and project proponent had already invested some public money in making some constructions.

**41.** As regards the coal linkage is concerned, there is some force in the submission made by the learned counsel for the appellant that there was no specific coal linkage has been provided except producing certain Memo of Understandings (MoUs) with the agencies which are dealing with the imported coal and also indigenous coal (Indian coal). According to them, their proposal is to have a Super Critical Thermal Power Plant using blended coal viz., Imported Coal and Indigenous Coal in a particular ratio and M/s. BHEL is also developing the machineries and the pollution control mechanism that will have to be adopted including the FGD System to control  $\text{SO}_2$  and  $\text{NO}_x$  in an effective manner. Further, the EAC also specifically mentioned in some of the meetings that they will have to produce the specific coal linkage for the purpose of appraisal and it is also settled law that the impact of the coal will depend on the nature of coal that is being used on the Ambient Air Quality. But in this case, the EIA Report will go to show that they have relied on the report of M/s. Vimta Labs Limited for the purpose of coming to the conclusion that there is no possibility of mercury level which will have any impact on environment. But this was not accepted by the EAC while recommending the project and they wanted further study to be

conducted by another agency viz., IICT, Hyderabad and that was done by them and there was a wide variation of mercury content found by M/s. Vimta Labs Limited and IICT, Hyderabad. But this was not submitted to the EAC for further consideration. But on the other hand, the MoEF&CC had issued the EC directing them to comply with the mercury content and other metal contents as per the notification issued by the MoEF&CC in this regard. Unless, this has been evaluated by the EAC, it cannot be possible to come to a conclusion as to whether any further study will have to be conducted on this aspect.

**42.** Further, this aspect has been considered by the Tribunal **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** by Judgment dated 27.05.2021 and this Tribunal directed them to conduct a further study on this aspect and suspended the EC for this purpose and that was challenged before the Hon'ble Supreme Court as **Civil Appeal No. 1846 of 2021** by Telangana NTPC and the Hon'ble Supreme Court has upheld the direction but permitted the project proponent to proceed with the construction subject to the outcome of the studies and further decision to be taken by the EAC and the issuing authority. Further, the subsequent documents produced by the respondents will also only go to show that there are only MoU that is being entered into and specific coal linkage has been so far obtained. They are only getting assurance from M/s. SCCL for supply of necessary coal required for this purpose. Further, there is nothing on record to show that they have entered into any coal linkage in respect of imported coal and no steps have been taken for conducting any study of radio activity in respect of the imported coal as well. But during the course of the argument, it was argued that they are now going for 100% indigenous coal in view of the import restrictions made by the Government of India in this regard to promote the use of Indian coal by the Thermal Power Projects. If that be the case, the entire study by the EIA Consultant on the Ambient Air Quality will have to be revisited and further, the FGD system and other pollution control mechanism that is required for this purpose also will have to be revisited and that will have to be reappraised by the Expert Appraisal Committee. Further, from the site inspection conducted by the EAC, they came to the

conclusion that the Amrabad Tiger Reserve is above 10 Km from the project site. They have not given the exact distance. Neither the report submitted by the PCCF & Chief Wildlife Warden nor the EIA Report is giving the exact distance between the boundary of the project area and the Amrabad Tiger Reserve. Unless, the exact distance is identified, it may not be possible to come to the conclusion that as to whether the default eco-sensitive zone of 10 Km will have to be taken for the purpose of directing the project proponent for obtaining clearance from the NBWL as required under the Office Memorandum issued by the MoEF&CC, Government of India in this regard.

43. So under such circumstances, the exact location of the project area and the distance between the tiger reserve has to be ascertained so as to ascertain as to whether any further clearance from NBWL has to be obtained or not. Further, the AAQ test also will have to be considered taking into account the existing industries within 25 Km area, as has been observed by the Tribunal in **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** by Judgment dated 27.05.2021 relying on the earlier decisions of the National Green Tribunal in this regard which was confirmed by the Hon'ble Apex Court in **Civil Appeal No. 1846 of 2021.**

44. So under such circumstances, we feel that in order to proceed with the project, there are certain other aspects also will have to be considered applying the '*Precautionary Principle*' and without considering the same, it is not possible to come to the conclusion that the appraisal made was correct. But for that purpose, we do not think that there is no necessity to set aside the EC but it need only be suspended for the limited purpose of restricting the commissioning the project but permitting the project proponent to proceed with the construction and other aspects, but installation of machineries etc. on the basis of the further studies to be conducted will be sufficient.

45. In view of the detailed discussions and observations made above, we feel that the appeal can be disposed of with the following directions:-

- a. We direct the MoEF&CC and the Government of India/State Government that in future while considering the diversion of forest land for non-forest purpose, they must be very strict in complying with the guidelines of siting and the nature of projects for which this can be granted etc. and while considering those aspects, they will have to avoid conversion of the forest land for non-forest purpose especially for projects like Thermal Power Plants, Atomic Power Plants and other Red Category industries which are declared to be industries likely to cause high level of pollution and it is likely to affect the forest cover and considering the fact that damage to forest cover can have great impact on global warming and climate change. It should also be noted that the commitment of India, being a member of the international conventions on climate change have committed to increase the green cover to minimize the impact of green house gases which are likely to have impact on global warming which will be affected by such conversions.
- b. The EC granted to the 4<sup>th</sup> respondent is suspended till the further appraisal is done on the basis of the following directions to be issued by the Tribunal only to the limited extent of preventing the project proponent from commissioning the project and installing the machineries but they can proceed with the construction aspects and that will be subject to the further orders to be passed by the MoEF&CC on the basis of the studies directed to be conducted.
- c. The MoEF&CC is directed to issue additional ToR to the project proponent for the purpose of conducting further studies on the following aspects:-
  - a. They will have to specify the coal linkage for conducting the study on radio activity impact and they will have to conduct the study on those aspects as directed by this Tribunal in **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** by Judgment dated 27.05.2021 confirmed by the Hon'ble Apex Court in **Civil Appeal No. 1846 of 2021.**

- b. If the project proponent intends to switch over to 100% indigenous coal, then they will have to conduct further study on this aspect and that can be done only by filing an application before the MoEF&CC for this purpose and if any further ToR is required that also must be issued by the MoEF&CC and the public hearing will have to be conducted and all other procedure to be followed as directed by the Hon'ble Apex Court in **Key Stone Realtors Private Limited Vs. Anil V Tharthare & Ors. (Civil Appeal No. 2435 of 2019)** as mere amendment of the EC already granted will not be sufficient and this Tribunal also ignored the Office Memorandum issued by the MoEF&CC, Government of India in this regard while considering this issue in **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** by Judgment dated 27.05.2021 confirmed by the Hon'ble Apex Court in **Civil Appeal No. 1846 of 2021**.
- d. While considering these aspects, the MoEF&CC is also directed to issue a direction to the project proponent to conduct additional studies (if any) to be conducted regarding the sufficiency of the ash ponds provided and design and maintenance system that has to be provided and the mitigation measures to be taken a fresh in this regard in view of the discussion and findings made by this Tribunal on these aspects as well.
- e. The project proponent is also directed to conduct the Ambient Air Quality Modelling and cumulative impact assessment as directed by this Tribunal in **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** taking into account the impact of the same taking 25 Km radius as protected area is also available in that area and other industries and villages are also available in that area to assess the actual impact of the same and mitigation measures to be taken in this regard.
- f. The project proponent is also directed in co-ordination with the PCCF & Chief Wildlife Warden, State of Telangana to ascertain the exact distance between the project area and the boundary of the Amrabad Tiger Reserve and if the distance is within 10 Km of default eco-sensitive zone, then they must be directed to obtain

necessary Wildlife Clearance from the NBWL as required under the Wildlife (Protection) Act, 1972 and also Office Memorandums issued by the MoEF&CC in this regard.

- g. After obtaining the Wildlife Clearance and after getting the concerned reports as directed, then the EAC is directed to reappraise the project and take independent decision regarding the recommendation or otherwise and intimate the same to the MoEF&CC and on that basis, the MoEF&CC is directed to take appropriate decision in this regard either by imposing additional conditions or other decisions to be taken on the basis of the recommendations made by the EAC and pass appropriate orders in this regard.
- h. The entire exercise must be completed by the project proponent and the EAC and the issuing authority **within a period of 9 (Nine) months.**

46. The points are answered accordingly.

47. **In the result, the appeal is allowed in part and disposed of with the following directions:-**

- (I) We direct the MoEF&CC and the Government of India/State Government that in future while considering the diversion of forest land for non-forest purpose, they must be very strict in complying with the guidelines of siting and the nature of projects for which this can be granted etc. and while considering those aspects, they will have to avoid conversion of the forest land for non-forest purpose especially for projects like Thermal Power Plants, Atomic Power Plants and other Red Category industries which are declared to be industries likely to cause high level of pollution and it is likely to affect the forest cover and considering the fact that damage to forest cover can have great impact on global warming and climate change. It should also be noted that the commitment of India, being a

member of the international conventions on climate change have committed to increase the green cover to minimize the impact of green house gases which are likely to have impact on global warming which will be affected by such conversions.

- (II) The EC granted to the 4<sup>th</sup> respondent is suspended till the further appraisal is done on the basis of the following directions to be issued by the Tribunal only to the limited extent of preventing the project proponent from commissioning the project and installing the machineries but they can proceed with the construction aspects and that will be subject to the further orders to be passed by the MoEF&CC on the basis of the studies directed to be conducted.
- (III) The MoEF&CC is directed to issue additional ToR to the project proponent for the purpose of conducting further studies on the following aspects:-
- a. They will have to specify the coal linkage for conducting the study on radio activity impact and they will have to conduct the study on those aspects as directed by this Tribunal in **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** by Judgment dated 27.05.2021 confirmed by the Hon'ble Apex Court in **Civil Appeal No. 1846 of 2021.**
  - b. If the project proponent intends to switch over to 100% indigenous coal, then they will have to conduct further study on this aspect and that can be done only by filing an application before the MoEF&CC for this purpose and if any further ToR is required that also must be issued by the MoEF&CC and the public hearing will have to be conducted and all other procedure to be followed as directed by the Hon'ble Apex Court in **Key Stone Realtors Private Limited Vs. Anil V Tharthare & Ors. (Civil Appeal No. 2435 of 2019)** as mere amendment of the EC already granted will not be sufficient and this Tribunal also ignored the Office Memorandum issued by

the MoEF&CC, Government of India in this regard while considering this issue in **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** by Judgment dated 27.05.2021 confirmed by the Hon'ble Apex Court in **Civil Appeal No. 1846 of 2021**.

- (IV) While considering these aspects, the MoEF&CC is also directed to issue a direction to the project proponent to conduct additional studies (if any) to be conducted regarding the sufficiency of the ash ponds provided and design and maintenance system that has to be provided and the mitigation measures to be taken a fresh in this regard in view of the discussion and findings made by this Tribunal on these aspects as well.
- (V) The project proponent is also directed to conduct the Ambient Air Quality Modelling and cumulative impact assessment as directed by this Tribunal in **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** taking into account the impact of the same taking 25 Km radius as protected area is also available in that area and other industries and villages are also available in that area to assess the actual impact of the same and mitigation measures to be taken in this regard.
- (VI) The project proponent is also directed in co-ordination with the PCCF & Chief Wildlife Warden, State of Telangana to ascertain the exact distance between the project area and the boundary of the Amrabad Tiger Reserve and if the distance is within 10 Km of default eco-sensitive zone, then they must be directed to obtain necessary Wildlife Clearance from the NBWL as required under the Wildlife (Protection) Act, 1972 and also Office Memorandums issued by the MoEF&CC in this regard.
- (VII) After obtaining the Wildlife Clearance and after getting the concerned reports as directed, then the EAC is directed to reappraise the project and take independent decision regarding the recommendation or otherwise and intimate the

same to the MoEF&CC and on that basis, the MoEF&CC is directed to take appropriate decision in this regard either by imposing additional conditions or other decisions to be taken on the basis of the recommendations made by the EAC and pass appropriate orders in this regard.

(VIII) The entire exercise must be completed by the project proponent and the EAC and the issuing authority **within a period of 9 (Nine) months.**

(IX) Considering the circumstances, parties are directed to bear their respective cost in the appeal.

(X) Till further directions are issued from the MoEF&CC, the project proponent is directed not to commission the project but they can proceed with the project of construction of infrastructure and they must also not to install the machineries, as this may also involve a revisit on the basis of the further recommendations/conditions if any to be issued by the EAC and the issuing authority viz., MoEF&CC and that will be subject to the directions of the MoEF&CC and at their risk.

(XI) The Registry is directed to communicate this order to the MoEF&CC and other official respondents for their information and compliance of directions.

48. With the above observations and directions, this appeal is disposed of accordingly.

Sd/-  
Justice K. Ramakrishnan, J.M.

Sd/-  
Dr. Satyagopal Korlapati, E.M.

Appeal No.15/2020 (SZ)  
30<sup>th</sup> September, 2022. Mn.

**MINUTES OF THE 32<sup>ND</sup> MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS HELD ON 02<sup>ND</sup> NOVEMBER, 2022**

The 32<sup>nd</sup> Meeting of the re-constituted EAC (Thermal Power) organized by the Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Aliganj, Jor Bagh Road, New Delhi was held on 02<sup>nd</sup> November, 2022 through video conference under the Chairmanship of Shri Gururaj P. Kundargi. The list of Members participated in the meeting is at **Annexure**.

