BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

Appeal No.46 of 2016 (SZ)

(Through Video Conference)

IN THE MATTER OF

Uma Maheshwar Dahagama,
5-1-270 Krishna Nagar Street,
Jyothi Nagar Post Office,
Jyothi Nagar, Karim Nagar District
Telengana- 505 215

...Appellant(s)

Versus

1. Union of India,
   Through the Secretary,
   Ministry of Environment and Forest& Climate Change,
   Indira Paryavaran Bhavan, Jor Bagh Road,
   Ali Gunj, New Delhi- 110003

2. Telangana State Pollution Control Board,
   Through the Member Secretary,
   A-3, Paryavaran Bhavan, Sanath Nagar
   Hyderabad,
   Telangana- 500018

3. M/s National Thermal Power Corporation Limited,
   Through the Managing Director,
   NTPC Bhavan, Scope Complex, 7,
   Institutional Area, Lodhi Road,
   New Delhi- 110 003

...Respondent(s)

For Appellant(s):	Mr. Yogeswaran
For Respondent(s):	Mr. Syed Nurullah Sheriff for R1 Mr. T. Sai Krishnan through Mr. Lakshminarasimhan for R2 Mr. G. Masilamani, Sr. Counsel and Mr. Mohan for M/s King & Patridge for R3

Judgment Reserved on: 3rd February, 2021.

Judgment Pronounced on: 27th May, 2021.

CORAM:

HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER

HON'BLE MR. SAIBAL DASGUPTA, EXPERT MEMBER

Whether the Judgement is allowed to be published on the Internet – Yes/No

Whether the Judgement is to be published in the All India NGT Reporter – Yes/No

JUDGMENT

Delivered by Justice K. Ramakrishnan, Judicial Member.

1. The above appeal has been filed challenging the Environment Clearance granted to the 3rd respondent National Thermal Power Corporation Limited (NTPC) for starting a new thermal power plant having a capacity of 2x800MW by first respondent as per proceedings no. J-13012/112/2010-IA.II(T) dated 20.01.2016 at Ramagundam village and Mandal, Karimnagar district Telangana. According to the appellant, the third respondent had originally applied for a new coal-fired Thermal Power Plant at Ramagundam village and Mandal, Karimnagar district Telangana for a capacity 2x600 MW and on that basis, originally, Terms of Reference was issued by the first respondent for conducting Environmental Impact Assessment Study on 16.09.2014. Thereafter the 3rd respondent enhanced the generation capacity of power plant to 2x800 MW and sought for amended Terms of Reference and the same was issued for the revised capacity on 12.12.2014. The project proponent, according to the appellant, had claimed to have collected data for the above project for the period between December, 2014 and February, 2015 and draft Environmental Impact Assessment report was prepared. Thereafter, the public

consultation was organised on 23.05.2015. In fact the present project was rejected by Ministry of Supply originally on 10.07.2015 and subsequently on re-submission, the proposal was accepted by the Ministry of Supply on 13.10.2015 as per annexure A-2. Thereafter the project was appraised by the Expert Appraisal Committee during its 45th Meeting held on 29th -30th October, 2015 and on appraisal of the same, the Committee wanted more details relating to the above project and required them to prepare a further report on that aspect and submit the same for the purpose of reconsideration and the decision was deferred to another date and following information was sought by the Expert Appraisal committee from the Project Proponent in the above meeting as evidenced by annexure A-3 Minutes.

"2. After detailed deliberations, the committee sought the following information/documents which was either not available in the EIA/EMP report or not appropriate. Accordingly, the proposal was deferred.

I. Commitment and Action Plan for compliance to the Ministry's Notification dated 02.01.2014 regarding use of coal with ash content not exceeding thirty-four per cent, on quarterly basis.
II. Detailed note on rise in temperature in consultation with IMD. The data shall be as old as possible.
III. Certification from the concerned authority that the site is not located on economically feasible mineable mineral deposit (ToR 15)
IV. Occupational Health and epidemic health disorders survey of the study area.
V. The Quality of effluent from ash pond vis-a-vis the River water quality. The impact on agricultural fields in terms of heavy metal in food chain and ground water/soil.
VI. Plan for recycling and reuse of ash pond effluent after minimizing the discharge of cooling water blow down etc. to the ash pond. No untreated ash pond effluent shall be discharged.
VII. Detailed report on water drawl, water channels and diversion duly certified by the irrigation & Flood Control Department of the State Government.
VIII. Satellite map showing the existing green belt. Revised plant layout by maintaining thick three-tier green belt in minimum 33% area.
IX. Budgeted Action plan for the public Hearing issues.

X. *Reply to the representation received by the EC, a copy of which was provided to the PP.*
XI. *Revised AAQ modelling results.*
XII. *Commitment for installation of FGD.*
XIII. *Detailed document/permission for tapering coal linkage.*
XIV. *All the discrepancies, if any, in the EIA/EMP shall be addressed and submitted."*

2. Thereafter it was again considered in the 46th meeting held on 26th and 27th November, 2015 wherein the Expert Appraisal Committee had recommended the project on the following conditions evidenced by annexure A-4 which reads as follows:

" Based on the information/document provided by the Project Proponent and clarification provided during detailed discussions held on all the issues, the Committee recommended the project for environmental clearance subject to stipulations of the following additional specific conditions:

I. *As the satellite Imagery submitted was not clear, a clear satellite imagery shall be submitted to the Ministry and its R.O. Further, latest authenticated satellite imagery shall be submitted on an annual basis to the Ministry and its R.O. to monitor the alterations of the area.*
II. *The PP shall ensure compliance to the Ministry's Notification dated 02.01.2014 regarding use of coal with ash content not exceeding thirty-four per cent, on quarterly average basis. This is to be ensured by incorporating a condition in the MoU/FSA with CIL etc. Also, if required, coal washery shall be installed.*
III. *The Sulphur and ash content of coal shall not exceed 0.5% and 34% respectively. In case of variation of quality at any point of time, fresh reference shall be made to the Ministry and suitable amendments to the environmental clearance will have to be sought.*
IV. *FGD shall be installed as the emissions are found to be almost reaching threshold limit of 80 unit (for the worst scenario) and also considering the cushion w.r.t NAAQS.*
V. *NTPC shall endeavour to enter into MoUs with NHAI, Associations of cement industries and Municipal Authorities for ensuring ash utilisation in roads construction and cement manufacturing.*
VI. *The PP shall examine possibility of relocating the ash pond. In case, the relocation of ash pond is not possible, precautionary measures by providing maximum green belt between ash pond and reservoir etc. shall be undertaken.*
VII. *Study shall be conducted regarding the impact on agricultural fields in terms of heavy metal in food chain and ground water/soil for a period of one year and the report submitted to the Ministry.*
VIII. *The Ash water Re-circulation system (AWRS) shall be immediately installed for the existing TPP. Till that time, the ash pond effluent shall not be discharged into agricultural fields etc.*
IX. *The PP shall enhance the green belt of the existing TPP in compliance to the earlier EC conditions etc.*
X. *Long term monitoring of temperature shall be undertaken on-site and off-site of the TPP, as data of decrease in temperature*

needs to be verified. Further, requisite corrective action shall be taken based on the findings of the monitoring.

XI. *As the data for the health studies was more than five years old, a fresh Occupational Health and epidemic health disorders survey of the study area (10km radius) shall be conducted and the report submitted to the Ministry and its R.O. within one year.*

XII. *As committee, a minimum amount of Rs. 20 crores shall be earmarked as capital cost for CSR activites and the recurring cost per annum shall be as per the CSR policy of GOI till the operation of the plant commences."*

3. Thereafter it was forwarded to the first respondent MoEF&CC and the MoEF&CC had considered the recommendations of the Expert Appraisal Committee and decided to grant clearance for the project as per their letter annexure A-1 dated 21.01.2016. The Appellant had challenged the issuance of the Environment Clearance on following grounds:

i. The Expert Appraisal Committee on its 46nd meeting had mechanically recommended the project though the project proponent had not complied with the earlier directions issued by them as per their 45th Meeting wherein they have sought for certain clarification and further information. They have recommended the project with conditions to fulfil the earlier clarification sought for from the project proponent and thereafter the project was considered by the MoEF&CC but the MoEF&CC had also mechanically accepted the recommendations without getting further details as directed by the Expert Appraisal Committee for consideration and mechanically granted clearance.

ii. The project proponent had not produced any coal linkage with any coal supply unit or mines to ascertain the nature of coal which they were expected to use. They had also not conducted any proper study regarding the radioactivity and heavy metal analysis of the coal to be used from which the fly ash is likely to be produced by using the coal as fuel. Such a report was not available before the Expert Appraisal Committee for consideration so as to ascertain the probable

pollution load that is likely to be created by this project on its establishment in a place which is already crowded with number of thermal power plants and other polluting industries. It is also seen from the documents produced that the estimated annual requirement of coal to be 8 million tonne per annum and proposed to secure the same from nearby Singareni Collieries Company Ltd (SCCL) and obtained the confirmation of supply for 2MW linkage arrangement with them but the Expert Appraisal Committee in its 45th meeting had insisted on confirmed fuel linkage for complete fuel requirements. Subsequently during the next meeting namely 46th held on 26-27 November, 2015, NTPC had submitted letter dated 06.11.2015 to the Expert Appraisal Committee obtained from General Manager Coal India Limited office Kolkata to Western Collieries limited Nagpur which interaila stated that NTPC has been granted Mandakini-B Coal mine in the State of Odisha and this has been produced for the purpose of proving that they have coal linkage with Mandakini-B coal mine in Odisha. They have not obtained this coal linkage at the time of conducting environmental impact assessment study and so there was no material available before the Expert Appraisal Committee regarding the probable pollution that is likely to be caused on account of the coal being used by the project proponent, and there was no radioactivity or other heavy metal analysis conducted. Even in the letter produced by the Project proponent, it was not clear as to whether they will be getting the entire supply from the particular mine. Further it was against the guidelines given by MoEF as per their O.M dated 19.04.2012 regarding the production of coal linkage arrangement not necessary at the time of preparing the draft EIA but at the time of appraisal by the Expert Appraisal Committee.

iii. The ambient air quality study was not properly conducted. The modelling ambient air quality prepared was not

representing the real status in that area. Though as per the Terms of Reference, they will have to conduct the ambient air quality analysis between 10 and 15 kms radius from the project area but they have conducted the study only within a distance of 10km and though 10 monitoring stations were to be located for base line data collection on noise and air parameters but they have only located 4 monitoring stations for collection of base line data of ambient air quality which is against the normal norms. The Ambient air quality that has been produced by the Project proponent is not correct as is evident from the air ambient quality data collected by M/s Kirloskar Consultants Ltd, Pune during the period April, 2011 to April, 2012 which showed different Sulphur dioxide (SO_2) content in the air quality which is higher than the sulphur quantity shown by the project proponent. Same is the condition in respect of base line data provided in particulate matters as well. Considering the nature of location of the project, the ambient air quality data given by the project proponent could not be said to representing the real status as even according to the Study conducted by Central Pollution Control board, Ramagundam is a critically polluted area and ambient air quality in that area is worse which requires further improvement. Further no cumulative impact ambient air quality assessment was conducted considering the total pollution that is likely to be emitted from the industries situated within the distance of 15km. They have only concentrated on the specific project which is not correct. Further the data collected by FCI for their project more or less during the same period showed a different data in respect of particulate matters, Sulphur dioxide and Nitrogen dioxde. These aspects have not being properly considered by the Expert Appraisal Committee and other authorities.