**Agenda Item No. 32.1: Confirmation of the Minutes of the 31<sup>st</sup> EAC meeting**

The Minutes of the 31<sup>st</sup> EAC (Thermal Power) meeting held on 11<sup>th</sup> October, 2022 were confirmed in the meeting.

**Agenda Item No. 32.2**

**Expansion of existing 106.617 MW and 112.45 MW gas based TPP by addition of 395 MW gas based TPPP at village Dhuvaran, Taluk kahambat, District Anand (Gujarat) – Amendment in Environmental Clearance – reg.**

**[Proposal No. IA/GJ/THE/20425/2011; F. No. J-13012/103/2007-IA.II (T)]**

**32.2.1** The proposal is for grant of amendment in Environment Clearance for Expansion of existing 106.617 MW and 112.45 MW gas based TPP by addition of 395 MW gas based TPPP at village Dhuvaran, Taluk kahambat, District Anand (Gujarat).

**32.2.2** The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

- i. The Environment Clearance (EC) for "Expansion of existing 106.617 MW and 112.45 MW Gas Based TPP by addition of 395 MW Gas Based TPP at Village Dhuvaran, in Khambhat Taluka in Anand District, in Gujarat" was accorded by MoEF&CC vide letter dated 13.01.2011.
- ii. The co-ordinates of the site are at Latitude 22°14'03.76'' N to to 22°14'09.95" N and Longitude 72°45'30.39" E to 72°45'30.75" E. Gas requirement will be 1.8 MMSCMD, which will be obtained from GAIL/GSPCL. There are no national park, wild life sanctuary, biosphere/ tiger /elephant reserves, heritage sites etc within 10 km of the project boundary.
- iii. At time of grant of EC water requirement will be 13.8 MLD, which will be obtained from Mahi Canal and Reservoir at Kanbha village from existing pipeline.
- iv. PP submitted proposal dated 14.10.2022 and has sought following amendments in EC dated 13.01.2011:

S.No.	EC Condition no.	Stipulated in EC	Amendment requested
1.	2.	The Ministry of Environment &	The Ministry of Environment &

		<p>Forests has examined the application. The proposal is for expansion of existing 106.617 MW and 112.45 MW Gas Based TPP by addition of 395 MW Gas Based TPPP at village Dhuvaran, in Kahambat Taluk, in Anand Distt., in Gujarat. Besides the above units other units which will be de-commissioned are 4x63.5 MW Oil Fired Plant; 2x27 MW Open Cycle Gas Turbine and 2x140 MW Open Cycle Gas Turbine. Land requirement will be 30 acres, which is available within the existing premises. The co-ordinates of the site are at Latitude 22°14'03.76" N to 22°14'09.95" N and Longitude 72°45'30.39" E to 72° 45'30.75 E. Gas Orequirement will be 1.8 MMSCMD, which will be obtained from GAIL/GSPCL. <b>Water requirement will be 13.8 MLD, which will be obtained from Mahi Canal and Reservoir at Kanbha village from existing pipeline.</b> There are no national park, wild life sanctuary, biosphere/ tiger/ elephant reserves, heritage sites etc within 10km of the project boundary. Public hearing was held on 29.09.2010. Cost of the project will be Rs. 1433.85 Crores.</p>	<p>Forests has examined the application. The proposal is for expansion of existing 106.617 MW and 112.45 MW Gas Based TPP by addition of 395 MW Gas Based TPPP at village Dhuvaran, in Kahambat Taluk, in Anand Distt., in Gujarat. Besides the above units other units which will be de-commissioned are 4x63.5 MW Oil Fired Plant; 2x27 MW Open Cycle Gas Turbine and 2x140 MW Open Cycle Gas Turbine. Land requirement will be 30 acres, which is available within the existing premises. The co-ordinates of the site are at Latitude 22°14'03.76" N to 22°14'09.95" N and Longitude 72°45'30.39" E to 72°45'30.75" E. Gas requirement will be 1.8 MMSCMD, which will be obtained from GAIL/GSPCL. <b>Water requirement will be 13.8 MLD, which will be obtained from Mahi Canal and Reservoir at Kanbha village from existing pipeline for a period whenever the water is available from this source. Alternatively, in case of non-availability of water from Mahi Canal and Reservoir at Kanbha village, the water can be obtained from the sweet / brakish water borewells in and around the plant premises. Brackish water from borewells can be used for cooling systems and sweet borewell water can be used for potable use / DM Water / Plant services.</b> There are no national park, wild / life sanctuary, biosphere / tiger / elephant reserves, heritage sites etc within 10km of the project boundary. Public hearing was held on 29.09.2010. Cost of the project will be Rs. 1433.85 Crores.</p>
2.	Specific condition (vi)	<b>No ground water shall be extracted for the project work at any stage.</b>	As the water from Mahi canal and Reservoir at Kanbha village is not available on regular basis, brackish /

			sweet ground water can be used for the project, in case of non-availability of this water.
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v. **Justification from PP:**

- a) As per the MoM with Water Resources Department (WRD), Gujarat State, it is not possible for them to supply water to GSECL, Dhuvaran Gas Based Power Station (DGBPS) from March to June every year due to closure of canal. Further, as per Water Availability Certificate from Anand Irrigation Division, the Irrigation Dept. provides only 3000 KLD (3 MLD) water to DGBPS. As per the water availability certificate from Public Health Sanitary Sub-Division, GWSSB, Tarapur, no water is provided by them to DGBPS.
- b) On account of this, DGBPS is totally dependent on bore well water during the period of March to June every year and partially dependent on bore well water for remaining quantity (apart from 3 MLD) for the remaining period of the year.
- c) The No Objection Certificate (NOC) No.: CGWA/NOC/IND/ORIG/2022/16081 from Central Ground Water Authority (CGWA) issued to DGBPS for Brakish (Saline) water borewells.
- d) The application for NOC from CGWA for fresh water borewells is in process vide Draft application code 76054 dtd.: 29.6.22 The NOC processing fee for the same is also paid by GSECL, DGBPS vide Transaction Ref. No. 2706220021359 dtd.: 27.06.22.

**32.2.3** The EAC during deliberations noted the following:

The proposal is for grant of amendment in Environment Clearance dated 13.01.2011 for Expansion of existing 106.617 MW and 112.45 MW gas based TPP by addition of 395 MW gas based TPP at village Dhuvaran, Taluk Kahambat, District Anand (Gujarat).

The PP has requested for change in water requirement for the TPP. Total water requirement for the project is 13.8 MLD, which was initially obtained from Mahi Canal and Reservoir at Kanbha village from existing pipeline, but now WRD, Govt. of Gujrat will not supply the water from March to June every year due to closure of canal. Dhuvaran Gas Based Power Station (DGBPS) is totally dependent on bore well water during the period of March to June every year and partially dependent on bore well water for remaining quantity (apart from 3 MLD) for the remaining period of the year.

During the meeting EAC noted **non-compliance of EC conditions** as PP is using borewell water continuously without obtaining any amendment/ intimation to the Ministry. Therefore, the EAC requested Ministry to act as per the law. Further, the EAC noted that drawing of brackish from the ground water will be a matter of concern as it may lead to increase the salinity the fresh water.

**32.2.4** *The EAC, after detailed deliberations on the information submitted by the project proponent, deferred the proposal seeking additional information from the project proponent:*

- i. *PP shall submit details about the ground water resources, along with comparison of ground water EC/TDS and canal water EC/TDS and quality of water.*

- ii. PP shall submit time period form which ground water is being withdrawn along with its quantity.
- iii. PP shall submit water balance (water utilization) for the month of March to June and July to February.
- iv. Details about the treatment of STP sewage and utilization. It shall be justified that why STP treated water can't be use for power generation.
- v. Yearly Ground Water recharge rate, 10 years rainfall data (within 5km radius of the plant boundary), percolation rate of rain water harvesting system, its locations, future plan to recharge the ground water and surface plan of borewell location shall be submitted.
- vi. Water auditing study shall be carried out to justify the quantity of the water has been conserved by the PP.
- vii. A study shall be carried out on impact of TPP by drawing of ground water on nearby estuaries and its mitigation measures, if any.
- viii. An EIA accredited consultant shall attend the next EAC to present all technical details.

The project was **deferred** on above points.

### **Agenda Item No. 32.3:**

#### **Directions of Hon'ble National Green Tribunal (NGT) Southern Zone, Chennai in Appeal No. 15 of 2020 between Conservation Action Trust Versus Union of India & Ors.**

**32.3.1** The Member Secretary informed the EAC that Hon'ble National Green Tribunal (Southern Bench) at Chennai while examining the issues under **Appeal no. 15 of 2020 between Conservation Action Trust Versus Union of India & Ors., challenging the Environmental Clearance (EC) granted by the Ministry of Environment, Forest & Climate Change ("MoEF&CC") to the M/s. Telangana State Power Development Corporation Limited for their 5 x 800 MW Super Critical Coal-based Yadadri Thermal Power Station ("Yadadri TPS") vide their Proceedings Letter No.J-13012/18/2015-IA.I (T) dated 29.06.2017**, passed an order on 30.09.2022 wherein it opined (at para no 39 & 40) that :

*"39. ... Though we are not happy with the manner in which the MoEF&CC, Government of India had granted the approval for grant of FC for the project and the State of Telangana had selected a reserved forest for this project, in future, we direct the MoEF&CC to desist from ordering conversion/diversion of forest land for non-forest purpose for industrial purposes especially those are having more potential for pollution being caused in the area and that is likely to have impact on forest. They should not mechanically grant the permissions even as exceptional circumstances and they must desist from converting the forest land for non-forest purposes for such commercial projects in future...*

*40. We feel that the MoEF&CC, Government of India and respective State Governments will look into these issues in future very seriously while considering the proposal for conversion of forest land for non-forest purposes especially for industries like Thermal Power Plant and other 'Red' Category industries which are likely to have impact on forest as such. However, considering the exceptional circumstances mentioned above, we are*

*not interfering with the site selection process adopted by the State Government for housing this project in this area, considering the fact that being a new State, it may require more power and project proponent had already invested some public money in making some constructions.....”*

The appeal was disposed off with the following directions:

“.....

- a. *We direct the MoEF&CC and the Government of India/State Government that in future while considering the diversion of forest land for non-forest purpose, they must be very strict in complying with the guidelines of siting and the nature of projects for which this can be granted etc. and while considering those aspects, they will have to avoid conversion of the forest land for non-forest purpose especially for projects like Thermal Power Plants, Atomic Power Plants and other Red Category industries which are declared to be industries likely to cause high level of pollution and it is likely to affect the forest cover and considering the fact that damage to forest cover can have great impact on global warming and climate change. It should also be noted that the commitment of India, being a member of the international conventions on climate change have committed to increase the green cover to minimize the impact of green house gases which are likely to have impact on global warming which will be affected by such conversions.*
- b. *The EC granted to the 4th respondent is suspended till the further appraisal is done on the basis of the following directions to be issued by the Tribunal only to the limited extent of preventing the project proponent from commissioning the project and installing the machineries but they can proceed with the construction aspects and that will be subject to the further orders to be passed by the MoEF&CC on the basis of the studies directed to be conducted.*
- c. *The MoEF&CC is directed to issue additional ToR to the project proponent for the purpose of conducting further studies on the following aspects:-*
  - a. *They will have to specify the coal linkage for conducting the study on radio activity impact and they will have to conduct the study on those aspects as directed by this Tribunal in **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** by Judgment dated 27.05.2021 confirmed by the Hon'ble Apex Court in **Civil Appeal No. 1846 of 2021.***
  - b. *If the project proponent intends to switch over to 100% indigenous coal, then they will have to conduct further study on this aspect and that can be done only by filing an application before the MoEF&CC for this purpose and if any further ToR is required that also must be issued by the MoEF&CC and the public hearing will have to be conducted and all other procedure to be followed as directed by the Hon'ble Apex Court in **Key Stone Realtors Private Limited Vs. Anil V Tharthare & Ors. (Civil Appeal No. 2435 of 2019)** as mere amendment of the EC already granted will not be sufficient and this Tribunal also ignored the Office Memorandum issued by the MoEF&CC, Government of India in this regard while considering this issue in **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** by Judgment dated 27.05.2021 confirmed by the Hon'ble Apex Court in **Civil Appeal No. 1846 of 2021.***

- d. *While considering these aspects, the MoEF&CC is also directed to issue a direction to the project proponent to conduct additional studies (if any) to be conducted regarding the sufficiency of the ash ponds provided and design and maintenance system that has to be provided and the mitigation measures to be taken a fresh in this regard in view of the discussion and findings made by this Tribunal on these aspects as well.*
- e. *The project proponent is also directed to conduct the Ambient Air Quality Modelling and cumulative impact assessment as directed by this Tribunal in **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** taking into account the impact of the same taking 25 Km radius as protected area is also available in that area and other industries and villages are also available in that area to assess the actual impact of the same and mitigation measures to be taken in this regard.*
- f. *The project proponent is also directed in co-ordination with the PCCF & Chief Wildlife Warden, State of Telangana to ascertain the exact distance between the project area and the boundary of the Amrabad Tiger Reserve and if the distance is within 10 Km of default eco-sensitive zone, then they must be directed to obtain necessary Wildlife Clearance from the NBWL as required under the Wildlife (Protection) Act, 1972 and also Office Memorandums issued by the MoEF&CC in this regard.*
- g. *After obtaining the Wildlife Clearance and after getting the concerned reports as directed, then the EAC is directed to reappraise the project and take independent decision regarding the recommendation or otherwise and intimate the same to the MoEF&CC and on that basis, the MoEF&CC is directed to take appropriate decision in this regard either by imposing additional conditions or other decisions to be taken on the basis of the recommendations made by the EAC and pass appropriate orders in this regard.*
- h. *The entire exercise must be completed by the project proponent and the EAC and the issuing authority **within a period of 9 (Nine) months.***

46. *The points are answered accordingly.*

**47. In the result, the appeal is allowed in part and disposed of with the following directions: -**

- I. *We direct the MoEF&CC and the Government of India/State Government that in future while considering the diversion of forest land for non-forest purpose, they must be very strict in complying with the guidelines of siting and the nature of projects for which this can be granted etc. and while considering those aspects, they will have to avoid conversion of the forest land for non-forest purpose especially for projects like Thermal Power Plants, Atomic Power Plants and other Red Category industries which are declared to be industries likely to cause high level of pollution and it is likely to affect the forest cover and considering the fact that damage to forest cover can have great impact on global warming and climate change. It should also be noted that the commitment of India, being a member of the international conventions on climate change have committed to increase the green cover to minimize the impact of green house gases which are likely to have impact on global warming which will be affected by such conversions.*
- II. *The EC granted to the 4<sup>th</sup> respondent is suspended till the further appraisal is done on the basis of the following directions to be issued by the Tribunal only to the limited extent of preventing the project proponent from commissioning the project and installing the*

*machineries but they can proceed with the construction aspects and that will be subject to the further orders to be passed by the MoEF&CC on the basis of the studies directed to be conducted.*

- III. *The MoEF&CC is directed to issue additional ToR to the project proponent for the purpose of conducting further studies on the following aspects:-*
- a. *They will have to specify the coal linkage for conducting the study on radio activity impact and they will have to conduct the study on those aspects as directed by this Tribunal in **Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.)** by Judgment dated 27.05.2021 confirmed by the Hon'ble Apex Court in **Civil Appeal No. 1846 of 2021.***
  - b. *If the project proponent intends to switch over to 100% indigenous coal, then they will have to conduct further study on this aspect and that can be done only by filing an application before the MoEF&CC for this purpose and if any further ToR is required that also must be issued by the MoEF&CC and the public hearing will have to be conducted and all other procedure to be followed as directed by the Hon'ble Apex Court in **Key Stone Realtors Private Limited Vs. Anil V Tharthare & Ors. (Civil Appeal No. 2435 of 2019)** as mere amendment of the EC already granted will not be sufficient and this Tribunal also ignored the Office Memorandum issued by the MoEF&CC, Government of India in this regard while considering this issue in Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.) by Judgment dated 27.05.2021 confirmed by the Hon'ble Apex Court in Civil Appeal No. 1846 of 2021.*
- IV. *While considering these aspects, the MoEF&CC is also directed to issue a direction to the project proponent to conduct additional studies (if any) to be conducted regarding the sufficiency of the ash ponds provided and design and maintenance system that has to be provided and the mitigation measures to be taken a fresh in this regard in view of the discussion and findings made by this Tribunal on these aspects as well.*
- V. *The project proponent is also directed to conduct the Ambient Air Quality Modelling and cumulative impact assessment as directed by this Tribunal in Appeal No.46 of 2016 (SZ) (Uma Maheshwar Dahagama Vs. Union of India & Ors.) taking into account the impact of the same taking 25 Km radius as protected area is also available in that area and other industries and villages are also available in that area to assess the actual impact of the same and mitigation measures to be taken in this regard.*
- VI. *The project proponent is also directed in co-ordination with the PCCF & Chief Wildlife Warden, State of Telangana to ascertain the exact distance between the project area and the boundary of the Amrabad Tiger Reserve and if the distance is within 10 Km of default eco-sensitive zone, then they must be directed to obtain necessary Wildlife Clearance from the NBWL as required under the Wildlife (Protection) Act, 1972 and also Office Memorandums issued by the MoEF&CC in this regard.*
- VII. *After obtaining the Wildlife Clearance and after getting the concerned reports as directed, then the EAC is directed to reappraise the project and take independent decision regarding the recommendation or otherwise and intimate the same to the MoEF&CC and on that*

*basis, the MoEF&CC is directed to take appropriate decision in this regard either by imposing additional conditions or other decisions to be taken on the basis of the recommendations made by the EAC and pass appropriate orders in this regard.*

- VIII. *The entire exercise must be completed by the project proponent and the EAC and the issuing authority within a period of 9 (Nine) months.*
- IX. *Considering the circumstances, parties are directed to bear their respective cost in the appeal.*
- X. *Till further directions are issued from the MoEF&CC, the project proponent is directed not to commission the project but they can proceed with the project of construction of infrastructure and they must also not to install the machineries, as this may also involve a revisit on the basis of the further recommendations/conditions if any to be issued by the EAC and the issuing authority viz., MoEF&CC and that will be subject to the directions of the MoEF&CC and at their risk.*
- XI. *The Registry is directed to communicate this order to the MoEF&CC and other official respondents for their information and compliance of directions.... ”*

A letter dated 14.10.2022 received from M/s. Telangana State Power Generation Corporation (TSGENCO) requesting the Ministry for issuing necessary directions as per the Judgement of Hon'ble NGT (SZ), Chennai, pronounced in the Appeal No. 15/2020.

In view of the above, following was decided in the Ministry that:

- i. The matter may be considered in next EAC meeting to issue additional ToR to said project for compliance of Hon'ble NGT order dated 30.09.2022.
- ii. The NGT order dated 30.09.2022 may be forwarded to FC Division for taking necessary action on the Hon'ble NGT directions w.r.t. consideration of the proposal for conversion of forest land for non-forest purposes especially for industries like Thermal Power Plant and other 'Red' Category industries which may have impact on forest.

**32.3.4** Accordingly, the matter was discussed by the EAC in its meeting held on 02/11/2022. M/s TSGENCO along with its consultant M/s B. S. Envi – Tech Pvt. Ltd., Secunderabad, (NABET Accreditation No: NABET/EIA/2023/SA 0157) presented following facts and details of the project in question:

- (i) Standard ToR was issued by MoEF&CC, GoI vide Lr. No. J-13012/18/2015-IA.I (T), Dated.02.11.2015. The sub-committee of Expert Appraisal Committee (T&C) consisting of Prof. C. R. Babu, Member (EAC), Sri. T. K. Dhar, Member (EAC), Sri. A. K. Bansal, Member (EAC), Sri B. B. Barman, Member secretary (EAC) and Director, MoEF&CC and Sri Dr. M. Ramesh, Joint Director, MoEF&CC have visited the project site on 05.12.2015 and submitted their report in the month of December, 2015. MoEF&CC, GoI has issued Additional ToR vide Lr. No. J-13012/18/2015-IA. I(T), Dated.16.02.2016.
- (ii) MoEF&CC, GoI has issued Environmental Clearance for the Project vide Lr. No. J-13012/18/2015-IA. I(T), Dated.29.06.2017.

- (iii) Telangana State Pollution Control Board (TSPCB) has issued Consent for Establishment for the above project vide Order No.10/TSPCB/CFE/RO-NLG/2017, Dt. 25.07.2017.
- (iv) Original project cost was Rs. 25,099.42 Crores (as per the EC) sanctioned vide T.G.O.O No. 210/Coal & Commercial /2015, Dated 29.08.2015 of TSGENCO and the project cost is revised to Rs. 29,965.48 Crores vide Revised Administrative Approval T.G.O.O No. 664/Coal & Commercial/2017, Dated 23.12.2017.
- (v) The project construction works were awarded to M/s. BHEL, New Delhi for an amount of Rs. 20,379.00 Crores vide LOI No. ED/TPC/SE-III/ EME-9/YTPS/D. No. 102/17, dated. 17.10.2017.
- (vi) M/s BHEL have commenced the project construction works immediately as per the above orders and as on date 61.50% of the project works were completed and balance works are in full swing.
- (vii) The status of the works are as follows:
- Hydraulic test of the boilers of Units- 1, 2 & 4 already completed and it is proposed to complete the hydraulic test of the boilers of Unit – 3 & 5 by December, 2022.
  - Further, the erection of Turbines and Generator of Unit – 1 & 2 is in advanced stage and erection of TG in Unit – 4 & 5 is already taken up. 90% of erection of ESPs for all the five (5) Units including Air Tightness Test (ATT) completed.
  - The progress of all other erection works are in full swing.
  - It is programmed to commission the first two (2) Units by August, 2023, 3<sup>rd</sup> Unit by December, 2023 and the balance two (2) Units by March, 2024.
  - As on date, an amount of Rs. 18,443.50 Crores was incurred out of the total project cost of 29,965.48 Crores.
- (viii) M/s The Conservation Action Trust, Mumbai and another filed Appeal No. 15/2020 in Hon'ble NGT, Chennai challenging the Environmental clearance granted to the project by MoEF & CC, GoI.

The Hon'ble NGT, Chennai has delivered the Judgement in the appeal No. 15/2020 by allowing the appeal in part and disposed off the appeal with the following directions and the point wise submissions by Telangana State Power Generation Corporation Limited (TSGENCO) on each direction are as follows.

	The MoEF&CC and the Government of India/State Government that in future while considering the diversion of forest land for non-forest purpose, they must be very strict in complying with the guidelines of siting.....	The above are the directions given to MoEF & CC/Government of India and State Government only.
	The EC granted to the 4th respondent is suspended till	As on date 61.50% of the project works completed and they are in full swing. So far an amount of Rs. 18,443.50 Crores

	<p>the further appraisal is done on the basis of the following directions to be issued by the Tribunal only to the limited extent of preventing the project proponent from commissioning the project and installing the machineries but they can proceed with the construction aspects and that will be subject to the further orders to be passed by the MoEF&amp;CC on the basis of the studies directed to be conducted.</p>	<p>out of Rs. 29,965.48 Crores was incurred towards project cost and the progress photographs of the above project. Hydraulic test of the boilers of Units- 1, 2 &amp; 4 already completed and it is proposed to complete the hydraulic test of the boilers of Unit – 3 &amp; 5 by December, 2022.</p> <p>Further, the erection of Turbines and Generator of Unit – 1 &amp; 2 is in advanced stage and erection of TG in Unit – 4 &amp; 5 is already taken up. 90% of erection of ESPs for all the five (5) Units including Air Tightness Test (ATT) is completed. Further, it is programmed to commission the first two (2) Units by August, 2023, 3<sup>rd</sup> Unit by December, 2023 and the balance two (2) Units by March, 2024.</p> <p>However, TSGENCO will comply with the directions to be given by MoEF&amp;CC, GoI in connection with the Judgement given by Hon'ble NGT, Chennai in Appeal No. 15/2020.</p>
	<p>To study on the Radio Activity Impact after specifying the Coal linkage.</p>	<p><b>Radio Activity:</b> The study on Radio Activity Analysis in the coal sample was done through M/s. Bhabha Atomic Research Centre (BARC), Mumbai. The test certificate given by M/s. BARC vide Letter. No. HPD/LLCL/ D.43/C-02/2015/1180, dated. 18.09.2015 was incorporated in the revised EIA/EMP report.</p>
	<p>If the project proponent intends to switch over to 100% indigenous coal, then they will have to conduct further study on this aspect and that can be done only by filing an application before the MoEF&amp;CC for this purpose and if any further ToR is required that also must be issued by the MoEF&amp;CC and the public hearing will have to be conducted.....</p>	<p>(i) At the time of proposal of the above project during the year 2015, Ministry of Coal (MoC) Govt. of India has taken a decision that, fresh applications for grant of coal linkages shall be kept in abeyance, till a new policy is formulated for grant of coal linkages. Hence, TSGENCO has proposed to use blended coal i.e. 50% Indigenous coal and 50% imported coal or 100% imported coal by entering into MoU with M/s. SCCL and M/s. MSTC limited for supply of the same only after public hearing conducted in the project site. Accordingly, EIA/EMP report prepared and submitted to MoEF &amp; CC, GoI and Environmental Clearance was obtained.</p> <p>(ii) Now, as the Ministry of coal, GoI has accorded the coal linkage vide Lr. No. 23014/1/2018-CLD, dated. 15.02.2018 for supply of G-9 grade coal from SCCL mines for 14.00 MTPA, it is proposed to use 100% indigenous coal. Also coal supply agreement is entered with M/s. SCCL for supply of above coal for the above project vide Supplementary Instrument – II of Fuel</p>

		<p>supply Agreement dated. 01.04.2016. M/s. SCCL vide their letter No. HYD/MKT/T/005/383, dated. 02.06.2017 has furnished an undertaking that they will supply the coal with not more than 30% ash content.</p> <p>(iii) As per the Office Memorandum F. No. J-13012/8/2009-IA.II (T), dated. 11.11.2020 issued by MoEF &amp; CC, GoI, all the Thermal Power plants having EC can change the coal source (from imported to domestic, domestic to domestic and domestic to imported).</p> <p>(iv) In view of the above, TSGENCO has not approached the MoEF&amp;CC, GoI for change of coal source from blended coal (i.e., 50% Indigenous coal and 50% imported coal) or 100% imported coal to 100% indigenous coal.</p>
	<p>Sufficiency of Ash ponds and its design and maintenance system:</p>	<p><b>(i) Sufficiency and design of Ash pond proposed:</b></p> <p>a) Initially while submission of Form-1 to MoEF&amp;CC, GoI, TSGENCO has proposed Ac. 700.00 of land out of Ac. 2800.00 proposed for entire project for construction of ash pond. Subsequently, as per the condition No. 3 (xii) of the Additional Terms of Reference (ToR) issued vide Lr. No. J-13012/18/2015-IA.I (T), Dated.16.02.2016, the extent of land for the ash pond was reduced from Ac. 700.00 to Ac. 400.00 and EIA/EMP report prepared and submitted to EAC. Accordingly, the Environmental clearance was granted.</p> <p>b) The Ash pond for the above project was designed by engaging Prof. V.S. Raju Consultants, Hyderabad (V.S. Raju, Retired professor, IIT Delhi, expert in Geotechnical Engineering). The proposed ash pond in an extent of Ac. 400 is for depositing the un-utilised ash from the plant and is sufficient as there are 8 cement industries within 50 km radius and 22 cement industries within 200 km radius of the project which have given undertakings for lifting the fly ash, by which 100% ash utilisation can be met within four (4) years as directed in the Environmental Clearance granted by MoEF &amp; CC, GoI.</p> <p><b>(ii) Maintenance of Ash pond:</b></p>