iv. There was no proper cumulative impact assessment of ambient air quality done especially when it is a high polluted

industrial cluster. Hydro-geological impact and impact on ground water, surface water etc have not been properly assessed. Further, there was no proper study conducted in respect of Zero Liquid Discharge (ZLD) claimed by the project proponent as during monsoon they were permitted to discharge the treated water into Godavari River which itself is being polluted on account of other untreated discharge of different types of effluents including sewage water. There was no study conducted as to what would be the impact of such discharge on Godavari River and since it was Zero Liquid Discharge unit, according to the project proponent, no further study in respect of effluent treatment was conducted.

v. There was no proper health impact study conducted in that area. In fact, the project proponent was relying on old health report regarding that area which was even commented by the Expert appraisal committee and they wanted a fresh health assessment but in fact, they had not complied with the same and in spite of that, with the same recommendations, the EAC had recommended the project and without making any modifications, the MoEF&CC also accorded the clearance for the project.

vi. Further there were lot of non-compliance regarding the things to be elicited on the basis of the Terms of Reference and though some of these aspects were noticed by the Expert Appraisal Committee and wanted further report but the same had not been complied with. Further nothing was mentioned about the non-compliance of many of the environmental conditions by already existing thermal power plants and what are the remedial measures undertaken by them to avoid such possible violations by this unit but they had simply stated that they were green project and as such there was no study need be conducted regarding this aspect.

vii. There was no proper application of mind either by the Expert Appraisal Committee or by the MoEF&CC before

recommending and issuing the clearance. No proper Corporate Social Responsibility (CSR) fund has been provided.

4. So according to the appellant, Environmental Clearance granted is vitiated by the basic principle of new appraisal and non-application of mind on environment issues and so they prayed for setting aside the Environment Clearance granted.

5. The first respondent filed reply affidavit contending as follows:

The appeal is not maintainable. The Environmental Clearance dated 20.01.2016 was granted in favour of the project proponent after following the due procedure laid down under the Environmental Impact Assessment (EIA) Notification, 2006 and amendments thereafter made and considering the impact of the project on environment imposing necessary conditions. The Terms of Reference for carrying out EIA study and preparation of EMP (Environment Management Plan) for the proposal (2x600 MW) asked for by the project proponent was accorded by the MoEF&CC on 16.09.2014 and amended ToR for revised capacity of 2x800 MW was accorded on 12.12.2014. The baseline data for EIA/EMP was collected during December, 2014-February, 2015 and the final EIA/EMP report after conducting public hearing on 23.05.2015 was submitted to MoEF&CC for consideration of Environmental Clearance. The Expert Appraisal Committee (EAC-Thermal Power) had appraised the proposal in detail in its 45th and 46th meeting held during 29th -30th October, 2015 and 26th- 27th November, 2015 respectively. The additional

specific conditions recommended by the EAC inter-alia, include installation of FGD, MoUs for ash utilization, compliance of existing Thermal power plant (TPP) to the Environment clearance conditions, long term monitoring of temperature on-site and off-site, occupational health and epidemic health disorders survey of the study area etc., minutes of which were produced by the appellant themselves annexed as A-3 and A-4. The member Secretary of Expert Appraisal Committee had only sought essential details from the project proponent on 10.07.2015 and the same were subsequently submitted and after evaluating only, the project was recommended by the Expert Appraisal Committee with certain conditions. The Expert Appraisal Committee had appraised with all the requisite studies undertaken for EIA/EMP by accredited consultant as per the ToR prescribed the studies recommended by EAC/MOEF&CC as part of additional specific conditions in Environmental Clearance were not considered mandatorily in the EIA/EMP prior to Environmental Clearance. Further depending on the outcome of the studies in para 7 of the Environmental Clearance, Ministry has reserved its rights to reverse the clearance if the conditions stipulated are not implemented to the satisfaction of the Ministry and the Ministry is also entitled to impose additional condition or modify the existing one if necessary. The proceedings of the public hearing was received from Telangana State Pollution Control Board submitted by the

project proponent to MoEF&CC and Expert Appraisal Committee and they had discussed the issue raised in the public hearing and considered the reply of the project proponent and the budgeted action plan was sought by the Expert Appraisal Committee from the project proponent. It is thereafter the same had been recommended by the Expert Appraisal Committee. The Environmental Assessment Report/Environmental Management Plan is based on sulphur content, ash content and GCV of 0.4-0.5%, 24.9-43.0% and 3,128-4,577 kal/kg respectively. The Characteristics of coal w.r.t to radioactivity content are provided in annexure-VIII of the EIA report. Further, the Environmental Clearance mandates that the sulphur and ash content of coal shall not exceed 0.5% and 34% respectively, FGD shall be installed and transportation of coal by rail were also imposed as conditions in the Environmental Clearance. So, According to the MoEF the Environmental Clearance granted does not require any interference and they prayed for dismissal of the appeal.

6. The 2nd respondent filed reply contending as follows:

The 3rd respondent got coal based power project with a production of 2600 MW in three stages. Stage 1 consists of unit I, II and III- 600MW (200MW each). Stage 2 consists of units IV, V and VI- 1500MW (500 MW each) and Stage 3 consists of Unit VII- (500MW). They have proposed to set up the Telangana Super Thermal Power Project 2x800 MW at the existing premises and had submitted ToR and draft EIA at the Regional office of the 2nd respondent board, Ramagundam on 15.04.2015 with a request to conduct public hearing for the proposed establishment incomplying with the procedure

prescribed in the EIA Notification, 2006, public hearing date was fixed as 23.05.2015 by the Collector and District magistrate, Karimnagar after making wide publicity regarding the same and thereafter public hearing was conducted on the date under the supervision of the Joint Collector and Additional District magistrate, Karimnagar at Zilla Parishad High School, TTS, Jyothi Nagar, Ramagundam. The public hearing was conducted after issuing proper notification in the newspapers like Deccan Chronicle, Andhra Jyothi and Sakshi dailies published on 23.04.2015 and 24.04.2015. The 1st respondent had granted the Environmental Clearance to the 3rd respondent on 20.01.2016 .As far as 2nd respondent is concerned their role is only in respect of conducting public hearing as contemplated in the EIA Notification, 2006 as amended from time to time and thereafter forward the proceedings with CDs prepared to the MoEF&CC for their consideration. After obtaining the Environmental Clearance, on the basis of application made by the project proponent, consent for operation was issued on 20.04.2016 of establishment of thermal power plant 2x800MW as per recommendations of the CFE order dated 20.04.2016 of the respondent Board evidenced by annexure-A2. According to them, there is not merit in the Appeal and they prayed for dismissal for the appeal.

7. The 3rd respondent filed reply affidavit contending as follows:

The Appeal is not maintainable. The Environmental Clearance was granted to the National Thermal Power Plant Limited and the name of the 3rd respondent shown in the cause title as National Thermal Power Corporation Limited has to be amended. None of the reason stated by the appellant in the Appeal Memorandum are sufficient to set aside the Environmental Clearance granted. The National Thermal

Power Plant was formed under the National Thermal Power Plant Corporation Limited in 1975 and it is a fully Government owned Company. It is operated as a public sector undertaking under the Ministry of Power, Government of India. Thereafter the Corporation was given the status of the company and thereby it was named as NTPC limited and it is India's largest energy conglomerate incorporated to accelerate power development in India. NTPC limited became a Maharatna Company in May 2010, one of the only four companies to be awarded the status. NTPC ranked 431 in 2015 Forbes Global 2000 ranking of the World's largest companies. The total installed capacity of NTPC Limited is 47,178 MW (including JVs) with 18 coal based and 7 gas based stations. NTPC has set a target to have an installed power generating capacity of 1,28,000 MW by the year 2032. They were operating its plants at high efficiency levels. They have got only 17.73% of the total national capacity. It contributes 24% of the total power generation due to its focus on high efficiency. Due to economic liberalization and increase in various development activities, the need for power has increased manifold and several parts of the country were affected by power shortages. Development and growth can co-exist only if adequate and sufficient power is available for the same. The Supreme Court of India while upholding the establishment of the Kudankulam Atomic Power Station, in (2013) 6 SCC 620 has concluded that nuclear energy was a viable source of energy and necessary to

increase the Country's economic growth. When nuclear energy with all its risk itself was permitted to be established, the Thermal Power Plant for which the Environmental Clearance was accorded on 20.01.2016, which was the subject matter of the present appeal should be clearly and absolutely accepted as a viable power plant.

8. Further the Hon'ble Supreme Court in Occupational Health & Safety Association vs Union of Inida & Ors reported in (2014) 3 SCC 547 has taken note that India is one of the largest coal producing country in the world and it has numerous coal fired thermal plants (CFTEPS) requiring nearly 440 millions tonnes of coal per year. India is about 130 CFTEPS, thermal project generates about 2/3rd of the electricity consumed in India. While 54.3% of demand energy is met by coal-fired power generations which was explained in (2014) 3 SCC 547 (Supra). Further after the united Andhra Pradesh was divided into Andhra Pradesh and Telangana by promulgating Andhra Pradesh Re-organisation Act, 2014 and as part of infrastructure requirements 7, NTPC was required to establish a 4000 MW power facility and it was included as Item 7 of the 13th schedule of the Andhra Pradesh Re-organization Act, 2014 which reads as follows:

> *"7. NTPC shall establish a 4000 MW power facility in the Successive State of Telangana after establishing necessary coal linkage."*

It was on that basis that the NTPC had applied for Environmental Clearance for their power plant having a

capacity of 1600 MW (2x800 MW) within the existing plant area.

9. It is also contended that they had taken all super critical technology for optimizing the efficiency and drastically reducing emissions of them which are as follows:

   a. Reduced fuel costs due to improved plant efficiency;

   b. Significant reduction in CO_2 emissions, improving environment;

   c. Plant costs comparable with sub-critical technology and is less than other clean coal technologies

   d. Much reduced NO_x SO_x and particulate emissions; and

   e. Can be fully integrated with appropriate CO_2 capture technology.