		<p>a) As directed by the MoEF &amp; CC, GoI in the EC granted, HDPE liner of 1000 micron is being provided inside the ash pond area over 100 mm thick clay layer to prevent ground pollution.</p> <p>b) It is proposed to provide ash water recovery system which consists of treatment plant and recycling arrangement adjacent to the ash pond for collecting the decanted water from ash pond and treat the same for re-using in ashing system so as to achieve Zero discharge from entire plant.</p> <p>c) The ash pond is provided with decantation well along with barrel which is connected to collecting sump of the ash water recovery system to drain off decanted water from the ash pond and treat the same in the ash water recovery system.</p> <p>d) For monitoring the ground water quality, bore wells/Peizometers will be provided on four sides of the ash pond and water samples will be collected regularly for testing its quality.</p> <p>I) Conducting Ambient Air Quality (AAQ) modeling and cumulative impact assessment study in 25 km radius of the project:</p> <p>The AAQ and cumulative impact assessment studies were conducted within 15 km radius of the above project and the same was incorporated in the Chapter – 4 of the revised EIA/EMP report. The results of Ambient Air Quality study are within NAAQ standards and the recorded Air quality parameters such as PM10: 31.90 – 66.40 ug/m<sup>3</sup>, PM2.5 : 11.60 – 31.60 ug/m<sup>3</sup>, SO2 : 8.30 – 24.60 ug/m<sup>3</sup>, NOx : 10.30 -28.10 ug/m<sup>3</sup> and Hg &lt; 0.10 ug/m<sup>3</sup>.</p> <p><b>However, as directed by the Hon'ble NGT, Chennai in the above judgement, if felt necessary by MoEF &amp; CC, GoI, TSGENCO will conduct above studies within 25 km radius of the project during post monsoon season i.e. from December - 2022 to February - 2023.</b></p> <p><b>II) Distance between boundary of YTPS project to Amrabad Tiger Reserve.</b></p> <p>The PCCF (WL) and Chief Wildlife Warden, Telangana vide his Letter No. Rc. No. 3401/2016/WL-1, dated. 05.05.2016 has already confirmed that the Amrabad Tiger Reserve does not fall within 10 km of the boundary of the</p>
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	<p>Yadadri Thermal Power Station at Veerlapalem (V), Dameracherla (M), Nalgonda Dist and no wild animal migratory path/wild animal corridor is located within 10 km of the boundary of above plant duly enclosing the authenticated map showing the distance between YTPS boundary and Amrabad Tiger Reserve boundary issued by the Divisional Forest Officer, Wildlife Management Division, Nagarjunasagar. As per the above map, the distance between YTPS boundary and Amrabad Tiger Reserve boundary is 14.03 km. The same was incorporated in the revised EIA/EMP report.</p>
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**32.3.2** The EAC during deliberations noted that the Hon'ble Tribunal has raised concerns over permission for diversion of forest land into non-forestry activities and in particular diversion of forest land for polluting industries and suggested the MoEF&CC for adopting stringent measures for allowing such activities in forest land. The Hon'ble Tribunal's directions are also for re-examining the sufficiency of existing ash pond and design and maintenance system to address the environmental concerns over switching over the plant from imported coal to indigenous coal as fuel source. It has also been directed that study on the Radio Activity Impact after specifying the Coal linkage need to be done and after obtaining the Wildlife Clearance and after getting the concerned reports as directed, then the EAC is directed to reappraise the project and take independent decision regarding the recommendation or otherwise.

The EAC after detailed deliberations was of the view that a review of fly Ash management and its radioactive analysis, impact of project on nearby protected area and its wildlife, human population likely to be affected will be required due to change in the fuel source in the light of the decision of the Hon'ble Tribunal. A detailed scientific and technical study is necessary to understand the impact of the changed scenario on the environmental parameters for ensuring the goal of sustainable development.

The EAC while examining the need of repeat public hearing in the case of change in fuel quality and quantity (Imported coal to Indigenous coal) noted that:

1. The MoEF&CC vide Office Memorandum No. J-11013/41/2006-IA.II (I) dated 01.11.2010 decided that all such proposals relating to thermal power, steel manufacture and sponge iron which are pending in the MoEF or with State Level Environment Impact Assessment Authorities (SEIAAs)/State Expert Appraisal Committees (SEACs) concerned for consideration of environmental clearance shall be deferred and delisted till the status of environment and forestry clearance of the coal supply source for Indian coal or the MoU for imported coal as stated in para 3 of the Office Memorandum has been established and furnished.
2. The MoEF&CC vide Office Memorandum No. J-11013/41/2006-IA.II (I) dated 19.01.2011 regarding consideration of projects of thermal power, steel sector etc. for environmental clearance with sourcing of coal linkage from dedicated coal block/Coal India Ltd., it was clarified that firmed coal linkage is required to be ensured at the stage

- of consideration of grant of Environmental Clearance and not at the stage of TOR.
3. The MoEF&CC Office Memorandum No. J-13012/08/2009-IA.II (T) dated 11.11.2020 inter-alia states that “....5. *The process of dealing with change in coal source is to apply at PARIVESH, subsequent appraisal by the Expert Appraisal Committee (EAC), processing of EAC recommendations and granting the amendment to the EC. The whole process would approximately take about 2-3 months.* 6. *The various environmental impacts due to change in coal source viz. increased ash quantity and its management, increased emissions, and impacts of transportation have already been addressed and adequate mitigation measures have been stipulated by the Ministry vide notifications dated 7.12.2015, 28.6.2018 and 21.5.2020.* 7. *In order to simplify the procedure for change in coal source and encourage Thermal Power Plants to use domestic coal, the Ministry has decided the following procedure:*

*All thermal power plants (including Captive Power Plants) having environmental clearance can change the coal source (from imported to domestic, domestic to domestic, and domestic to imported) including lignite, directly through e auction/short term linkage/long term linkage/other linkage option of Ministry of Coal or any organization recognized for allotting coal linkage, **without seeking the amendment in Environmental Clearance**, subject to the following conditions and thereby making earlier conditions in the EC regarding coal source redundant:*

- a) Details regarding change in coal source (location of the source, proposed quantity, distance from the power plant and mode of transportation), quality (Ash, Sulphur, moisture content and Calorific value) shall be informed to the Ministry and its regional Office. The quantity of coal transported from each source along with the mode of transportation shall be submitted as part of EC compliance report.*
- b) Ash content in the coal and coal transportation is governed by the Ministry's Notification vide S.O. 1561 (E) dated 21.05.2020. As far as possible, coal transportation shall be done by rail/conveyor or other eco-friendly modes. However, road transportation is allowed with tarpaulin covered trucks till the railway/conveyor belt infrastructure is made available. A progress (physical and financial) of rail connectivity from nearest railway siding or conveyor connectivity to the power plant shall be submitted in the EC compliance report.*
- c) Additional ash pond is not allowed due to increase in ash content in the raw coal as against the ash pond permitted in the Environmental Clearance. The 100% fly ash utilization is to be achieved within 4 years in line with fly ash notifications dated 14.09.1999, 27.08.2003, 3.11.2009 & 25.1.2016 and amended time to time or extant regulations on fly ash utilization.*
- d) In case of exceptional circumstances, project proponents may approach the Ministry for seeking permission to use an emergency ash pond with cogent reasons, if any.*
- e) The details regarding monthly generation, utilization, and disposal of fly ash (including bottom ash) shall be submitted to the Ministry and its Regional Office....”*

As per the report of public hearing conducted on 31.05.2016 for the present project the main public concerns were about the land compensation, employment to local people, engagement of local laborers for construction, establishment of corporate hospital with health cards, setting up of ITI, employment to complete land losers, supply of water and electricity, contamination of Krishna river water, free education, use of latest and most efficient technology for control of pollution and fly ash utilization etc.

Change in source of fuel may not affect the public issues/concerns which have already been considered during appraisal of project for grant of EC, so this may not provide the new information for the estimation of social concerns; however, during reappraisal of the aspects by the EAC, the EAC desired in this specific case a Public Consultation as per the EIA Notification, 2006 be conducted to address the further issues, if any. The PP needs to conduct studies w.r.t. incremental increase in the pollution load and radioactivity studies in the indigenous coal handling as pointed out by the Hon'ble Tribunal in view of the change in the source of coal. As per the data submitted by the PP, there is no change in land area, plant location, influx of population from outer areas etc. Under such circumstances, in place of public hearing the public consultation is recommended for addressing the additional issues, if any. However, MoEF&CC may examine this issue from administrative point of view in consideration with related various Office Memorandums of the MoEF&CC and take appropriate decision in the matter.

The EAC after due deliberations recommended for submitting detailed study reports/information/statutory clearance on following additional Terms of Reference points after applying on PARIVESH along with on the aspects already directed by the Hon'ble Tribunal for further consideration by the EAC:

- i. Incremental pollution load and radioactivity studies in the indigenous coal handling in view of the change in the source of coal.
- ii. Cumulative impact assessment study covering 25 KM radius area with one season data and appropriate air modelling.
- iii. PP shall submit the letter from PCCF regarding the exact distance between the site and the tiger reserve.
- iv. Ash utilization plan for next 5 years including emergency ash utilization, disposal, and transportation.
- v. Location map of industries willing to take Ash from the Thermal Power plant.
- vi. Certification of change in design parameter of Ash pond by the reputed expert Government Institute in view of change in source of coal to ascertain the exact impact, if any.
- vii. Detailed plan for 3 rows plantation all along plant boundary.
- viii. A study on quantity and quality of ash to be generated, pollution load on environment and ecology of the surrounding area, assessment of anticipated impacts and its mitigation measures, transportation of coal and ash handling system for using 100% Indigenous coal.

**The meeting ended with vote of thanks to the Chair.**

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**Annexure - A****ATTENDANCE**

<b>S. No</b>	<b>Name</b>	<b>Role</b>	<b>Attendance</b>
1.	Shri Gururaj P. Kundargi	Chairman	P
2.	Dr. N.P Shukla	Member	P
3.	Shri Suramya Vora	Member	P
4.	Dr Santosh Kumar	Member	P
5.	Dr. Umesh Jagannathrao Kahalekar	Member	P
6.	Shri K.B. Biswas	Member	P
7.	Dr. Nandini. N	Member	P
8.	Shri M.P. Singh	Member (Representative of CEA)	P
9.	Dr. Nazimuddin	Member - Representative of CPCB	P
10.	Shri Yogendra Pal Singh	Member Secretary	P

**APPROVAL OF THE CHAIRMAN**

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From: [gpkundargi@gmail.com](mailto:gpkundargi@gmail.com)

To: "Yogendra Pal Singh" <[yogendra78@nic.in](mailto:yogendra78@nic.in)>

Sent: Tuesday, November 22, 2022 3:42:17 PM

Subject: Re: DRAFT MINUTES OF 32ND MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL POWER PROJECTS) HELD ON 02ND NOVEMBER, 2022 -REG.

Dear Dr Yogendra ji

The corrected & revised draft minutes after considering members corrections is approved. You may also take in to the consideration, the corrections suggested by Dr Nazmuddin ji at 32.2.4.

For needful action pl.

Thank you

G P Kundargi

On Mon, 21 Nov, 2022, 7:03 pm Yogendra Pal Singh, <[yogendra78@nic.in](mailto:yogendra78@nic.in)> wrote:

Dear Sir,

The correction/ updation in the 32nd Minutes of Meeting held on 02.11.2022 as suggested by you telephonically, have been incorporated.

The updated draft MOM is attached herewith for approval, please.

**F. No.J-13012/8/2009-IA.II (T)**  
Government of India  
Ministry of Environment, Forest and Climate Change  
(Impact Assessment Division)

Indira Paryavaran Bhawan  
Aliganj, Jorbagh Road  
New Delhi-110 003

Dated 11<sup>th</sup> November, 2020

**Office Memorandum**

**Sub: Amendment in Environmental Clearance for change in coal source by Thermal Power Plants- reg.**

The Environment Impact Assessment (EIA) Notification dated 14<sup>th</sup> September, 2006 under the Environment (Protection) Act, 1986 mandates the requirement of prior Environmental Clearance to the projects/activities listed in the schedule to the said Notification. The Environmental Clearances are granted for Thermal Power Projects as per the capacities mentioned in the Schedule of the EIA Notification, 2006.

2. The Environmental Clearance (EC) has been granted based on a specific coal source such as a specific coal mine (domestic coal), or Imported coal, or blend of Imported coal and domestic coal. The Environmental Clearance has stipulated a condition that an amendment in EC is to be sought from the Ministry in case of change in fuel source.