10. The Environmental Clearance has been granted on 20.01.2016 for the new plant which would be of super critical technology and its advantages over other technologies including on emission levels is illustrated as below:

   a) Super critical technology has many advantages over sub-critical technology. Plants with super critical technology have better efficiency due to higher steam parameters resulting in lesser coal consumption than the sub-critical plants. Lower amount of coal burnt in the power plant for same amount of electrical power being produced means lesser CO_2 and SO_x emissions. Carbon-dioxide emissions, a major cause of concern today due to its global warming potential causing climate change, are reduced. This has been a major factor for adoption of supercritical technology. In other words, supercritical power plants are highly efficient plants with best available pollution control technology, reduces existing pollution levels by burning less coal per megawatt-hour produced, capturing vast majority of the pollutants. This increases the KWh produced per kg of coal burned, with fewer emissions.

   b) Due to the above mentioned techno-economic benefits along with its environment-friendly cleaner technology; more new power plants are coming-up with this state-of-the-art technology. As environment legislations are becoming more stringent, adopting this cleaner technology has benefited immensely in all respects. As LHV (lower heating value) is improved (from 40% to more than 45%); one percent increase in efficiency reduces by two percent, specific emissions such as CO_2 , NO_x SO_x and particulate matters. "Supercritical" is a thermodynamic expression describing the state of a substance where there is no clear distinction between the liquid and the

gaseous phase (i.e. they are a homogenous fluild). Water reaches this state at a pressure above 22.1 MPa. The efficiency of the thermodynamic process of a coal-fired power describes how much of the energy that is fed into the cycle is converted into electrical energy. The greater the output of electrical energy for a given amount of energy input, the higher the efficiency. IF the energy input to the cycle is kept constant, the output can be increased by selecting elevated pressures and temperatures for the water-seam cycle.

c) *Moreover, fuel flexibility is not compromised in Once-through Boilers. A wide variety of fuels have already been implemented for once-through boilers. All types of coal as well as oil and gas have been used.*

d) *Capital cost of a super critical plant is higher than that of sub-critical plant. Higher efficiencies than conventional sub-critical units help significant CO_2 reductions. The objective of power plants within today's market boundaries is more than ever to ensure high efficiency (to reduce the environmental impact as much as possible) while at the same time to increase their economics in competition to existing alternatives. The development of an economical and efficient concept needs to look at the steam turbine all other main components like boiler, flue gas cleaning equipment and the optimization of the water-steam-cycle as main parts for the optimization.*

11. They denied the allegations that on account of existing 2x600MW facility of thermal power plants causing pollution in that area, this plant will only increase the pollution load and ambient temperature and due to that respiratory ailment are common amongst others. They denied the allegation that borewell in the region have been contaminated on account of the operations of the thermal power plants. They will functions only within the permissible level and it will be an environmental friendly project. They have conducted all necessary cumulative impact, rise in temperature, baseline environment, social impact etc. by appointing accredited agencies and the same have been considered by the Expert Appraisal Committee of the 1st respondent-Ministry and it is only thereafter that the same had been approved. Further, the Expert Appraisal Committee of the 1st respondent-Ministry is having experts in these fields and they had considered all the aspects critically before

recommending the project with conditions required for minimising the pollution if at all that is likely to be caused on functioning of the unit. The project is intended to cater the needs of the power required for the newly established Telangana State and this is one such unit which has been contemplated for catering the need of the State. The requirement made by the Expert Appraisal Committee in their 45th Meeting held on 29th -30th October had been complied with by the 3rd respondent and only after getting satisfied with the same, they had recommended the project. The allegation that both the Expert Appraisal Committee and MoEF&CC had mechanically recommended the project without application of mind is not correct. Public hearing was conducted successfully and all the objections raised in the public hearing were considered by the Expert Appraisal Committee. The allegation that the reports were not made available in the local language is not correct. They have summarised the discussions held in the public consultations in Telugu and thereafter it was translated to English version by Telangana State Pollution Control Board and subsequently it was forwarded to MoEF&CC by Environmental Engineer of Telangana State Pollution Control Board. So the allegation that MoEF&CC had no opportunity to understand the discussions in the public hearing as it was recorded in Telugu is not correct. The Pollution data was collected at the worst season and considering the existing units in that area evidenced by annexure R3/1. Further the actual

concentration of pollutants expected during the operation phase of the project would be much less than the predicted values. At the time, when the proposals were made regarding the necessity in change of coal source, the following have to be considered:

i. The conceptualization of power project which includes site selection, arranging inputs like land, water and fuel ,preparation of Feasibility Report (FR), environmental Impact Assessment (EIA) and other studies, various approval process constitute as long drawn process spanning over 2 years. All the details are not available in the beginning and parallel activities are undertaken for various studies and approvals to save the time.
ii. It is submitted that the coal source and coal characteristics were changed during various stages of appraisal of the project for Environmental Clearance (EC) during Expert Appraisal Committee (EAC) meeting in order to comply with the Ministry of Environment and Forest & Climate Change (MoEF&CC) Office Memorandum (OM) dated 01.11.2010 which mandates that Thermal Power Project with coal sourcing from dedicated coal blocks shall be considered for Environmental Clearance (EC) only after the firm coal linkage is available and status of Environmental Clearance /Forest Clearance (EC/FC) of the linked coal mine is known. The true copy of Ministry of Environment and Forest & Climate Change (MoEF&CC) Office Memorandum (OM) dated 01.11.2010 is being annexed hereto and marked as Annexure-R3/2.
iii. The coal requirement for the project is estimated as 8.0 million tonnes per annum (MTPA) and there is no change in the quantity requirement throughout the appraisal.
iv. It is submitted that the coal quality parameters for western Coalfields Ltd. (WCL) as considered as tapering linkage for Telangana STPP Stage-I (2x800) MW is being annexed hereto and marked as Annexure-R3/3.

12. There is no change in the quantum of coal likely to be used regarding the change in coal source and coal quality and there was variation in coal source and coal characteristics during course of appraisal of the project. Based on the available coal commitment with South Eastern Coalfields Limited (SECL) vide its letter dated 21.02.2015 for 2 million tones per annum evidenced by annexure-R3/4, the draft Environmental Impact Assessment report was prepared. However, latter the 3rd

respondent approached Ministry of Power for coal linkage for the project following which the Ministry of Coal vide its office memorandum dated 10.09.2015 has allotted mandakini-B coal mine block in Odisha for the proposed Telangana State Thermal Power Plant evidenced by annexure- R3/5. Further in pursuance to expedite the process of project implementation, Ministry of Coal vide its letter dated 21.09.2015 evidenced by annexure R3/6 had also accorded in-principle approval for grant of tapering linkage from Coal India Limited for Telegana State Thermal Power Plant, stage –I (2x800 MW) as an exceptional case till the operation of Mandakini-B coal mine block. The Expert Appraisal Committee considered the project during its 45th meeting wherein it was suggested to submit the detailed document/ permission for coal linkage for the project evidenced by annexure-R3/7 minutes. Thereafter the 3rd respondent submitted all the necessary details sought for regarding the tapering coal linkage for the Telangana State Thermal Power Plant Stage-I from the Western Coalfield Ltd. (WCL) allotted by Coal India Limited vide its letter dated 06.11.2015 evidenced by annexure R-3/8. Further it was re-appraised in the 46th meeting of the Expert Appraisal Committee held on 26.11.2015 based on coal characteristics and emissions based on details collected from Western Coalfield Ltd and was recommended for Environmental Clearance after lengthy deliberations evidenced by annexure R-3/9. The uncertainty in coal linkage as sought to be projected by the

appellant, does not have any impact on Environmental Impact Assessment Report as impact assessment study had been carried out based on the worst case scenario i.e. worst fuel characteristics, worst meteorological condition and worst operating conditions. Further at the stage of public hearing, there is no necessity for producing the coal linkage and it has to be produced only at the time of consideration of the project by the Expert Appraisal Committee as has been contemplated in the official memorandum dated 19.01.2011 issued by MoEF evidenced by R3/10. After considering these aspects the Ministry also came with another proposal that 3rd respondent can change coal source or characteristics at any stage of project implementation after prior approval of Ministry evidenced by the conditions provided in annexure R-3/11 Environment Clearance. All the coal linkage agencies with whom the 3rd respondent had entered into have assured that they would provide the necessary coal depending upon the availability and they were also approaching the coal companies for the purposes of getting the proximate analysis report including heavy metals and radioactivity contents in respect to the coal proposed to be supplied to the project. The same will be produced once the project is started receiving coal from Western Coalfield Limited. They have assured to supply coal quality in comparison with the inferior quality of coal of South Eastern Coalfields as considered in the draft environmental Impact Assessment Report. The allegations that they have prepared the impact

assessment report without assessing real state of affairs and authorities have in haste considered the same and issued the clearance are not correct and hence denied. The ambient air quality was conducted at the worst available period and the National Ambient Air Quality Standards will be maintained and they will install all necessary mitigative measures in order to control all air emission/pollution from the project and they will comply with the latest emission standards for the Thermal power plant dated 07.12.2015 evidenced by annexure R3/13, Government Gazette Notification. The tentative coal linkage has been mentioned in annexure R-3/14 application for Environmental Clearance submitted by the 3rd respondent. Further after the screening, they had also produced necessary coal linkage documents evidenced by annexure –R3/15 before the Authorities. They had complied with all the guidelines provided by the MoEF&CC in respect of these aspects and necessary reports have been produced. Only on that basis that clearance was granted and they will have all mitigative measures and also comply with the latest Ministry's emission standards for thermal power plant evidenced by annexure – R3/13. The allegations that they have made suppression of material facts and made misrepresentation regarding the ambient air quality are not correct. The Ambient Air Quality monitoring was done by a reputed QCI-NABET accredited consultant as per prescribed conditions of Terms of Reference issued by the Ministry vide their letter dated 16.09.2014 and

amended letter dated 12.12.2014 under the supervision of experienced scientists and experts and the Terms of Reference issued is produced as annexure R-3/16. All the matters that has been provided in the Terms of Reference had been minutely considered by the accredited agencies and the same had been reflected in the Environment Impact Assessment Report. The comparison chart produced by the appellant to discredit the creditability of the Ambient Air Quality test conducted by 3rd respondent cannot be accepted as that had been done at different stages and there would be some difference if tests were conducted at different levels and different timings and also depending upon the locations of the project area. Consultancy work for undertaking Environmental Impact Assessment study was awarded to QCI-NABET accredited consultant as per annexure R-3/17 letter of award. The present establishment of the thermal power plant was necessitated on account of the bifurcation of Andhra Pradesh as per the Andhra Pradesh Re-organisation Act, 2014 produced as annexure R-3/18. Being a responsible corporate agency, they will carry out all the environmental norms in its strict-sense. Further, the allegations that they had not conducted ambient air quality in respect of cluster industries within the sphere of 15 kms were not correct and hence denied. In fact the 15 kms radius is not a mandatory one and that will depend on the nature of the project and the area in which this has been located etc. Normally the study ought to have been conducted for a radius

of 10 kms and that has been properly conducted evidenced by annexure-R3/1. The last emission notification for thermal power plant are as detailed below:

i. *Installation of high efficiency Electrostatic precipitators (ESPs) to limit the particulate emission below 30mg/NM^3 ,*
ii. *Twin flue stack of 275 m heigh for wider dispersal of remaining particulates and gaseous pollutants resulting in lower ground level concentrations.*
iii. *Installation of Flue Gas Desulphurization (FGD) system for controlling and limiting SO_2 emission 100 mg/ Nm^3 under all design conditions.*
iv. *Installation of appropriate low Nitrogen oxide (NO_2) burners for controlled Nitrogen Oxide (NO_2) emission. Exploring the feasibility to install De-(NO_2) system such as Selective Cataytic Reduction 9SCR) system will be taken up. It will be installed in boiler for controlling and limiting Nitrogen Oxide (NO_x) emission 100 mg/Nm^3 under all design conditions.*
v. *The ash disposal scheme for fly ash envisages collection of fly ash by dry ash extraction system (DAES) to the storage silos and residual fly ash transported through High Concentration Slurry Disposal (HCSD) system, which uses thick-viscous-high concentration slurry of ash for disposal which gets solidified within 1-2 days, thereby minimizing the possibility of fugitive emission. Further, under the above disposal system there is no risk of ash flying in the wind due to its being cemented.*
vi. *Dust suppression and extraction system shall be installed at coal handling plant area and ash handling plant to control fugitive dust emission.*
vii. *Water spraying shall be done at all dust generation areas viz. The coal and ash handling areas.*
viii. *Regular monitoring of ambient air quality parameters through three nos. Fixed Continuous Automatic Ambient Air Quality Monitoring Stations (AAQMS) as well as portable Ambient Air Quality Monitoring equipment.*
ix. *Online continuous emission monitoring system in stack for all the flues.*
x. *Extensive plantation and afforestation shall be undertaken in all available spaces.*

13. This is evidenced by Annexure R-3/19. Further most of the units mentioned by the appellant were not functioning specially the Fertilizer Corporation of India plant at Ramagundam as it was only at the revival stage and no Environmental Clearance was granted to that unit so far. It was undertaken by them vide their reply dated 16.11.2015 evidenced by annexure-R3/20 that once the Environmental Clearance was granted to the

Fertilizer Corporation of India, Ramagundam, the emissions data required would be carried out and modelling prediction would be submitted at that time. All possible pollution level are being considered and all necessary mitigative measures have been provided. They have conducted Geology and Hydrogeology study which is evidenced by annexure R-3/21 site survey annexed. The allegations regarding the ground water utilization and its impact on environment etc. as projected are not correct as hence denied.

14. The 3rd respondent is not going to extract any ground water during the construction phase and water requirement will be met from its existing balanced reservoir. So, there is no possibility of any impact on ground water on account of use of the same. They will adopt High Concentration Slurry Disposal system (HCSD) for disposal of fly ash wherein the ash slurry gets solidified and there is no free water as overflow or leachate and for bottom ash storage ash dyke will be designed with impermeable layer to avoid leaching into ground water so apprehension of the appellant that there is no proper handling of fly ash that is likely to be generated is without any basis. Further, the concentration of heavy metals by using Indian coal is very low and the ash water environment is always alkaline in nature. The quality of ground water in Ramagundam is not contaminated as alleged by appellant and is evident from annexure R-3/22. Since they are going to use concentrated system, there is no possibility of any discharging trade effluent

arises. Further, River Godavari is located at about 4km of aerial distance from the existing project area and they have envisaged a long term measure of disposal of effluent in a scientific manner by applying ZLD system. The Ambient Air Quality in that area is not as critical as projected by the appellant. The health study was conducted by M/s Poolucon Laboratories Private Limited, Surat within 10 km radius during the period 2008-2009 evidenced by annexure R-3/24. Further health report collected evidenced by annexure R-3/25 will go to show that there was no major endemic/epidemic diseases reported in that area. Further, they have undertaken certain health related activities under their Corporate Social Responsibility as follows:

- *Health related infrastructure provided at Kundanpalli and Sai Seva Samithi Government Area hospital, Godavarikhani, IRCS Mancherial etc.*
- *Regular monthly health camps are conducted at New Mogalpahad, Kundanpalli, mallialpali & PK Ramaiah Colony.*
- *School children health camps, seasonable health camps for the villagers are being conducted every year.*
- *Pulse polio camps are conducted twice in a year along with the National programme in the nearby villages.*
- *Special camps like: Eye camps, IOL operations, PCP camps (Distribution of appliances on free of cost), Homeo medicines distribution for chicken guinea, Diabetic retinopathy camps, Anemia Camps etc., are being conducted.*
- *Support to Government TB Hospital.*
- *DOT centre for the treatment of TB.*
- *Supporting state government in conducting family planning operations of more than 65,000 since 1982.*

15. Annexure R-3/25 will reveal the nature of health study conducted and the various health and medical check up conducted around the area. They have also produced executive summary in the reply submitted to the MoEF&CC vide their letter dated 16.11.2015 evidenced by annexure R-3/24.

Further, fresh Occupational Health Disorder survey has to be conducted and that has been stipulated as condition number (xi) in the Environmental Clearance granted which they will carry out periodically. They have also taken the following mitigative measures to control the emission, namely:

i. *800MW units of Telangana are designed with super-critical technology which has higher efficiency compared to the conventional sub-critical technology based units. The super critical technology is relatively new to the Indian power sector; where till recently, plants were operating on sub-critical parameters. These super critical units have a cycle efficiency of around 4-5%more than conventional sub-critical technology and consume 5% less fuel for the same amount of energy generated. The results in consequent reduction in Carbon Dioxide (CO_2) foot print.*
ii. *Installation of high efficiency Electro Static Precipitators (ESPs) to limit the particulate emission to 30 mg/Nm^3*
iii. *Twin flue stack of 275 m height for wider dispersal of remaining particulates and gaseous pollutants resulting in lower ground level concentrations.*
iv. *Flue Gas Desulphurization 9FGD) system will be installed to limit the emission of Sulphur Dioxide (SO_2) up to 100 mg/Nm^3.*
v. *The steam generator will be designed to limit the emission of Nitrogen dioxide (NOx) up to 100 mg/Nm^3 by adopting the appropriate burners/combustion system along with Selective Catalytic reduction (SCR) system.*
vi. *The ash disposal scheme for fly ash envisages collection of fly ash by Dry Ash Extraction system (DAES) to the storage silos and residual fly ash transported through High Concentration Slurry Disposal (HCSD) system, which uses thick-viscous-high concentration slurry of ash for thick-viscous-high concentration slurry of ash for disposal which gets solidified within 1-2 days, thereby minimizing the possibility of fugitive emission.*
vii. *Dust suppression and extraction system shall be installed at coal handing plant, ash handling plant and other dust prone areas in order to control fugitive dust emission.*

16. They have denied all the allegations made in the Appeal memorandum in para-wise reiterating that they have taken all necessary precautions and provided all necessary scientific mitigative measures to curb or mitigate the possibility of pollution. Further, they have produced Environment Clearance compliance reports certified by Regional office MoEF&CC evidenced by Annexure R-3/27 in respect of their existing units and every 6 months they are submitting the compliance report

as required under the Environmental Clearance granted for the respective projects. Several conditions have been imposed in the Environmental Clearance granted which they will comply with at the time the project is put in operation. They have also taken steps for installing of FGD and get MoU for ash utilization, conducting occupational health survey etc. as contemplated in the recommendations of the Expert Appraisal Committee. They have further contended that none of the grounds alleged by the appellant are sufficient to set-aside the Environment Clearance granted as all possible things have been considered by the authorities while issuing this clearance and they prayed for dismissal of the appeal.

17. The appellant has filed rejoinder to the reply submitted by the 3rd respondent denying the allegations made and contradicting the statement made by them in order to substantiate their claim that the Impact Assessment conducted was not proper.

18. The 3rd respondent also filed further rejoinder to the rejoinder filed by the appellant denying their allegations and reiterating their safety measures that have been taken for mitigating the circumstances of possible pollution that is likely to be caused on account of operation of the unit.

19. Heard the Counsel for the appellant Mr.Yogeswaran. Mr. Syed Nurullah Sheriff for 1st respondent, Mr. T. Sai Krishnan for 2nd respondent Mr. G. Masilamani, Senior Counsel along with Mr. Mohan for M/s. King & Patridge for 3rd respondent.

20. The Learned Counsel appearing for the appellant argued that most of the terms mentioned in Terms of Reference issued by the MoEF&CC for the project proponent to prepare Environmental Impact Assessment Report in respect of the project have not been complied with. Further there was no specific linkage of coal mentioned on the basis of which no impact assessment modelling of air pollution was conducted. Further subsequently they have changed the linkage of coal with another agency in respect of which no radioactivity or other heavy metal test have been conducted and made available to the Expert Appraisal Committee for their appraisal. Even the project proponent had produced the test analysis of coal only after Environmental Clearance was granted. So, neither the Expert Appraisal Committee nor the MoEF&CC had the opportunity to ascertain the impact of coal that is likely to be used by the project proponent on environment. Further unless such a report is made available for appraisal, any impact assessment report prepared regarding the probable cause of pollution and the preventive measures provided could not be said to be adequate or proper and should not be relied upon by the Expert Appraisal Committee as well as MoEF&CC while granting clearance. Further as per the Terms of Reference, the modelling of pollution has to be conducted within the radius of 10-15 kms considering the area of establishment and this being already industrial estate with lot of Thermal Power Plants and there are coal mines situated within the 15 kms radius, the

project proponent ought to have conducted ambient air quality analysis for the radius of 15 kms but they have conducted only 10 kms radius study which is against the Terms of Reference. Further most of the polluting industries which are available in that area have not been mentioned while conducting the ambient air quality in that area and the data given by the Project Proponent regarding the Pm10, SO_2 NO_x in the ambient air quality report do not reflect the real status when compared to some other industries report prepared for their project purpose namely M/s Kirloshkar Construction Limited and Fertiliser Corporation of India. Further this was not in tune with the ambient air quality published by the Central Pollution Control Board in respect of Ramagundam area in which the present project proponent's unit is also to be established. So the air quality modelling prepared by the project proponent is not proper. No fugitive emission study or impact of gypsum on environment and the impact of fly ash etc were not properly considered while preparing the environment impact assessment report. Further there was no proper aquatic study conducted regarding its impact on ground water. The Hydro geological impact assessment reports in the EIA report of proposed project do not represent the real issues. Further the project itself is situated in a water body which could not have been allowed. Further there was no impact assessment report conducted regarding the Zero Liquid Discharge system proposed. There are no materials given regarding the same as well especially when

during the monsoon season, they were permitted to discharge the treated effluent into the Godavari River and this may have some impact on the water quality of Godavari River and no study has been conducted in respect of the same. Even the ground water quality available in that area is contaminated with some heavy metals and if the appellant project is also proposed to be established there which is admittedly a red category industry of most polluting industry will have some impact on ground water quality and that will affect the health of the people. The project proponent had relied on the health report conducted during 2009 and they have not conducted any independent health study in this regard. The surface as well as ground water quality projected by the project proponent is not correct and does not represent the real status of the ground water as it is seen from the report of the Central Pollution Control Board regarding the water quality of Godavari River in Ramagundam area in their report of 2012 will go to show that it was highly polluted. There was no proper intake of water for the project purpose has been disclosed by the project proponent. They were permitted to take water from their own reservoir and they have not conducted any impact assessment regarding the availability of water for their purpose in a scientific manner. The air quality assessed was also not proper no cluster impact assessment was conducted in this regard especially when the project is situated in a highly polluted industrial estate. Further there was no proper application of mind on the part of the