3. The Ministry has been receiving several proposals regarding change in coal source, viz. change in domestic coal due to change in fuel linkages/auctions, and switching from imported coal to domestic coal. The linkage period granted through short-term linkage and e-auctions vary from 3 months to 1 year, making Project Proponents to approach the Ministry for granting amendment in EC each time there is change in coal source. In each amendment process, new conditions are being stipulated by making old conditions redundant.

4. The Ministry of Power (MoP) vide Policy Advisory dated 28.4.2020 encouraged all the power generating companies who are using imported coal (part/full) to switch over to domestic coal to the extent possible. The MoP has also set up a mechanism to deal with difficulties faced by the power companies in obtaining required quantity, quality of domestic coal including logistic bottlenecks.

5. The present process of dealing with change in coal source is to apply at PARIVESH, subsequent appraisal by the Expert Appraisal Committee (EAC), processing of EAC recommendations and granting the amendment to the EC. The whole process would approximately take about 2-3 months.

6. The various environmental impacts due to change in coal source viz. increased ash quantity and its management, increased emissions, and impacts of transportation have already been addressed and adequate mitigation measures have been stipulated by the Ministry vide Notifications dated 7.12.2015, 28.6.2018 and 21.5.2020.

7. In order to simplify the procedure for change in coal source and encourage Thermal Power Plants to use domestic coal, **the Ministry has decided the following procedure:**

All the Thermal Power Plants (including Captive Power Plants) having Environmental Clearance can change the coal source (from imported to domestic, domestic to domestic, and domestic to imported) including Lignite, directly through e-auctions/short term linkage/long term linkage/other linkage options of Ministry of Coal or any organisation recognised for allotting coal linkages, without seeking the amendment in Environmental Clearance, subject to the following conditions and thereby making earlier conditions in the EC regarding coal source redundant:

- a) Details regarding change in source (location of the source, proposed quantity, distance from the power plant and mode of transportation), quality (Ash, Sulphur, Moisture content and Calorific value) shall be informed to the Ministry and its concerned Regional Office. The quantity of coal transported from each source along with the mode of transportation shall be submitted as part of EC Compliance Report.
- b) The applicable flue gas emissions standards for Particulate Matter, Sulphur Dioxide, Oxides of Nitrogen and Mercury shall be complied inline with Ministry's Notification vide S.O. 3305(E) dated 7.12.2015 and subsequent emissions. A progress of implementation and its compliance shall be submitted as part of Compliance Report.
- c) Ash content in the Coal and Coal transportation is governed by the Ministry's Notification vide S.O. 1561(E) dated 21.5.2020. As far as possible, Coal transportation shall be done by rail/conveyor or other eco-friendly modes. However, road transportation is allowed with tarpaulin covered trucks till the railway/conveyor belt infrastructure is made available. A progress (Physical and financial) of rail connectivity from nearest railway siding or conveyor connectivity to the power plant shall be submitted in the EC compliance report.
- d) Additional ash pond is not allowed due to increase in ash content in the raw coal as against the ash pond permitted in the Environmental Clearance. The 100% flyash utilisation is to be achieved within 4 years in line with Flyash Notifications dated 14.9.1999, 27.8.2003, 3.11.2009 & 25.1.2016 and amended time to time or extant regulations on Fly ash Utilisation.
- e) In case of exceptional circumstances, project proponents may approach the Ministry for seeking permission to use an emergency ash pond with cogent reasons, if any.
- f) The details regarding monthly generation, utilisation and disposal of flyash (including bottom ash) shall be submitted to the Ministry and its Regional Office.

This issues with the approval of the Competent Authority.



**(Dr. S. Kerketta)**  
**Director, IA Division**

To

1. All the Thermal Power Plants.

2. The Chairman/Member Secretaries of all the Expert Appraisal Committees.
3. The Chairman /Member Secretaries of all the SEIAAs/SEACs.
4. The Chairman/Member Secretaries of all SPCBs/UTPCCs.
5. The Deputy Director General of Forest of all ROs of MoEF&CC.
6. All the Officers of I.A. Division.

**Copy for information to:**

1. PS to Hon'ble Minister for Environment, Forest and Climate Change.
2. PS to Hon'ble MoS (EF&CC).
3. The Joint Secretary, Ministry of Coal.
4. The Joint Secretary, Ministry of Power.
5. Sr. PPS to Secretary (EF&CC).
6. Sr. PPS to AS (RA) / AS (RSP).
7. Sr. PPS to JS (GM)/ JS (SKB)/JS (AKN).
8. Website of MoEF&CC/ Guard file.

SIDER/CAQ

**REPORT ON THE DIRECTIONS OF  
HON'BLE NATIONAL GREEN TRIBUNAL (NGT) SOUTHERN ZONE,  
CHENNAI IN O.A. NO. 74 OF 2021  
IN THE MATTER OF  
K SARAVANAN VS UNION OF INDIA BEFORE NGT (SZ), CHENNAI.**

**[A] Background**

1. The MoEF&CC had issued Office Memorandum No. J-13012/8/2009-IA.II (T) dated 11.11.2020 exempting the necessity of amending the Environmental Clearance (EC) which inter-alia includes the change in fuel from imported coal to domestic coal. The O.M. states that:

*“..... In order to simplify the procedure for change in coal source and encourage Thermal Power Plants to use domestic coal, the Ministry has decided the following procedure:*

*All the Thermal Power Plants (including Captive Power Plants) having Environmental Clearance can change the coal source (from imported to domestic, domestic to domestic, and domestic to imported) including Lignite, directly through e-auctions/short term linkage/long term linkage/other linkage options of Ministry of Coal or any organisation recognized for allotting coal Linkages, without seeking the amendment in Environmental Clearance, subject to the following conditions and thereby making earlier conditions in the EC regarding coal source redundant:*

*a) Details regarding change in source (location of the source, proposed quantity, distance from the power plant and mode of transportation), quality (Ash, Sulphur, Moisture content and Calorific value) shall be informed to the Ministry and its Regional Office. The quantity of coal transported form*

*each source along with the mode of transportation shall be submitted as part of EC Compliance Report.*

- b) The applicable flue gas emissions standards for Particulate Matter, Sulphur Dioxide, Oxides of Nitrogen and Mercury shall be complied inline with Ministry's Notification vide S.O. 3305(E) dated 7.12.2015 and subsequent emissions. A progress of implementation and its compliance shall be submitted as part of Compliance Report.*
- c) Ash content in the Coal and Coal transportation is governed by the Ministry's Notification vide S.O. 1561(E) dated 21.5.2020. As far as possible, Coal transportation shall be by rail or other eco-friendly modes. However, road transportation is allowed with tarpulin covered trucks till the railway/conveyor belt infrastructure is made available. A progress (Physical and financial) of rail connectivity from nearest railway siding or conveyor connectivity to the power plant shall be submitted in the EC compliance report.*
- d) Additional ash pond is not allowed due to increase in ash content in the raw coal as against the ash pond permitted in the Environmental Clearance. The 100% flyash utilisation is to be achieved within 4 years in line with Flyash Notifications dated 14.9.1999, 27.8.2003, 3.11.2009 and 25.1.2016 and amended time to time or extant regulations on Fly ash utilization.*
- e) In case of exceptional circumstances, project proponents may approach Ministry seeking permission to use additional ash pond with cogent reasons, if any.*
- f) The details regarding monthly generation, utilization and disposal of flyash (includes bottom ash) shall be submitted to the Ministry and its Regional Office.....”*

2. The aforesaid Office Memorandum dated 11.11.2020 issued by the Ministry was challenged in the matter O.A. No. 74 of 2021 titled as K Saravanan Vs Union of India before Hon'ble NGT (SZ), Chennai.

3. The applicant has alleged that the said OM is unscientific and it is contrary to the mandate of the EIA Notification, 2006 which requires that the environmental impact of a proposed activity be studied and assessed and cleared by a competent authority. Further it is alleged that the OM runs contrary to the precautionary principle as well as the principle of sustainable development by allowing thermal plants to change their environmental footprint without any prior assessment of their impacts and it is also not backed by statutory powers under Environment (Protection) Act, 1986.

4. The applicant has mentioned the consequences of change in coal source, being the foundation of the aforementioned contention, which are listed hereunder:

- i. Impact of stack emissions on air quality,
- ii. Increased consumption of coal,
- iii. Impact due to coal transportation,
- iv. Impact due to storage of coal,
- v. Ash generation and handling,
- vi. Size of ash pond and
- vii. Water requirements

5. The counter affidavit filed by the Ministry on 10.04.2023 before Hon'ble NGT inter-alia includes the following points:

- The Office Memorandum ('OM') doesn't override the EIA Notification, 2006,
- Purpose of the OM is in line with advisory issued by the Ministry of Power,
- OM mentions the mitigative measures taken to combat the various consequences of change of coal source listed in the application and
- Notifications stated in the OM connected to the EIA Notification, 2006

6. The Hon'ble Tribunal vide its order dated 24.05.2023, has passed the following directions:

*"1. We heard the learned counsels in part. As it is stated that the Office Memorandum under challenge is diluting the conditions already imposed in the Environmental Clearance, it may require a revisit by referring the same to the Expert Appraisal Committee.*

*2. The learned counsel appearing for the MoEF&CC and also the officials from the CPCB as well as the MoEF&CC who are present before us agree to the same.*

*3. Accordingly, we are granting time for them to consider this aspect and to revisit the Office Memorandum for modifying/sustaining/withdrawing the same.*

*4. Post the matter on 03.08.2023."*

7. The Ministry filed an interim compliance affidavit dated 01.08.2023 before the Hon'ble NGT seeking six months' extension time to conclude its recommendation as directed by the Hon'ble Tribunal vide its order dated 24.05.2023. Accordingly, Hon'ble Tribunal vide order dated 03.08.2023 passed

the following directions:

*“....Pursuant to our last order dated 24.05.2023, an interim compliance affidavit is filed on behalf of the MoEF&CC, wherein it is stated that a meeting was convened by the Expert Appraisal Committee (EAC) members comprising of representatives from NTPC, Central Institute for Mining and Fuel Research (CIMFR), National Environmental Engineering Research Institute (NEERI), HSM Division, CP Division and Central Pollution Control Board. The said meeting was held on 19.06.2023 and after deliberation, it was decided as follows:-*

*To obtain requisite information from Central Electricity Authority (hereinafter referred to as “CEA”) to examine whether there will be any significant change in environmental scenario and impacts due to change in coal source/quality.*

*To constitute a subcommittee, for the purpose of conducting a scientific analysis of the emission in different scenario of coal source to assess the impact and additional measures required to be taken by thermal power plant.”*

*1. The above said subcommittee may conduct the scientific analysis of the emission in different scenarios of coal sources to assess the impact and additional measures required by the Thermal Power Plant.*

*2. For the above exercise to be completed, the learned counsel appearing for the MoEF&CC sought for six weeks’ time. While so, the learned counsel appearing for the applicant expresses his concern as to how the department would deal with the applications that are already pending consideration. Whether the impugned O.M.*

*will be applied to the said pending applications or the applications will be kept pending till the final decision is taken up.*

*3. Be that as it may, let the report of the MoEF&CC also furnish the particulars of those applications which are considered applying the impugned O.M.*

*4. Post the matter on 20.09.2023.....”*

8. To ensure the compliance of the Hon’ble NGT directions, the Ministry had decided to refer the matter to the Expert Appraisal Committee (Thermal Power Projects) for further examination of the issues. The Ministry has also invited representatives from Central Electricity Authority (CEA), Central Pollution Control Board (CPCB), Central Institute for Mining and Fuel Research (CIMFR), National Environmental Engineering Research Institute (NEERI), Hazardous Substance Management (HSM) Division of MOEF&CC, Control of Pollution (CP) Division of MOEF&CC & NTPC to be a part of discussion on the matter.

**[B] Expert Appraisal Committee (EAC) consideration:**

9. Accordingly, the matter was considered by the EAC its meeting held on 19<sup>th</sup> June, 2023 under the Chairmanship of Shri Gururaj P. Kundargi at Indira Paryavaran Bhawan, MoEF&CC.

10. The EAC after detailed deliberations decided to obtain details on following aspects from CEA to examine whether there will be any significant change in environmental scenario and impacts due to change in coal source/quality:

a. Any study that has been carried out by any thermal power plant w.r.t.

emissions characteristic, ecological conditions after change in source of coal.

- b. Heavy metal data for stack emissions, if available.
- c. List of Thermal Power Plants who have changed coal source after O.M. dated 11.11.2020 and their status before and after the change w.r.t.:
  - Impact of stack emissions on air quality
  - Increased consumption of coal
  - Impact due to coal transportation
  - Impact due to storage of coal
  - Ash generation and handling
  - Size of ash pond
  - Water requirement

11. The EAC opined that a sub-committee, comprising of following members may conduct a scientific analysis of the emission in different scenarios of coal sources to assess the impact and additional measures required by thermal power plant:

- i. Expert Member & Representative of CEA, Ministry of Power-  
Chairman
- ii. Representative of CPCB
- iii. Representative of CSIR-NEERI
- iv. Representative of CSIR-CIMFR
- v. Representative of M/s NTPC Ltd.

#### **[C] Analysis by Sub-committee**

12. The EAC sub-committee of thermal power plant considered the issues

related to scientific analysis of the emission in different scenarios of coal sources to assess the impact and additional measures required by thermal power plant in its meeting held on 01<sup>st</sup> August, 2023 through virtual mode under the Chairmanship of Shri M.P. Singh (Expert Member & Representative of CEA, Ministry of Power).

13. It was informed that the CEA sought the data from the following thermal power generation companies:

- |                       |                             |
|-----------------------|-----------------------------|
| i. NTPC Limited       | vi. Tata Trombay            |
| ii. GSECL             | vii. APGENCO                |
| iii. JSW, Torrangullu | viii. TSGENCO               |
| iv. JSW, Barmer       | ix. Sembcorp                |
| v. NTPL               | x. East Coast Power Limited |

14. In response to the above, only NLC Tamil Nadu Power Limited (NTPL) and Andhra Pradesh Power Generating Company Limited (APGENCO) have provided data on change in coal source after MOEF&CC notification dated 11.11.2020.

15. The sub-committee meetings were held on 01.08.2023, 16.08.2023, 24.08.2023 and 27.08.2023 and the members also held mutual consultations among each other. The sub-committee interacted with EAC on 16.08.2023 and 27.08.2023 with its Draft Reports. The sub-committee submitted and presented the final scientific analysis report to EAC on 04.09.2023. The data collected by CEA from thermal power plants that altered their coal source after the O.M. dated 11.11.2020 (comparing parameters before and after the coal source change) was analyzed in conjunction with the findings of the analysis.

16. After detailed analysis of data collected, the Sub-committee has observed that:

- a. The OM dated 11.11.2020 mentions the “change the coal source (from imported to domestic, one domestic to other domestic, and domestic to blended domestic to imported)”.
- b. Significant changes in coal characteristics may occur when the change takes place from 100% imported coal to 100% domestic coal and vice versa. However, due to the design constraints change in coal source from 100% imported coal to 100% domestic coal and vice versa is not possible without major modifications in boiler/ power plant design.
- c. Coal is a natural material, with variable characteristics. Even within the same coal source, the characteristics vary from seam to seam and location to location. For plant design, statistical representative characteristics are taken into consideration. Plant designs generally allows for variation in coal characteristics within a certain range ( $\pm 20-25\%$ ) for boiler operation.
- d. Changes in coal characteristics may occur from one domestic source to other domestic or from domestic to blended coal (blending with imported coal, maximum allowable being 30% but normally the blending ratio has been about 10% only).
- e. Following coal characteristics determine the environmental impacts of coal usage:
  - i. Gross Calorific Value (GCV, kcal/kg) – affects the amount of coal consumption, as well as its transportation/ handling

- ii. Ash Content (%) – Ash content of coal determines the quantity of ash generation and its transportation/ utilisation/disposal.
- iii. Sulphur Content (%) – Sulphur content of coal determines the amount of SO<sub>2</sub> generation and emission and resultant incremental ground level concentration of SO<sub>2</sub>. In case of power plants complying with new emission norms, the emissions will be determined by the applicable standards, irrespective of the sulphur content of coal used. However, in the plants which are still under the process of implementing the new emission norms, SO<sub>2</sub> emission may change due to change in coal source.
- iv. Nitrogen Content (%) – Nitrogen content of coal affects total NO<sub>x</sub> emissions. NO<sub>x</sub> is formed in boiler in two parts – first due to oxidation of atmospheric nitrogen during combustion (thermal NO<sub>x</sub>) and second due to combustion of nitrogen content of coal (fuel NO<sub>x</sub>). While fuel NO<sub>x</sub> is directly related to Nitrogen Content of fuel, the thermal NO<sub>x</sub> depends on the combustion conditions. The emissions are determined by the applicable standards, irrespective of the type of coal used which are met by combustion modification based primary NO<sub>x</sub> control measures in the boiler. In the new plants which are still under the process of implementing the secondary NO<sub>x</sub> control measures as the emission norms are being decided, the emission of NO<sub>x</sub> is based on primary NO<sub>x</sub> control technology in-built in the boiler design.
- v. Heavy Metals (%) – Heavy metals are present in coal in trace amounts and the emission standards have been prescribed for

thermal power plants for mercury. Therefore, the mercury emissions are governed by prescribed standards.

- vi. The applicable emission standards (vide MoEF&CC Notification 07.12.2015 & its amendments) are as follows:

<b>Parameter</b>	<b>Units Commissioned before 31.12.2003</b>	<b>Units Commissioned between 01.01.2004 and before 31.12.2016</b>	<b>Units Commissioned After 01.01.2017</b>	<b>Timeline for Implementation for Different Categories*</b>
SPM (mg/Nm <sup>3</sup> )	100	50	30	A: 31.12.2022 B: 31.12.2023 C: 31.12.2024
NOx (mg/Nm <sup>3</sup> )	600	450	100	
SO2 (mg/Nm <sup>3</sup> )	Less than 500 MW: 600 500 MW & Above: 200	Less than 500 MW: 600 500 MW & Above: 200	100	A: 31.12.2024 B: 31.12.2025 C: 31.12.2026
Mercury (mg/Nm <sup>3</sup> )	500 MW & Above: 0.03	0.03	0.03	
Water Consumption (m <sup>3</sup> /MWh)	All plants with Once Through Cooling shall install Cooling Towers and achieve specific water consumption up to a maximum of 3.5 m <sup>3</sup> /MWh		New plants to be installed after 01.01.2017 shall have to	

	<p>within a period of two years, i.e. 07.12.2017.</p> <p>All existing Cooling Tower Based Plants shall reduce specific water consumption up to a maximum of 3.5 m<sup>3</sup>/MWh within a period of two years, i.e. 07.12.2017.</p>	<p>meet specific water consumption up to a maximum of 3.0 m<sup>3</sup>/MWh and achieve zero waste water discharge, except thermal power plants using sea water.</p>	
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**\*Definition of Categories:**

- A: Within 10 km. radius of National Capital Region or cities having million plus population
- B: Within 10 km. radius of Critically Polluted Areas or Non-attainment cities
- C: Other than those included in category A & B

a. Impact factor methodology has been adopted to assess the impact of change in coal characteristics on various parameters as shown in the table below. The impact factor is defined as the ratio of impact after change in coal source to the impact before change in coal source.

<b>S. No.</b>	<b>Parameter wise criteria for Impact Factor</b>	<b>Impact Factor</b>	<b>Remarks</b>
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<b>1(a) Impact on stack emissions</b>			
<b>(i)</b>	<p><b>Particulate Matter (PM):</b></p> <ol style="list-style-type: none"> <li>1. The emission standard for PM stipulated in MOEF&amp;CC Notification is independent of the coal quality.</li> <li>2. The design of PM Control Equipment is based on maximum ash content in coal likely to be encountered, guaranteeing the emission levels within the emission standards.</li> </ol>	1	<p>If a coal with lower GCV and higher ash content is used in power plant, the level of PM at the inlet of PM Control Equipment will be higher; but the outlet emission levels shall be within the emission standard due to design of equipment.</p>
<b>(ii)</b>	<p><b>Sulphur Dioxide (SO<sub>2</sub>)</b></p> <ol style="list-style-type: none"> <li>1. The emission standard for</li> </ol>		

	<p>SO<sub>2</sub> stipulated in MOEF&amp;CC Notification is independent of the coal quality.</p> <p>2. The control of SO<sub>2</sub> emission requires setting up of a control system like Flue Gas Desulphurisation system (FGD), Dry Sorbent Injection (DSI) system etc., designed based on maximum sulphur content likely to be encountered in coal.</p> <p>3. If the control system is yet to be installed, the emission level before and after</p>	$\left(\frac{\text{GCV}_{\text{old}}/\text{GCV}_{\text{new}}}{S_{\text{new}}/S_{\text{old}}}\right)^*$	<p>If GCV reduces from 3850 to 3350 Kcal/kg and sulphur content changes from 0.44% to 0.29%, then the SO<sub>2</sub> emission will change by a factor of</p>
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	<p>change in coal source, shall change in proportion to change in coal consumption and change in sulphur content.</p> <p>4. If the control system is installed, the emission level before and after change in coal source, shall be same irrespective of sulphur content of coal.</p>	1	<p>(<math>3850 \times 0.29 / 3350 \times 0.44</math>), i.e. by 0.76. It indicates a reduction by 24%.</p> <p>No change in emission.</p>
<b>(iii)</b>	<p><b>Oxides of Nitrogen (NOx)</b></p> <p>1. The emission standard for NOx stipulated in MOEF&amp;CC Notification is independent of</p>	1	<p>As emission limit for NOx are guaranteed by OEM, the emission levels are not likely to be exceeded. However, there could be minor changes due to fuel</p>

	<p>the coal quality.</p> <p>2. The control of NOx emission requires various systems like low NOx Burner, Overfire Air System etc., designed and guaranteed by the Equipment Manufacturer.</p> <p>3. With a particular control system installed, the emission level before and after change in coal source, shall be maintained within the standards.</p>		<p>NOx within the limits.</p>
<p><b>1(b) Impact on ambient air quality:</b> As incremental GLC are proportional to the emission rates, the impacts shall be proportional to change in emission levels while all other factors are same.</p>			



	<p>Railways/ Ships) are same as before change in coal source and managed as per EMP, there will be no additional impacts.</p> <p>If the mode of coal transport involves road transport, there will be additional impacts for the quantity of coal transported through road.</p>	<p>Shall depend on the quantity of coal transported by road.</p>	<p>Mitigation measures &amp; permission as mentioned in MOEF&amp;CC Notification dated 21.05.2020 shall be required.</p>
<b>4. Impact on coal storage</b>			
	<p>The area/ volume of coal storage yard does not change with the change in coal quality.</p> <p>The variation in quantity of coal storage in storage yard shall change</p>	<p>1</p>	<p>As the area/ design of coal storage does not change, the impacts shall be same before and after change in coal source.</p>

	the sufficiency of the coal stored for power plant operation (in no. of days).		
<b>5. Impact on ash generation and handling</b>			
	<p>The ash generation before and after change in coal source, shall change in proportion to change in coal consumption and change in ash content.</p> <p>Changes in ash generation will be less in the normal cases of blending of domestic coal with imported coal of low ash content</p>	$(GCV_{old}/GCV_{new})^*$ $(Ash_{new}/Ash_{old})$	<p><b>For example,</b> if GCV reduces from 3850 kcal/kg to 3350 kcal/kg and ash content changes from 39.87% to 46.63%, then the ash generation will increase by a factor of <math>(3850*0.4663/3350*0.3987)</math>, i.e. by 1.34. It indicates an increase by 34%.</p>
<b>6. Impact on size of ash pond</b>			
	The area/ design of ash dyke does not change with the change in coal	1	As the area/ design of coal storage does not change, the impacts shall be

	<p>quantity. Instead, the capacity for ash pond (in days) shall increase or decrease proportionately.</p>		<p>same before and after change in coal source.</p> <p>The ash utilisation and management are governed by the provisions of MOEF&amp;CC Notification dated 31.12.2021 and 30.12.2022, which are part of conditions stipulated in Environmental Clearance.</p>
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**7. Impact on water requirement**

	<p>The standards for water requirement for thermal power plants stipulated in MOEF&amp;CC Notification are independent of the coal quality.</p> <p>Water requirement for ash disposal will be less in the</p>	<p>1</p>	<p>As the maximum water requirement shall not exceed the standards, the impact factor shall be same.</p>
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	normal cases of blending of high ash domestic coal with low ash imported coal.		
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**Findings of the Sub-committee: Case Studies**

16. In order to assess the impacts of Coal Blending on various parameters mentioned in Para 4, two case studies have been undertaken to study the impacts of coal blending up to 30% for the following two scenarios:

- Blending of domestic coal with imported coal to meet the coal shortage
- Blending of imported coal with domestic coal to save foreign exchange

17. The results of the case studies are as follows:

**17.1 Case Study-I: Blending of Domestic (D) with Imported (I) Coal**

**Assumptions:**

Typical Domestic Coal Characteristics:

MCL Coal; GCV (3850 kcal/kg), Ash (39.87%), Sulphur (0.44%)

Typical Imported Coal Characteristics:

Indonesian Coal; GCV (6960 kcal/kg), Ash (12%), Sulphur (0.96%)

Changes in impact factors for various parameters are calculated based on the formulas mentioned above for three blending ratios: 10% Imported,

20% Imported and 30% Imported. The same have been compared with respect to the Domestic Coal as baseline scenario. The results for various scenarios are as follows:

<b>Parameters</b>	<b>Change in Impact factor (Positive/ Negative) due to change in coal blending ratio</b>			
	<b>100% (D) + 0% (I)</b>	<b>90% (D) + 10% (I)</b>	<b>80% (D) + 20% (I)</b>	<b>70% (D) + 30% (I)</b>
Coal Consumption	Base	-7%	-14%	-20%
Generation of Ash	Base	-14%	-26%	-36%
Emission of PM	Base	-	-	-
Emission of SO <sub>2</sub>	Base	<b>+3%</b>	<b>+6%</b>	<b>+9%</b>
Emission of NO <sub>x</sub>	Base	-	-	-
Coal Transport	Base	-7%	-14%	-20%
Coal Handling	Base	-7%	-14%	-20%
Coal Storage	Base	-	-	-
Ash Use/ Disposal	Base	-14%	-26%	-36%
Water Requirement	Base	-	-	-
PM GLC	Base	-	-	-
SO <sub>2</sub> GLC with FGD	Base	-	-	-
SO <sub>2</sub> GLC without FGD	Base	<b>+3%</b>	<b>+6%</b>	<b>+9%</b>
NO <sub>x</sub> GLC	Base	-	-	-

It may be observed from the above that due to blending of domestic coal with imported coal up to 30%, the SO<sub>2</sub> emission increases by 3-9% while

all other parameters are either same or decreased. In power plants with FGD, even this impact of higher SO<sub>2</sub> emissions is normalized.