Expert Appraisal Committee as well as the MoEF&CC in recommending project and issuing clearance. In the 45th meeting of the Expert Appraisal Committee of the Expert, decision on the proposal was deferred and they directed certain things to be clarified and produced and called for further reports but most of the reports were not produced by the project proponent and without considering the same the Expert Appraisal Committee had recommended the project with directions to produce the data which they wanted to be produced by the project proponent as per their decision in the 45th meeting. Further the same material were not produced before the MoEF&CC as well nut in spite of that project was approved and clearance was granted by the MoEF&CC incorporating the same conditions granting them time for producing the same as part of compliance of the conditions of producing compliance reports once in 6 months. Without getting those details, the appraisal cannot be said to be proper especially when it is a highly polluted industry and its impact on environment will be much more. Further there was no environment impact study relating to the FGD installation in the impact assessment study and neither the Environment Impact Assessment nor the MoEF&CC have bothered to appraise the same while considering the project. The Expert Appraisal Committee as well as the MoEF&CC has not considered the non-compliance of the conditions in the Terms of Reference while preparing the Environment Impact

Assessment. So, According to the Learned Counsel, there was no proper environment assessment conducted and there was no proper application of mind and as such the same is liable to be set aside. The Learned Counsel had relied on decisions reported in T.Murganadan & Ors vs. Union of India & Ors., Appeal No. 50/2012, Rudresh Naik vs. Goa Coastal Management Authority & Ors Appeal No. 20/2013, Samdha vs. Union of India & Ors. 2014 All India NGT Reporter 1 South Zone page 1 of the National Green Tribunal and Namit Sharma vs. Union of India (2013) 1 SCC 745, Ravi yashwant Goel vs. Collector 2004 SCC 407 Maharashtra State Board of Secondary Education vs. K.S. Gandhi (1991) 2SCC 716 for the proposition that if there is no proper application of mind either by the Expert Appraisal Committee or by the issuing authority and the clearance was granted on improper assessment of wrong material, then the clearance granted is bad in law and the same is liable to be set aside on that ground.

21. Learned Counsel appearing for the MoEF&CC submitted that all necessary documents have been verified and when clarifications were required, they were sought by the Expert Appraisal Committee and it is only thereafter that the Expert Appraisal Committee, on satisfaction, recommended the project with specific conditions which were imposed by the issuing authority, namely, MoEF&CC and then only the clearance was granted. Further, necessary conditions on precautionary principle to mitigate the possibility of pollution on account of

establishment of this unit have been imposed and only thereafter, the same has been granted. So the grounds alleged are not sufficient to set aside the clearance granted as it is issued after complying with all the conditions prescribed in accordance with law.

22. Learned Senior Counsel appearing for the project proponent has argued that the environmental impact assessment report was prepared by the accredited expert body on the basis of the Terms of Reference issued strictly in accordance with law taking into consideration all probable possibilities of pollution and providing necessary mitigation circumstances and the 3rd respondent had committed itself to implement the same to protect the environment. The study of coal which is intended to be used is the worst coal that has been taken for the propose of study and it is on that basis the report has been prepared. The Ambient Air Quality modelling was conducted strictly in accordance to law, with the guidelines issued in this regard. The Study will have to be conducted within a radius of 15 kms is not mandatory as contended and also there is no provision regarding number of locations on the basis of which the study will have to be conducted as well. The locations were selected on the basis of the wind directions taken into consideration the possibility of pollution being caused on account of operation of the unit if any. Further all the operating industries were taken into consideration for conducting the study within 10 kms radius. The Ambient Air Quality for one season selecting winter

season for collecting the primary data which is a worst season in which the pollution load will be more and secondary datas were collected for the remaining period and modelling was conducted on that basis. Further, as regard the rise in temperature is concerned, the data available for 50 years were taken from the Indian Meteorological Department (IMD) for the purpose of considering rise in temperature within the radius of 10 km to arrive at probable temperature rise that may be caused by the present unit on their operations and it was found that over a period of years there is decrease in temperature of 0.3degree Celsius on account of mitigative measures that have been taken and green belt developed in and around this area. So, there will not be any specific impact on account of the same. Further, the data collected by M/s Kirloskar Construction Limited and Food Corporation of India are on different locations and for the entirely different period. Though, there may be some variation in certain period for which necessary mitigative measures can be taken. As regards the Radio-activity study of coal to be used is concerned by virtue of environment clearance granted, subsequently, time has been extended for that purpose whenever change of coal is made and official memorandum also permitted such change of coal as such merely because the project proponent had linkage facility for supply of coal with the different agencies will not be a ground for setting aside the environment clearance. Since, there are going to adopt Zero Liquid Discharge System (ZLD), there is

possibility of effluent being discharged either into the water body or on ground and the water study that has been provided by the expert agency appointed by them for preparing environment impact assessment report will go to show as to how they are going to utilize the waste water being generated or effluent being generated without causing any environmental damage as alleged by the appellant. Since they do not intend to extract ground water for their construction purpose, there is no necessity to conduct any study of drawing of the water of ground water available in that area and impact thereon as alleged by the appellant. Separate arrangements have been made for getting water for their operation purpose. They proposed to take water from their own reservoir and as such there is no question of drawing of ground water arises. Though, in anticipation that during monsoon season, the excess treated effluent will have to be discharged into the Godavari River, it was mentioned so. But they have no intention to do the same as per their treatment system and ZLD system that they are going to use, There is no possibility of any excess water being available for discharge even during monsoon season as well.

23. The allegations made that the project is situated on a water body is also not correct because it is not a water body as alleged but occasionally there will be collection of water during monsoon for some period and after some time, it dried up and there is no permanent water body as envisaged is available in the project area. Though the FGD system was not necessary at

the time when environment impact assessment report was prepared subsequently, it is insisted in 2015 and they have made arrangements for providing ZGD facility and that has been mentioned in the explanation submitted to Expert Appraisal Committee and it is only after discussions with the project proponent and after satisfaction, the same has been recommended by the Expert Appraisal Committee which is in turn approved by the Ministry and issued environmental clearance. The disposal of fly ash etc was taken into consideration and necessary study has been conducted and mitigating circumstances also provided and because of the new technology that they are going to use, there is not possibility of any ash slurry being collected in ash pond and there will be only minimum fly ash available and bottom ash will be properly utilised as per the notification issued by the Ministry in this regard. The non-compliance noted by the Regional Office in respect of existing thermal plant of NTPC has been subsequently rectified by sending periodical reports and such possibilities are not available as regards the present unit is concerned as they are using latest technology which will make the operation of the unit more eco-friendly causing least pollution in that area. The health study was conducted by reputed agency and on the basis of the recommendation of the Expert Appraisal Committee in their 45th Meeting, they obtained necessary certificate from the Government Hospital Authority to show about the nature of health hazards caused in that area

between 2009 and 2015 and it was reported that neither any disastrous disease have been noted nor there is report of any serious illness caused in that area resulting in death as alleged by the Learned Counsel for the appellant. Further using their cooperate social responsibility, they are conducting lot of medical camps and running hospitals providing necessary health care facility and treatment to the people in the locality. They have taken steps to provide clean water by providing RO system in those areas as part of their social commitment. Further, they have undertaken detailed health study by engaging an agency for that purpose. Further all necessary precautions have been taken and they are committed to follow all the directions issued by the Ministry in respect of operation of the thermal power plant strictly. If there is possibility of any additional pollution being caused on account of the operations of the proposed unit of the 3rd respondent taking into consideration Sustainable Development Principle and also Polluter Pay Principle that has already been taken note by the authorities and the commitment made by the 3rd respondent to implement the same. There is no necessity to set aside the environment clearance as either setting aside or suspending the operation of the environment clearance will cause heavy loss as the 75% work has already been completed. The issuing authority has reserved rights to impose additional conditions if they feel that the operation of the unit is not in order and further modification is required to protect the environment and

as such the possibility of probable future anticipated pollution being caused during operations of the unit has also been taken into consideration by the issuing authority by reserving that right in them. So, according to the Learned Senior Counsel, there is no valid ground made out to set aside the environment clearance granted.

24. Considered the submission made by both the Counsels and also perused the written submission and documents produced.

25. The points that arose for consideration are:

1) Whether Environment Clearance granted is liable to be set aside for any of the grounds alleged by the appellant in the appeal memorandum or in the subsequent written submission submitted on their behalf?
2) Even if this Tribunal found that there are some deficiencies, what are the nature of directions that can be given by this Tribunal for allowing the unit to proceed with?
3) Relief and costs?

Points

26. It is an admitted fact that after the united Andhra Pradesh is divided into two states, namely, State of Andhra Pradesh and Telangana State and in order to meet the requirements of electricity supply in the State of Telangana, even in the Andhra Pradesh State Reorganisation Act, 2014 provision was made for Starting a new unit by National Thermal Power Corporation Limited and this has been included as item no. 7 in the Schedule attached to the Andhra Pradesh State Reorganisation Act, 2014. Further setting up a new thermal power plant using the natural resource of coal available in India to meet the

electricity supply for development activities as well as domestic purposes by a State cannot be said to be an act which is detriment to the environment. Merely because there is possibility of some pollution being caused on account of allowing thermal power plants to come up is not a ground to completely stopping coming up of such units which will only effect the economic growth of the State or Nation. Even under Section 20 of the National Green Tribunal Act, 2010 the Tribunal after considering these aspects apply the principle of Sustainable Development, Precautionary Principle, Polluter Pay Principle and Inter-generation Equity Principle etc. and only if this Tribunal found that coming up of such industry in spite of applying all such precautionary methods will have irreversible impact on environment, then only the Tribunal can prevent such units being coming up in a particular area. There is no dispute regarding the principle laid down in the decisions reported in Namit Sharma vs. Union of India (2013) 1 SCC 745, Ravi yashwant Goel vs. Collector 2004 SCC 407 Maharashtra State Board of Secondary Education vs. K.S. Gandhi (1991) 2 SCC 716 and Samdha vs. Union of India & Ors. 2014 All India NGT Reporter 1 South Zone page 1 of the National Green Tribunal.

27. In the decision rendered by the Principal Bench in Appeal No. 50/2012 T.Murganadan & Ors vs. Union of India & Ors had considered the necessity for conducting ambient air quality modelling and what are all the things to be looked into for the

purpose of conducting study and if there is any deficiencies in the same, what is the nature of directions to be given etc. The environment clearance granted to IL&FS Tamil Nadu Power limited based on imported coal was considered in that case in an Appeal filed earlier when the environment clearance was granted on 31.05.2010 was under challenge and the Tribunal by Judgment dated 23.05.2012 in (Appeal No. 17/2011) passed the following directions:

> *"However, we direct MoEF to review the EC based on the cumulative impact assessment study and stipulate any additional environmental conditions if required. Updated EIA report may be shared with Appellants and they may be invited in the EAC meeting and may be heard before a decision is taken by EAC/MoEF, till then the EC shall remain suspended."*

28. Thereafter conducting fresh modelling of Cumulative Impact Assessment study, the Expert Appraisal Committee had recommended the project with certain conditions and a corrigendum was issued on 14.05.2012 by the MoEF&CC which was under challenge in that Appeal. In that Judgment this Tribunal had extracted para 19 and 20 of the Judgment 23.05.2012 passed in Appeal No. 17 of 2011 where it was observed as follows:

> *19. After duly considering the affidavits, additional affidavits counter affidavits, submissions made by the petitioner, respondents and the notes submitted by them before us, we do not agree with the approach of the Project Proponent to the extent that cumulative impact assessment cannot be worked out in the absence of data from other units. It is quite possible to assess likely impacts from the proposed coal based power plant (2x660 MW) of Cuddalore Power Company Ltd. the Nagarjuna oil Refinery Desalination plants and captive ports operating in the region, Even though, while filling the Form-1, column 9.4, it has been clearly stated by the project proponent that there will be cumulative effects due to proximity to other existing proposed projects with similar effects and a clear cut mention has also been made in the said column that the cumulative effects could be due to other power plants, Desalination Plant and Captive ports operating near the coast in the region but in fact, while preparing the EIA report,*

no cumulative effect has been worked out by the consultant/project proponent.

20. In course of hearing, it was submitted by the Learned Counsel R-3 that due to non-availability of adequate data in respect of the proposed/existing industrial activities, cumulative impact assessment could not be done, we, however, do not subscribe to the submission of Learned Counsel as it is quite possible to work out likely cumulative impacts based on the capacity of the Coal based Power Plant (2x660MW), Nagarjuna Refinery etc., theoretically by applying mathematical models. The cumulative impact assessment exercise is considered necessary in this particular case, as Pichavaram Mangroves are located at a distance of 8 km, from the Southern boundary of the proposed power plant added to it the issues pertaining to the cumulative impacts were raised during the public hearing. As such, we strikingly feel keeping in view the precautionary principle and sustainable development approach, cumulative impact assessment studies are required to be done in order to suggest adequate mitigative measures and environmental safeguards to avoid any adverse impacts on ecologically fragile eco-system of Pichavaram Mangroves and to the biological marine environment Mangroves and to the biological marine environment in the vicinity. We, therefore, direct that cumulative impact assessment studies be carried out by the Project Proponent especially studies with regard to the proposed coal based power plant (2x660MW) of Cuddalore power Company Ltd. and the Nagarjuna Oil refinery and other industrial activities within a radius of 25km from the power project of M/s. IL&FS Tamil Nadu power co. Ltd. (3600MW) and be submitted to MoEF for review of Environment Clearance accorded on 31st May, 2010 in order to stipulate any additional environmental conditions and safeguards required for the protection and preservation of Pichavaram Mangroves and Marine environment.

29. This Tribunal had considered the necessity of Cumulative Impact Assessment Study and observed as follows:

....Our effort in this case is to understand what Cumulative Impact Assessment Study is. An enquiring mind would start with the existing law as well as scientific literature and it might be found in persuasive precedents available in the domestic law/literature on closely related topics and at a time in persuasive foreign decision/literature which may show how other jurisdiction have resolved the problem. The value of foreign judgment depends upon the persuasive force of their reasoning. Principles of sustainable development and the precautionary principle as envisaged in the Section 20 of NGT Act, 2010 have been developed in international law but have been domesticated into national laws throughout the world and so in India. Thus the knowledge on the subject can be borrowed with rather a free disregard for political boundaries and jurisdictional boundaries i.e. from all sources Indian or Foreign for bettering our understanding.

41. The European Commission in its guidelines for Assessment of indirect and Cumulative impacts as well as impact interactions defines Cumulative Impact as "Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project". CEAA guidelines give similar definition of Cumulative effects: these are changes to the environment that are caused by an action in combination with

other past, present and future human actions. The U.S Environmental Protection Agency defines it as "the combined incremental effect on human activity". These definitions are in no way conflicting with the concept of Cumulative Impact Assessment Study, the Project Proponent holds to be correct, as revealed from its submissions. Thus, the Cumulative Impact as the term indicates is not the impact of any project in isolation but it is a total impact resulting from the interaction of the project with other project activities around it- past, present and those to come up in future. It is a comprehensive view of the impacts resulting from all the projects- past, present or planned ones on the environment. Cumulative Impact may be same or different and those arising out of individual activities and tend to be larger, long lasting and spread over a greater area within the individual impact. Such studies are therefore commonly expected to:

1. Assess effects over a larger area that may cross jurisdiction boundaries;

2. Assess effects during a longer period of time into the past and future;

3. Consider effects on other eco-system components due to interactions with other actions, and not just the effect of the single action under review ;

4. Include other past, existing and future (reasonably foreseeable) action; and

5. Evaluate significant effect in consideration of other than just local and direct effects.

42. In the cases, Bombay Dyeing & Mfg. Co. Ltd. Vs. Bombay Environmental Action Group and Ors. (AIR 2006 SC1489) and T.N. Godavarman Thirumulpad Vs. Union of India and Ors. (2008(2) SCC 222) the Hon'ble Apex Court referred to the Principle of sustainable development and precautionary principle and stipulated the need to balance environmental concerns with those of developmental requirements. In no way the Hon'ble Apex Court discouraged the Cumulative Impact Assessment Study. This Tribunal in fact saw the need for Cumulative Impact Assessment Study in the areas where numerous projects were found located. Importance of Cumulative Impact Assessment Study was thus expressed by the Tribunal in Sarpanch, Grampanchayat case (Sarpanch, Grampanchayat Tiroda vs. MoEF: Appeal No. 3 of 2011) vide order dated 12.09.2011 in following words;

"Unfortunately, the cumulative effect of these four proposed projects was not considered to be of significance in causing environmental pollution in a small area. It appears an impression is sought to be created that there was only one application of Tiroda mine and at that time the Redi mine was not in operation. When number of mines are sought to be considered in a small area of Sawantwadi Taluk, the EAC was 34 expected to examine various aspects such as the cumulative impact of Air, Water, Noise, Flora Fauna and socio-economic aspects in view of large number of transport vehicles, plants and machinery etc. that would be operating in the area. It would have been appropriate, if a cumulative impact study was undertaken to take care of all existing/proposed mines within 10 km of the present project site apart from Redi mine, if any. Therefore, we are of the opinion that these aspects were not properly assessed and examined scientifically and, therefor, the EIA report requires to be re-examined afresh".

30. The Tribunal also found the deficiencies in the subsequent EIA report prepared on the basis of the earlier order passed by the same Tribunal and extracted the same in para 48-52 of that Judgement which reads as follows:

> *48. In the instant case no modelling has been carried out for such future projects. RCEIA report under head 'impacts predictions' merely records that no significant impact is foreseen on land, water, noise, terrestrial ecology and socio-economic environment as the project activities are planned in a way that no adverse impact is likely to be caused and the existing industries were mandated to comply with the conditions of grant of EC/Consent. Academically, it appears to be a sound proposition but when one is expected to make studies regarding 39 cumulative impacts of all the existing as well as proposed industries, it is expected to collect actual field data regarding each of the existing industry and together with information on proposed industry interpreted its impacts on land, water, noise, terrestrial ecology and socio-economic environment. Nothing of such kind appears to have been done by the project proponent. Similarly, the report simply presents a fact that the mangroves in the coastal region of Tamil Nadu were seen in the study area only and in fact should have drawn attention to its significance. The census data as regards socio-economic environment is presented, which is of very little significance to carry out socioeconomic assessment of the existing and proposed projects in view of the fact that the industrialisation bring in huge migrant work force.*
>
> *49. The fact was known to the project proponent that the project would be the main source of power for proposed PCPIR region. However, the RCEIA report has not taken cognizance of the fact apart from PCPIR region that includes desalination plants, ports and other such facilities essential for supporting it. It is revealed before us that the Tamil Naidu Government has sought and received approval for petroleum chemicals and petrochemical Investment region (PCPIR) in the Cuddalore area of 256.83 sq. km with a processing area of 104 sq.km and envisaged development of physical infrastructure such as roads, rail, air links, ports, water supply, power, chemical facilities, desalination plant, common effluent treatment plant, 40 etc. at the total cost of Rs. 13,354 crore. Thus undoubtedly costs burden on environment in the region, the due cognizance of which has not been taken in the report.*
>
> *50. Accepting that the reference to 'NAAQS 2005' (National Ambient Air Quality Standard, 2005) have been mistakenly made in RCEIA report instead of NAAQS 2009, a question however remains as to why the ozone was not regarded as the parameter for impact assessment by the Project proponent when NAAQS 2009 includes it as one of the parameter for ambient air quality studies. It is scientifically acknowledged truth that Volatile organic compounds (VOC) react with Nitrogen Oxides (NOX) in air to generate Ozone and thereby causes increase in the levels of ozone; beyond certain limits which is injurious to the health.*
>
> *51. Admittedly, there is no data collected as regards the ozone level in the report. Excuse for not collecting this data surface in the submission of the Respondent No. 3. Firstly, the Respondent No. 3 submitted that the formation of ozone in the presence of sunlight and oxidants like NOX is not a steady formation as it is not*

emitted through stack and therefore cannot be modelled. The Respondent No. 3 further submitted that the formation of ozone is near ground as a result of the leakages, and as such it is fugitive gas confined to the restricted areas with no wide implications on the population in the villages; and there is no valley like topography nor intense fog as found in the State Ohio, to generate fog for long hours 41 during summer time; and ground based inversion in Tamil Nadu region is only 15 per cent and 12 per cent during January and February respectively with non-existent or rare inversion in other months and as such no comparison of Ohio could be made with Cuddalore area. The Respondent No. 3 further submitted that with low concentration of NOX and VOC in the study area, the concentration of ozone was expected as per NAAQS 2009 standards irrespective of the level of industrialisation there. These are only presumptive inferences. It was the duty of the Respondent No.3- project proponent to have actually collected baseline data in respect of ozone concentration. However, more so with the setting up of the petro-chemical industries it being PCPIR region, the concentration of VOC and NOX in ambient air is expected to rise and consequently, there should be incremental change in ozone levels. Citing of CPCB study for Kolkata in order to show that the concentration of ozone in ambient air in industrial and residential area had remained well within NAAQS 2009 standards for all seasons of the year despite high NOX and VOC concentration is of no avail to dispense with the collection of baseline data for ozone levels and study of cumulative impact of the industries on ozone levels. Thus, the RCEIA report suffers from material short coming (as indicated in para 45 onwards) and to that extent the Cumulative Impact Assessment Study remains flawed.