## **17.2 Case Study-II: Blending of Imported (I) with Domestic (D) Coal**

Under this category, two sub cases have been discussed:

- a) Blending of Imported Coal with High GCV Domestic (D) Coal
- b) Blending of Imported Coal with Normal GCV Domestic (D) Coal

### **Assumptions for Sub-Case A:**

Typical Domestic Coal Characteristics:

ECL Coal; GCV (6250 kcal/kg), Ash (14.6%), Sulphur (0.55%)

Typical Imported Coal Characteristics:

Indonesian Coal; GCV (6960 kcal/kg), Ash (12%), Sulphur (0.96%)

Changes in impact factors for various parameters were calculated based on the formulas mentioned above for three blending ratios: 10% Domestic, 20% Domestic and 30% Domestic. The same have been compared with respect to the Imported Coal as baseline scenario. The results for various scenarios are calculated as follows:

	<b>Change in Impact factor (Positive/ Negative) due to change in coal blending ratio</b>			
	<b>100% (I) + 0% (D)</b>	<b>90% (I) + 10% (D)</b>	<b>80% (I) + 20% (D)</b>	<b>70% (I) + 30% (D)</b>
<b>Parameters</b>				
Coal Consumption	Base	1%	2%	3%

Generation of Ash	Base	<b>3%</b>	<b>7%</b>	<b>10%</b>
Emission of PM	Base			
Emission of SO <sub>2</sub>	Base	-3%	-7%	-10%
Emission of NO <sub>x</sub>	Base			
Coal Transport	Base	1%	2%	3%
Coal Handling	Base	1%	2%	3%
Coal Storage	Base			
Ash Use/ Disposal	Base	<b>3%</b>	<b>7%</b>	<b>10%</b>
Water Requirement	Base			
PM GLC	Base			
SO <sub>2</sub> GLC with FGD	Base			
SO <sub>2</sub> GLC without FGD	Base	-3%	-7%	-10%
NO <sub>x</sub> GLC	Base			

It may be observed from the above that due to blending of imported coal with domestic coal of similar grade (high GCV) up to 30%, the coal consumption has increased by 1-3% and the ash generation increased by 3-10% while all other parameters are either same or decreased.

**Assumptions for Sub-Case B:**

Typical Imported Coal Characteristics:

Indonesian Coal; GCV (6960 kcal/kg), Ash (12%), Sulphur (0.96%)

Typical Domestic Coal Characteristics:

MCL Coal; GCV (3850 kcal/kg), Ash (39.87%), Sulphur (0.44%)

Changes in impact factors for various parameters were calculated based on the formulas mentioned above for three blending ratios: 10%

Domestic, 20% Domestic and 30% Domestic. The same have been compared with respect to the Imported Coal as baseline scenario. The results for various scenarios are calculated as follows:

<b>Parameters</b>	<b>Change in Impact factor (Positive/ Negative) due to change in coal blending ratio</b>			
	<b>100% (I) + 0% (D)</b>	<b>90% (I) + 10% (D)</b>	<b>80% (I) + 20% (D)</b>	<b>70% (I) + 30% (D)</b>
Coal Consumption	Base	5%	10%	15%
Generation of Ash	Base	<b>29%</b>	<b>61%</b>	<b>96%</b>
Emission of PM	Base			
Emission of SO <sub>2</sub>	Base	-1%	-2%	-3%
Emission of NO <sub>x</sub>	Base			
Coal Transport	Base	5%	10%	15%
Coal Handling	Base	5%	10%	15%
Coal Storage	Base			
Ash Use/ Disposal	Base	<b>29%</b>	<b>61%</b>	<b>96%</b>
Water Requirement	Base			
PM GLC	Base			
SO <sub>2</sub> GLC with FGD	Base			
SO <sub>2</sub> GLC without FGD	Base	-1%	-2%	-3%
NO <sub>x</sub> GLC	Base			

It may be observed from the above that due to blending of imported coal with domestic coal of normal GCV grade up to 30%, the coal

consumption increased by 5-15% and the ash generation increased by 29-96% while all other parameters are either same or decreased.

18. It may be noted that the above calculations are based on typical values of coal characteristics and the actual results shall value from cases to case. However, the above three case studies represent the normal operating range of imported and domestic coals and hence may be considered as representatives of various scenarios.

### **Comparison of Power Plant data with above analysis**

19. The basic principles presented are compared with the data collected from two power plants, which have changed the coal source after OM dated 11.11.2020, as provided by CEA:

- a. Sri Damodaram Sanjeevaiah TPS, Stage-I & II (2x800 + 1x800 MW) of Andhra Pradesh Power Generation Corporation Limited (APGENCO)
- b. NTPL Power Station (2x500 MW) of NLC Tamil Nādu Power Ltd. (NTPL, A JV of NLC and TANGEDCO)

20. The Power Plants were asked to provide the data related to PLF, Coal Consumption, Coal transportation, Coal Characteristics (GCV, Ash & Sulphur Contents), Ash Generation, Water Consumption, stack emissions and ambient air quality etc. before and after change in coal source.

21. Based on available data, variations in coal quality and coal quantities used before and after change in coal source at APGENCO are as follows. Before change in coal source, APGENCO was using blend of domestic washed coal with imported coal. After the change in coal source, the quantity of imported coal was reduced considerably while domestic raw coal was used. The weighted average of parameters are used to compare the impacts of blending on various parameters, are as follows:

	<b>APGENCO (Blend-I, 2016-17)</b>	<b>APGENCO (Blend-II, 2022-23)</b>
Sources	Dom. Washed/ Imported	Dom. Washed/ Dom. Raw/ Imported
Quantities (Lakh T)	44.55/ 6.46	19.45/ 17.87/ 0.59
GCV (ADB)	4286/ 5807	4182/ 3724/ 5117
Weighted Average of GCV	<b>4479</b>	Domestic: 3963 Domestic Blended with Imported: 3981
Ash (%)	31.55/ 7.23	30.80/ 35.51/ 4.54
Weighted Average of Ash (%)	<b>28.5</b>	Domestic: 33 Domestic Blended with Imported: 32.6
Sulphur (%)	0.55/ 0.62	0.54/ 0.44/ 0.40
Weighted Average of S (%)	<b>0.56</b>	Domestic: 0.49 Domestic Blended with Imported: 0.49

21.1 The analysis of above, leads to the following observations:

- i. There is a variation in characteristics of Coal itself (GCV from 3724 to 4286 Kcal/kg, Ash Content from 30.80 to 35.51%).
- ii. Assuming a uniform blend of coals before and after change, the weighted average of GCV of domestic coal reduced from 4479 to 3963 Kcal/kg (due to inclusion of raw Coal). However, after blending with imported coal, the GCV after change in coal source increased slightly from 3963 to 3981 Kcal/kg.
- iii. Similar observations were made with respect to Ash Content (first increase and then decrease after blending with imported coal).

21.2 Variations in coal quality and coal quantities used before and after change in coal source are as follows. Before change in coal source, NTPL was using blend of domestic coal from MCL and ECL, with wide variations in GCV & ash content. After the change in coal source, two additional coals, Low GCV/ High Ash Talabira Coal and Imported Indonesian Coal were also used. The weighted average of parameters were used to compare the impacts of blending on various parameters, as follows:

	<b>NTPL (Blend-I, Oct., 2020 - Sep., 2021)</b>	<b>NTPL (Blend-II, Oct., 2021 - Sep., 2022)</b>
Sources	MCL/ ECL	MCL/ ECL/ Talabira/ Indonesia
Quantities (Lakh)	24.99/ 10.12	6.99/ 0.29/ 22.63/ 3.82

T)		
GCV (ADB)	3850/ 6250	3850/ 6250/ 3350/ 6960
Weighted Average of GCV	<b>4542</b>	Domestic (excluding Imported): <b>3495</b> Domestic Blended with Imported: 3887
Ash (%)	39.87/ 14.6	39.87/ 14.6/ 46.63/ 12
Weighted Average of Ash (%)	<b>32.6</b>	Domestic (excluding Imported): 44.7 Domestic Blended with Imported: <b>41.0</b>
Sulphur (%)	0.44/ 0.55	0.44/ 0.55/ 0.29/ 0.96
Weighted Average of S (%)	<b>0.47</b>	Domestic (excluding Imported): 0.33 Domestic Blended with Imported: <b>0.40</b>

- iv. There is a variation in characteristics of Indian Coal itself (GCV – 3350 to 3850 kcal/ kg). In present case, the use of high GCV ECL coal is an exception as the total production of ECL is very limited and cannot be considered as a norm for country. However, Indian power plants use blends of domestic coal to average out GCV and Ash Contents.
- v. Assuming a uniform blend of coals before and after change, the weighted average of GCV of domestic coal reduced from 4542 to 3495 Kcal/kg (due to inclusion of low GCV Talabira Coal instead of High GCV ECL Coal). However, after

blending with imported coal, the GCV after change in coal source increased from 3495 to 3887 Kcal/kg.

- vi. Similar observations were made with respect to Ash Content (first increase and then decrease after blending with imported coal) and Sulphur Content (first decrease and then increase after blending with imported coal).

21.3 The coal characteristics data of both the companies along with PLF are summarized below:

	APGENCO			NTPL		
	Before	After	% Change	Before	After	% Change
GCV (kcal/kg)	4479	3981	-11%	4542	3887	-14%
Ash (%)	28.5	32.6	+14%	32.6	41	+26%
Sulphur (%)	0.56	0.49	-12.5%	0.47	0.40	-15%

The above table presents the changes in coal characteristics. However, the PLF of the Plant is another important factor which determines the total consumption of coal/ total generation of ash in a year. An aggregate impact of the coal characteristics and PLF are presented in the following sections.

21.4 An aggregate impact of the coal characteristics (GCV) and PLF are presented in the following sections.

	APGENCO		NTPL	
	Before	After	Before	After

PLF (%)	61.34	41.97	60.39	47.74
GCV (kcal/kg)	4479	3981	4542	3887
Coal Consumption (MTPA)	5.1	3.8	3.51	3.37

Though the GCV of coal has decreased in both the power plants, the actual quantity of coal consumed is also decreased due to decrease in PLF.

21.5 Both the companies have reported that there is no change in storage of coal stock or size of ash pond.

21.6 With the change in GCV and ash content, a change in ash generation was also observed, as follows:

	<b>APGENCO</b>		<b>NTPL</b>	
	Before	After	Before	After
Coal (TPD)	3217	3004	3556	3313

22. The Sub-Committee has summarised above findings as under:

- a) Coal is a natural material, with variable characteristics. Even within the same coal source, the characteristics vary from seam to seam and location to location.
- b) Significant changes in coal characteristics may occur when the change takes place from 100% imported coal (High GCV, 5000 kcal/ kg and above) to 100% domestic coal (Normal GCV, 3000-4000 kcal/ kg) and vice versa. However, due to the design constraints, the change in coal source from 100% imported coal to

100% domestic coal and vice versa as above, are not possible without major modifications in plant design.

- c) Changes in coal characteristics may occur from one domestic source to other domestic source. However, these changes are restricted within the plant design range ( $\pm$  20-25% of GCV).
- d) Changes in coal characteristics may occur due to blending of imported coal with domestic coal (as per CEA Advisory dated 19.04.2011, maximum allowable being 30%, but normally the blending ratio has been about 10%).
- e) The case study for the blending of imported coal with domestic coal (up to 30%) indicates that the impact remains within 9% for SO<sub>2</sub> emission without FGD whereas there will be reduction in coal consumption and ash generation. If the FGD is in operation, the additional impact of SO<sub>2</sub> shall be nullified, as the plant is operating within specified emission standards.
- f) The case study for the blending of domestic coal with imported coal (up to 30%) indicates that the coal consumption increases up to 15% and ash generation increase up to 96%. The case study also shows blending of domestic coal with imported coal (up to 10%) indicates that coal consumption increases up to 5 % and ash generation increases up to 29%, whereas there will be reduction in SO<sub>2</sub> emission (up to 3%).
- g) The impact factors for coal storage and ash disposal areas are insignificant. However, if the change involves coal transportation by road, additional impacts may be there for which additional mitigation measures shall be required (as per MoEF&CC notification dated 21.05.2020).

[D] The Expert Appraisal Committee (EAC), Thermal Power Projects after thorough examination and detailed deliberations on the findings/analysis report of the sub-committee recommended that:

- a) As significant changes in coal characteristics may occur when the change takes place from 100% imported coal to 100% domestic coal and vice versa; and due to the design constraints, the change in coal source from 100% imported coal to 100% domestic coal and vice versa are not possible without major modifications in plant design, except when the domestic coal is high GCV coal of similar grade. Therefore, it is proposed to remove the change from 100% imported coal to 100% domestic coal (except when the domestic coal is high GCV coal of similar grade) and vice versa same from the type of projects exempted from amendment in EC due to change in coal source. Whenever any project proponent intends to change from 100% imported coal to 100% domestic coal and vice versa; it has to approach MOEF&CC with a study on additional impact assessment and revised EMP.
- b) There are changes in coal characteristics may occur from one domestic source to other domestic source or even within the same domestic coal sources. However, as these changes are restricted within the plant design range ( $\pm 20-25\%$  of GCV) and the impacts of the changes are restricted to limited range, it is proposed to continue with exemption from amendment in EC due to change in coal source. However, these projects shall continue to comply with all the applicable norms and the provisions under OM dated 11.11.2020.