52. How the Corrigendum dated 14-08-2012 suggesting additional conditions took its shape is revealed in the body of the corrigendum itself. It reveals that in pursuance to the directions of this Tribunal dated 23rd May, 2012 and 30th May, 2012 Rapid Cumulative Environment Impact Assessment (RCEIA) Study carried by the Project Proponent was placed before the Expert Appraisal Committee in its meeting held on 25th June, 2012 and 16th July, 2012; and after detailed deliberations on the submission made by the rival parties during the meeting held on 25-06-2012 the Expert Appraisal Committee had recommended stipulation of additional conditions to the EC dated 31-05-2010 and continuation of the project; and the Ministry accepted the recommendations of the EAC and issued the Corrigendum.

and ultimately after consideration, set aside the corrigendum issued and directed to conduct fresh Impact Assessment taking into consideration the following things:

2. Keeping in mind the observations made herein, the Respondent No. 3- the project proponent shall carry out fresh Cumulative Impact Assessment Study of the project in question within a reasonable period and for that purpose shall:

a. Collect baseline/primary data of each and every existing industry as required under prevalent regulations and compare with National Standards as notified by the Government from time to time.

b. Collect data regarding treated effluents discharge/likely to be discharged by such industries.

c. Collect primary baseline data on socio-economic environment.

d. Collect data regarding industry in offing and which are likely to come in next five years as per PCPIR declaration as aforesaid in liaison with State PCB and/or the project proponents.
e. Carry out impact prediction/assessment using appropriate mathematical models.
f. Suggest appropriate management plan/s for significant impacts including financial implications

31. It is clear from the above decision that the necessity for conducting the Cumulative Impact Assessment Study is a must for considering the question of allowing a new industry to come in an area which is already an industrial estate having a lot of polluting industries and non-conducting of such a study and suppression of certain material facts by the project proponent will be a ground of setting aside the environment clearance or suspending the environment clearance and direct the project proponent to conduct further study on that aspect and revisit these aspects by the recommending and issuing authority and impose further condition, if any, necessary.

32. Further, in the decision of Principal Bench in Appeal No. 07/2011-Krishi Vigyan Arogya Sanstha & Ors. Vs. Union of India & Ors. regarding the necessity for conducting Radio-Activity Study in respect of coal to be used on the basis of the specific coal availability which is to be used as fuel by the proposed thermal power plant was considered and disposed of Appeal with following directions:

"However, the Environmental Impact Assessment as well as Expert Appraisal Committee have completely ignored by objections raised by Mr. Paliwal and others regarding nuclear radiation that would be caused by the proposed project. But we are of the opinion that in a project of this nature, as stated by Mr. Paliwal, in the public hearing, the effect of nuclear radiation was neither studied nor examined and it was simply brushed aside in the arguments before this Tribunal stating that there was no necessity of examining the project from nuclear radiation point of view as no such plant would cause nuclear

radiation which harms the human habitation or the environmental ecology in the surrounding area.

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10.Taking all the above into consideration, we are of the considered opinion that this appeal requires to be disposed of with the following directions keeping in view the principles of sustainable development and precautionary principle.

a. The first respondent, Ministry of Environment and Forests is directed to look into the matter as to long term impacts caused by nuclear radiation from the thermal power projects, by instituting a scientific long term study involving Bhabha Atomic Research Agency or any such other recognised scientific institution dealing with nuclear radiation with reference to the coal ash generated by thermal power project (Respondent no. 3) particularly the cumulative effect of a number of thermal power project located in the area on human habitation and environment and ecology. The study shall also take into consideration the health profile of the residents within the area in which the pollutants are expected to spread from the thermal power project.

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.....

c. The Ministry of Environment and Forests shall include in the Terms of Reference of all the future projects asking the proponent to furnish details of possible nuclear radio-activity levels of the coal proposed to be used for the thermal power plant.

d. The Ministry of Environment and Forests shall get the national standards prescribed, if not already available, from the Department of Atomic Energy, Government of India within a period of one year from the date or receipt of this order, as to permissible levels of nuclear radiation in residential, industrial and ecologically sensitive areas of the country.

33. The above principles will have to be kept in mind while considering the facts in this case. There is no dispute regarding the fact the present project which is proposed to be established by 3rd respondent, namely, a new Thermal Power Plant having a capacity of 2x800MW in Ramagundam village which is a declared industrial estate having lot of industries including other thermal power plants some of which were operated by the 3rd respondent concern itself. It is also an admitted fact that when united Andhra Pradesh was divided into two States, namely, State of Andhra Pradesh and Telangana, there arose the necessity for having its own infrastructure facilities to meet

their development activities which include supply of power for which they required an independent power plant which may be able to supply power to them to cater their needs and that has been incorporated in the State Reorganisation Act, 2014 itself by adding as item 7 to the Schedule attached to the same. Further, the necessity for power plants and power generating units using natural resources have been considered by the Hon'ble Apex Court while considering the establishment of Kudankulam Atomic power plant in G.Sundarrajan vs Union Of India & Ors (2013) 6 SCC 620 and also considered the necessity for using the natural resource of coal available for meeting the fuel requirement of thermal power plants of coal fire thermal power plants in the decision reported in Occupational Health & Safety Assn. v. Union of India, (2014) 3 SCC 547. So, establishment of thermal power plant cannot be prevented merely on the ground that it is likely to cause pollution even without considering the question as to whether the possible pollution can be mitigated by applying the Precautionary Principle by providing necessary mitigating circumstances to abate the possible pollution being caused taking into account the Principle of Sustainable Development which is also required for the purpose of promoting the economic development of the nation, but at the same time, without compromising the degradation that is likely to be caused of irreversible nature on environment.

34. It is also an admitted fact that Terms of Reference were issued and the project proponent the 3rd respondent had prepared a draft environment impact assessment report which were made available for the purpose of public consultation and public consultation was done in accordance with law and the same has been recorded and forwarded to MoEF&CC by the Pollution Control Board as required under EIA Notification, 2006. There is no case for the appellant that no proper public consultation was done. No such specific ground was raised in the Appeal memorandum as well though certain passing observations have been made that the views raised in the public consultation had not been properly recorded and made available to the Expert Appraisal Committee for consideration.

35. So under such circumstances it cannot be said that there was illegality or impropriety committed by the project proponent or the authorities in conducting the public consultation as required under EIA Notification, 2006 and forwarding the same to MoEF&CC and consideration of the same by the recommending authority and also by issuing authority.

36. It is also an admitted fact that on the basis of the public consultation, the environment impact assessment report was prepared by appointing an accredited agency by the project proponent and it was made available for the Expert Appraisal Committee for consideration. It is also an admitted fact that the Expert Appraisal Committee had considered this project in its 45th meeting held on 29th-30th October, 2015 and this was

considered as item number 2 and after considering the material available, the proposal was deferred with the following direction to be complied with by the project proponent which reads as follows:

> *I. Commitment and Action Plan for compliance to the Ministry's Notification dated 02.01.2014 regarding use of coal with ash content not exceeding thirty-four per cent, on quarterly average basis.*
> *II. Detailed note on rise in temperature in consultation with IMD. The data shall be as old as possible.*
> *III. Certification from the concerned authority that the site is not located on economically feasible mineable mineral deposit. (ToR 15).*
> *IV Occupational Health and epidemic health disorders survey of the study area.*
> *V. The Quality of effluent from ash pond vis-a-vis the River water quality. The impact on agricultural fields in terms of heavy metal in food chain and ground water/soil.*
> *VI. Plan for recycling and reuse ash pond effluent after minimizing the discharge of cooling water blow down etc. to the ash pond. No untreated ash pond effluent shall be discharged.*
> *VII . Detailed report on water drawl, water channels and diversion duly certified by the Irrigation & Flood Control Department of the State Government.*
> *VIII. Satellite map showing the existing green belt. Revised plant layout by maintaining thick three-tier green belt in minimum 33% area.*
> *IX. As committee, revised CSR action plan for the proposed expansion with a minimum a budget of Rs. 20 Crores (only fro the construction phase).*
> *X. Budgeted action for the hearing issues.*
> *XI. Reply to the representation received by the EAC, a copy of which was provided to the PP.*
> *XII Revised AAQ modelling results.*
> *XIII. Commitment for installation of FGD.*
> *XIV. Detailed document/permission for tapering coal linkage.*
> *XV. All the discrepancies, if any, in the EIA/EMP shall be addressed and submitted.*

37. It is also an admitted fact that after this, the project proponent had forwarded the details and this was again considered by the Expert Appraisal Committee in their 46th meeting held on 26th - 27th November, 2015 as item no 2 and discussed about the same in para 2 and recommended the project with certain conditions mentioned in para 3 which is extracted for convenience sake as follows:

> *2.Upon submission of the above documents/information, the proposal was again placed before the Committee during this*

meeting, wherein the PP along with their environmental consultant, Vimta Labs, Hyderabad, made a presentation and inter-alia, provided the following information:

(i) Regarding compliance to the Ministry's Notification dated 02.01.2014, the coal with ash content not exceeding 34% on quarterly basis will be used for the project. Accordingly, the modified Ash Utilization Plan with 34% maximum ash content has been submitted and also presented.

(ii) Regarding rise in temperature, the temperature data has been collected from IMD for 1951 to 1980, 1971 to 2000 and 2001-2015(October) for a period of 65 years. An increae of 4°C in a span of 30 years has inadvertently been mentioned under subsection 3.3.3.3 of Chapter-3 of the EIA report due to erroneous comparison of mean maximum IMD data for a period 1951-1980 with the latest 2014 annual temperature data as recorded at ramagundam STPS. However, comparison of IMD data for period 1951-1980, 1971-2000 and 2001-2015 shows decrease of mean maximum temperature in range between 0.3°C to 1.6° C before and after commissioning of project. The mean maximum temperature during the period of 1951-1980(May) is 45.6° C during period 1971-2000 (May) is 45.3° C and during period 2001-2015 (May) is 43.7° C. Therefore, the mean maximum temperature showed a fall of 0.3° C during the period of 1951-1980 to 1971-2000 and a further fall of 1.6° C during the period of 1951-1980 to 2001-2015. The extreme maximum temperature during period 1951-1980 (May) is 47.2° C, during period 1971-2000 (May) is 47.3° C and during period 1951-1980 (May) is 47.2° C. Further, an increase of 0.1° C is observed in the month of May during period 1951-1980 & 1970-2000 followed by a decrease of 0.1° C during subsequent period.

(iii) Regarding economically feasible mineable mineral deposit, a letter has been written by NTPC on 02.11.2015 to Deputy Director General, Geological Survey of India requesting to issue the certificate on mineable deposits in the proposed project is being set up within the existing premises of Ramagundam STPS.