- c) Changes in coal characteristics also occur due to blending of imported coal with domestic coal (as per CEA Advisory dated 19.04.2011, maximum allowable being 30%, but normally the blending ratio has been about 10%). The case study for the blending of imported coal with domestic coal (up to 30%) indicates that the impact remains within 9% for SO<sub>2</sub> emission without FGD whereas there will be reduction in coal consumption and ash generation. If the FGD is in operation, the additional impact of SO<sub>2</sub> shall be nullified, as the plant is operating within specified emission standards. Therefore, it is proposed to continue with exemption from amendment in EC due to change in coal source in this category of power projects for blending up to 30%. However, these projects shall continue to comply with all the applicable norms and the provisions under OM dated 11.11.2020.
- d) The case study for the blending of domestic coal with imported coal (up to 30%) indicates that the coal consumption increases up to 15% and ash generation increase up to 96%. The case study also shows blending of domestic coal with imported coal (up to 10%) indicates that coal consumption increases up to 5 % and ash generation increases up to 29%, whereas there will be reduction in SO<sub>2</sub> emission (up to 3%). Therefore, it is proposed to continue with exemption from amendment in EC due to change in coal source in this category of power projects for blending up to 10% only. Further, these projects shall continue to comply with all the applicable norms and the provisions under OM dated 11.11.2020. Whenever any project proponent intends to blend domestic coal with imported coal (more than 10%); it has to approach

MOEF&CC with a study on additional impact assessment and revised EMP.

In a nutshell, the proposed changes in applicability of OM dated 11.11.2020 are tabulated as follows:

S. No.	Change in Coal Source	Applicability of OM dated 11.11.2020	
1	Change from 100% imported coal to 100% domestic coal (except when the domestic coal is high GCV coal of similar grade)	Not Applicable	Project proponent shall approach MOEF&CC with a study on additional impact assessment and revised EMP and obtain amendment in EC.
2	Change from 100% domestic coal to 100% imported coal (except when the domestic coal is high GCV coal of similar grade)	Not Applicable	Project proponent shall approach MOEF&CC with a study on additional impact assessment and revised EMP and obtain amendment in EC.
3	Change from one domestic source to other domestic source, partial or full change	Applicable	Projects shall continue to comply with all the applicable norms and the provisions under OM dated 11.11.2020
4	Blending of imported	Applicable	Projects shall continue to

	coal in domestic coal based power projects up to a maximum of 30%		comply with all the applicable norms and the provisions under OM dated 11.11.2020
5	Blending of domestic coal in imported coal based power projects up to a maximum of 10%	Applicable	Projects shall continue to comply with all the applicable norms and the provisions under OM dated 11.11.2020
6	Blending of domestic coal in imported coal based power projects beyond 10%	Not Applicable	Project proponent shall approach MOEF&CC with a study on additional impact assessment and revised EMP and obtain amendment in EC.

e. Compliance Monitoring the Regional Office of the MoEF&CC:

In case of change in coal source within the purview of OM dated 11.11.2020 and its applicability as per above table, the PP shall have to submit a compliance report of the terms and conditions of the aforesaid OM duly certified by the IRO within 6 months of such changes adopted.

\*\*\*\*

**Email****Yogendra Pal Singh**

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**Re: OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.**

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**From :** gpkundargi@gmail.com

Sun, Oct 01, 2023 01:19 PM

**Subject :** Re: OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.**To :** Yogendra Pal Singh <yogendra78@nic.in>

Sub. Re:OA No 74 Of 2021 & WP No 13266 of 2021 and WP No 13499 in the matter of K Saravanan Vs Union Of India before NGT {SZ} Chennai reg.

Dear Dr Yogendra ji,

Considering the consents received from sub committee,& deliberations in the EAC,Final Draft Report on the above Subject is Approved for further necessary action at your End.

Thank you

G P Kundargi

On Wed, Sep 27, 2023 at 4:52 PM Yogendra Pal Singh <yogendra78@nic.in> wrote:

Dear Sir,

The draft report in the captioned, after receiving the consents from Sub Committee Members, is attached herewith for kind perusal and approval please.

---

**From:** "Nazimuddin" <nazim.cpcb@nic.in>**To:** gpkundargi@gmail.com, "Yogendra Pal Singh" <yogendra78@nic.in>**Cc:** "mpsingh.cea" <mpsingh.cea@nic.in>, "JK PANDEY" <jkpandey@cimfr.nic.in>, "Sanjeev Goyal" <sk\_goyal@neeri.res.in>, jaikrishnapandey@gmail.com, vijayprakash@ntpc.co.in, "Saurabh Upadhyay" <saurabh.upadhyay85@gov.in>, "Sourabh Kumar" <sourabh.9@govcontractor.in>, "ishanvi m" <ishanvi.m@govcontractor.in>**Sent:** Tuesday, September 26, 2023 6:26:24 PM**Subject:** Re: OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.

Sir,

Agree with the report. However, it is suggested that:

- Sub para d) and e) of the recommendation can be combined
- The compliance report in respect of conditions of OM can only be verified by IRO after submission by PP. The wording regarding "duly certified compliance report" may be modified accordingly in sub para f)

Regards

Nazimuddin, Sc F, CPCB

---

**From:** "Yogendra Pal Singh" <[yogendra78@nic.in](mailto:yogendra78@nic.in)>  
**To:** "mpsingh.cea" <[mpsingh.cea@nic.in](mailto:mpsingh.cea@nic.in)>, "JK PANDEY" <[jkpandey@cimfr.nic.in](mailto:jkpandey@cimfr.nic.in)>, "Sanjeev Goyal" <[sk\\_goyal@neeri.res.in](mailto:sk_goyal@neeri.res.in)>, [jaikrishnapandey@gmail.com](mailto:jaikrishnapandey@gmail.com), "Nazimuddin" <[nazim.cpcb@nic.in](mailto:nazim.cpcb@nic.in)>, [vijayprakash@ntpc.co.in](mailto:vijayprakash@ntpc.co.in)  
**Cc:** [gpkundargi@gmail.com](mailto:gpkundargi@gmail.com), "Saurabh Upadhyay" <[saurabh.upadhyay85@gov.in](mailto:saurabh.upadhyay85@gov.in)>, "Sourabh Kumar" <[sourabh.9@govcontractor.in](mailto:sourabh.9@govcontractor.in)>, "ishanvi m" <[ishanvi.m@govcontractor.in](mailto:ishanvi.m@govcontractor.in)>  
**Sent:** Sunday, September 17, 2023 6:18:16 PM  
**Subject:** OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.

**MOST IMMEDIATE**  
**NGT MATTER**

Sir,

Please find enclosed herewith the report (**final version**) on the above mentioned subject matter. The Chairman (EAC) has vetted the report. In this regard, I am directed to request you to provide your consent on the said report at the earliest so as to enable the Ministry to ensure the compliance of directions passed by the Hon'ble NGT (SZ).

**Email****Yogendra Pal Singh**

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**Re: OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.**

---

**From :** Sanjeev Goyal <sk\_goyal@neeri.res.in>

Mon, Sep 25, 2023 01:19 PM

**Subject :** Re: OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.**To :** Yogendra Pal Singh <yogendra78@nic.in>

Dear Sir,

Thanks for sharing the final report.

The report is fine from my side.

Please also share copy of final version being submitted to Hon'ble NGT.

Regards,

SKGoyal

Chief Scientist &amp; Head

CSIR-NEERI, Delhi Zonal Centre

Naraina, New Delhi

---

**From:** "Yogendra Pal Singh" <yogendra78@nic.in>**To:** "mpsingh.cea" <mpsingh.cea@nic.in>, "JK PANDEY" <jkpandey@cimfr.nic.in>, "Sanjeev Goyal" <sk\_goyal@neeri.res.in>, jaikrishnapandey@gmail.com, "Nazimuddin" <nazim.cpcb@nic.in>, vijayprakash@ntpc.co.in**Cc:** gpkundargi@gmail.com, "Saurabh Upadhyay" <saurabh.upadhyay85@gov.in>, "Sourabh Kumar" <sourabh.9@govcontractor.in>, "ishanvi m" <ishanvi.m@govcontractor.in>**Sent:** Sunday, September 17, 2023 6:18:16 PM**Subject:** OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.**MOST IMMEDIATE**  
**NGT MATTER**

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**Email****Yogendra Pal Singh****From :** JK PANDEY <jkpandey@cimfr.nic.in>

Mon, Sep 25, 2023 01:43 PM

**Subject :** Re: Fwd: OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.**To :** Yogendra Pal Singh <yogendra78@nic.in>

Dear Dr Singh

I have already gone through the minutes and found in order.

Regards

Dr J K Pandey

Dr J.K.Pandey Chief Scientist & Professor (Engg Sciences), ACSIR-CIMFR Head, Mine Fire, Ventilation, Miner's Safety and Health Research Group CSIR-Central Institute of Mining and Fuel Research (Ministry of Science and Technology, Govt. of India) Barwa Road, Dhanbad-826015 (Jharkhand), India Phone: +91 326 2296027-29 Extn 4341, +91 326 2396053 (Telefax), +919431727134 (Mob) Alternate email id: jaikrishnapandey@gmail.com

----- Original Message -----

From: Yogendra Pal Singh &lt;yogendra78@nic.in&gt;

To: JK PANDEY &lt;jkpandey@cimfr.nic.in&gt;

Sent: Mon, 25 Sep 2023 11:43:42 +0530 (IST)

Subject: Fwd: OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.

From: "mpsingh.cea" &lt;mpsingh.cea@nic.in&gt;

To: "Yogendra Pal Singh" &lt;yogendra78@nic.in&gt;

Sent: Monday, September 18, 2023 8:01:29 PM

Subject: Fwd: OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.

Slightly modification is required in last part [D] - a. b. c. d. f. --- missed e. in numbering.

Please see.

Regards,

Mahi Pal Singh  
Chief Engineer (TPP&D)  
central Electricity Authority

From: VIJAYPRAKASH@NTPC.CO.IN  
To: "mpsingh.cea" <mpsingh.cea@nic.in>  
Sent: Monday, September 18, 2023 2:11:23 PM  
Subject: Fw: OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.

महोदय / Sir,

For information please.

सादर / With Regards

Dr. Vijay Prakash, M. Tech. (IIT, Kanpur), MSW, Ph.D. (UK)  
डॉ विजय प्रकाश, एम टेक, एम एस डब्ल्यू, पी एच डी (यू के)  
Recipient of Commonwealth Scholarship in UK  
Chief General Manager & HOD (Engg. Services)  
मुख्य महाप्रबंधक एवं विभागाध्यक्ष (अभियांत्रिकी सेवाएँ)  
NTPC Engineering Office Complex, Sector-24, Noida  
एनटीपीसी इंजीनियरिंग ऑफिस कॉम्प्लेक्स, सेक्टर - 24, नोएडा  
Tel.: 0120-4946930, 2410331; Mobiles: 09650991509  
Alternate E-mail: vijayprakashntpc@gmail.com

From: VijayPrakash <VIJAYPRAKASH@NTPC.CO.IN>  
Sent: 18 September 2023 10:02  
To: Yogendra Pal Singh <yogendra78@nic.in>  
Subject: Re: OA No. 74 of 2021 and WP No 13266 of 2021 and WP No 13499 of 2021 in the matter of K Saravanan Vs Union of India before NGT (SZ), Chennai - reg.

महोदय / Sir,

Some minor corrections are marked in trak change mode. Based on discussions and deliberations within the Sub-committee and EAC, I hereby give my consent as an individual member of the sub-committee . However, it does not have the formal approval of the management of NTPC.

सादर / With Regards

Dr. Vijay Prakash, M. Tech. (IIT, Kanpur), MSW, Ph.D. (UK)  
डॉ विजय प्रकाश, एम टेक, एम एस डब्ल्यू, पी एच डी (यू के)  
Recipient of Commonwealth Scholarship in UK  
Chief General Manager & HOD (Engg. Services)  
मुख्य महाप्रबंधक एवं विभागाध्यक्ष (अभियांत्रिकी सेवाएँ)  
NTPC Engineering Office Complex, Sector-24, Noida  
एनटीपीसी इंजीनियरिंग ऑफिस कॉम्प्लेक्स, सेक्टर - 24, नोएडा

Tel.: 0120-4946930, 2410331; Mobiles: 09650991509  
Alternate E-mail: vijayprakashntpc@gmail.com

From: Yogendra Pal Singh <yogendra78@nic.in>  
Sent: 17 September 2023 18:18  
To: mpsingh.cea <mpsingh.cea@nic.in>; JK PANDEY <jkpandey@cimfr.nic.in>;  
Sanjeev Goyal <sk\_goyal@neeri.res.in>; jaikrishnapandey@gmail.com  
<jaikrishnapandey@gmail.com>; Nazimuddin <nazim.cpcb@nic.in>; VijayPrakash  
<VIJAYPRAKASH@NTPC.CO.IN>  
Cc: gpkundargi@gmail.com <gpkundargi@gmail.com>; Saurabh Upadhyay  
<saurabh.upadhyay85@gov.in>; Sourabh Kumar <sourabh.9@govcontractor.in>;  
ishanvi.m@govcontractor.in <ishanvi.m@govcontractor.in>  
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MOST IMMEDIATE  
NGT MATTER

Sir,

Please find enclosed herewith the report (final version) on the above  
mentioned subject matter. The Chairman (EAC) has vetted the report. In this  
regard, I am directed to request you to provide your consent on the said  
report at the earliest so as to enable the Ministry to ensure the  
compliance of directions passed by the Hon'ble NGT (SZ).

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