(iv) Regarding occupational health, a survey on Environmental Human Health Risk Assessment was conducted by M/s Pollucon Laboratories pvt. Ltd. Surat in and around Ramagundam area. The study revealed that there is no specific endemic disease in the surrounding area and the health status of study population was satisfactory and health problems reported during the study were not showing any unusual pattern. The health problems reported during the study were not showing any unusual pattern. The health related problems found during the study like general health related complaints, high blood pressure, malnutrition, anaemia, refractive error were mainly due to life style related factors and not due to above mentioned pollutants in emission.

(v) Regarding the quality of ash pond effluent, the water samples are collected in River Godavari as well as ash pond effluent. Soil samples are collected from agricultural fields of three villages namely Lingapuram, Rayadandi and Peddampet wherein the farmers irrigate their fields with ash water. Paddy samples are collected from Rayadandi village where in farmers irrigate their fields with ash water. Paddy samples has also been collected from Elkalapalli as a controlled sample. The results of various parameters are within the limits.

(vi) Regarding recycling and re-sue of ash pond effluent, the entire ash pond effluent (ash water) of Telangana STPP stage-I (2x800) MW will be recycled for use in the plant and ash handling system. Ash water recirculation system comprising of pumps and piping are envisaged for the same.

(vii) Regarding report on water drawl etc., irrigation & CAD Department, Government of Telangana vide its letter dated 02.09.2015 has accorded and certified permission for drawl of 60 cusecs (2.00TMC) water throughout the year from Sreepada Yelampalli Barrage from the net available yield.

(viii) Regarding green belt, the photographs relating to green belt development along with satellite map are presented. The revised General Layout Plan with additional proposed green belt is also presented. Green belt of 60 acres shall be provided as shown in Layout Plan.

(ix)Regarding CSR action plan, an amount of Rs. 20 crores (during construction phase/five years) will be earmarked for CSR activities of the proposed expansion in the areas of education, health, sanitation, water, electrification, infrastructure etc. During the operation period, CSR funds will be allocated as per GOI policy.

(x) Regarding budgeted action plan for the public hearing issues, during the public hearing proceedings most of the public have expressed their concern regarding the community Development activities for their respective villages. In addition to the regular CSR budget of existing Ramagundam plant, one time ocst provision of Rs. 20 crores for implementation of community Development (CD) activities related to water, roads, education, health, sanitation, training and support for IGA, etc, under CD plan for telangana project will be earnmarked based on assessed needs. Further, post commissioning of telangana project, CSR funds will also be allocated for project as per company Act, 2013/Govt. Guidelines/NTPC Policy.

(xi)Reply of PP to the representation received by the EAC has been submitted and also presented.

(xii) Regarding the AAQ modelling results, the prediction of maximum ground level concentrations (GLC's) on AAQ due to the proposed power project has been carried out taking in to consideration the worst coal characteristics and worst micro-climatic condition. Based on modelling predictions, it can be concluded that the predicted incremental ground level concentration of SO_2 is about 21.5ug/m^3 by using WCL coal. This value when compared to predicted GLC's of SCCL coal (i.e. 34.22 ug/m^3) reduction of SO_2 emission rate by 37% is observed. A per discussions with CEA representative of EAC, emission load of SO_2 is observed as 27.1 ug/m^3 considering coal quantity as 7.36 MTPA. Significant reduction in air emission load is envisaged with the use of WCL coal.

The maximum base line concentrations of PM_{10} SO_2 and NOx are 68.5 ug/m^3 , 23.5 ug/m^3 and 32.8 ug/m^3 respectively. The maximum cumulative incremental concentration of PM_{10} SO_2 and NOx considering the coal from SCCL /worst case scenario are 11.41 ug/m^3 54.47 ug/m^3 and 20.11 ug/m^3 respectively. Accordingly, the resultant Ground Level Concentrations (GLC's) of PM_{10} SO_2 and NOx will be 79.77 ug/m^3, 77.97 ug/m^3 and 52.91 ug/m^3 respectively.

(xiii) regarding installation of FGD the cumulative impact indicates a maximum SO_2 concentration of 65.10 ug/m^3 with the committed tapering linkage of WCL coal which is well within prescribed limits. However, space provision has been kept in General Layout plan for retrofitting FGD system in future, if required.

(xiv) Regarding tapering coal linkage, coal India Limited (CIL) vide its letter dated 06.11.2015 has allote tapering coal linkage for the Telangana Stage-I STPP (2x800) MW from Western Coalfields Ltd. (WCL).

(xv) Regarding discrepancies, if any, in the EIA/EMP, the issue raised in the minutes of EAC meeting have been addressed.

3.Based on the information/documents provided by the project proponent and clarification provided during detailed discussions held on all the issues, the committee recommended the project for environmental clearance subject to stipulations of the following additional specific conditions:

I. As the satellite imagery submitted was not clear, a clear satellite imagery shall be submitted to the Ministry and its R.O. Further, latest authenticated satellite imagery shall be submitted on an annual basis to the Ministry and its R.O to monitor the alterations of the area.

II. The PP shall ensure compliance to the Ministry's Notification dated 02.01.2014 regarding the use of coal with ash content not exceeding thirty-four per cent, on quarterly average basis. This is to be ensured by incorporating a condition in the MoU/FSA with CIL etc. Also, if required, coal washery shall be installed.

III. The Sulphur and ash content of coal shall not exceed 0.5% and 34% respectively. In case of variation of quality at any point of time, fresh reference shall be made to the Ministry and suitable amendments to the environmental clearance will have to be sought.

IV. FGD shall be installed as the emissions are found to be almost reaching threshold limit of 80 unit (for the worst case scenario) and also considering the cushion w.r.t NAAQS

V. NTPC shall endeavour to enter into MoUs with NHAI, Associations of cement Industries and Municipal Authorities for ensuring ash utilization in roads construction and cement manufacturing.

VI. The PP shall examine possibility of relocating the ash pond. In case, the relocation of ash pond is not possible, precautionary measures by providing maximum green belt between ash pond and reservoir etc. shall be undertaken.

VII. Study shall be conducted regarding the impact on agricultural fields in terms of heavy metal in food chain and ground water/soil for a period of one year and the report submitted to the Ministry.

VIII. The Ash water Re-circulation System (AWRS) shall be immediately installed for the existing TPP. Till that time, the ash pond effluent shall into be discharged into agricultural fields.

IX. The PP shall enhance the green belt of the existing TPP in compliance to the earlier EC conditions etc.

X. Long term monitoring of temperature shall be undertaken on-site and off-site of the TPP, as data of decrease in temperature needs to be verified. Further, requisite corrective action shall be taken based on the findings of the monitoring.

XI. As the data for the health studies was more than five years old, a fresh occupational Health and epidemic health disorders survey of the study area (10 km radius) shall be conducted and the report submitted to the Ministry and its R.O. within one year.

XII. As committed, a minimum amount of Rs. 20 crores shall be earmarked as capital cost for CSR activities and the recurring cost per annum shall be as per the CSR policy of GOI till the operation of the plant commences.

38. Based on these recommendations the MoEF&CC had issued the impugned environment clearance dated 21.01.2016 with certain special and general conditions and most of the

recommendations made by the Expert Appraisal Committee were reproduced as special conditions in the environment clearance granted to be complied with by the project proponent. It is a settled law that the Expert Appraisal Committee as well as MoEF&CC has to appraise the project by applying their mind minutely while deciding to recommend/issuing the environment clearance respectively. It is also settled law that the quasi-judicial authorities with whom certain decision making process has been vested have to give their reasons for coming to such a conclusion and if this is not reflected in the order, then there is lack of application of mind on the part of the authorities which is a ground of setting aside the order passed by such authorities. It is also settled law that it is not necessary for such quasi-judicial authorities or administrative bodies who are exercising the decision making process to give detailed reasons or logic as in the case of writing judgements by the judicial authorities but the reading of the orders or proceedings by such authorities must reflect the materials considered by them and the reasons for coming to such a conclusion showing their subjective satisfaction of assessment of the project in a legalistic manner. So merely because the authorities have not given detailed reasons for coming to such conclusion alone is not a ground to set aside the order passed by such authorities if the perusal of the such proceedings or orders reflects the proper application of mind by such authorities, that will be sufficient to sustain such assessment made by the expert

bodies. Keeping this in mind, the grounds made by the appellant and how this was met by the project proponent and the authorities concerned hav to be considered.

39. The appellant had challenged the establishment of the present unit on the ground that it is situated in a water body and that aspect has not been considered for the purpose of assessing its impact on water body. This was countered by the 3rd respondent on the ground that there is no water body as such in the project area. The Learned Counsel for the appellant is relying on the map provided regarding the project area and the impact area of 10 kms in which certain blue shades were shown which according to the appellant is a water body in which the project has to be established. It may be mentioned here that the study area is having an extent of 10 kms and also the project proponent unit has been allotted 9600 and odd acres of which the proposed project area is only smaller in extent. It may also be mentioned here that except some blue dots in the map produced along with the EIA report prepared by the accredited expert body appointed by the project proponent wherein they have stated that there is no water body in existence in the project area and the nearest water body is River Godavari which is situated 4 kms away from the proposed project area. There is no document produced by the appellant to show that there exists a natural water body as envisaged which requires conservation, preservation and protection against any exploitation which was entered in the Revenue

Records or any other recognised records of the Government. It is settled law that natural water courses like reservoir, river, sea, creek and natural tanks which is being used for collection of water etc have to be protected and even if it dried during some season for want of adequate rain and become disuse for some period will not be a ground for allotting those areas for other purposes as has been observed by the Hon'ble Apex Court in the decision reported in Meghwal Samaj Shiksha Samiti v. Lakh Singh, (2011) 11 SCC 800, Intellectuals Forum, Tirupathi vs State Of A.P. & Ors (2006) 3 SCC 549. and Hinch Lal Tiwari vs Kamala Devi And Ors (2001) 6 SCC 496. Further in the decision reported in Susetha vs State Of Tamil Nadu And Ors (2006) 6 SCC 543, it has been held that artificial tank made by the authorities cannot be treated as water bodies. Further, it was in a way admitted by the project proponent that being a low-lying area, there used to be stagnation of water for some time and that will be dried up immediately as well and except that there was no recognised water body in that area which requires protection and preservation as claimed by the appellant. So under such circumstances, there is no merit in the submission made by the Learned Counsel for the appellant that the unit itself was established on the water body and that aspect has not been considered by the Expert Appraisal Committee or the Expert Body appointed by the project proponent for the purpose of considering the impact on ground

water quality while preparing the environment impact assessment report.

40. As regards the health study is concerned, the project proponent has relied on the reports submitted by an agency appointed by them, namely, M/s Poolucon Laboratories Private Limited based on the old health impact report of the year 2009 and the Expert Appraisal Committee in its 45th meeting made an observation that the project proponent has not complied with the ToR number xxxiv and furnished the old report and wanted fresh details of epidemic health survey of individuals in the project area. The appellant also relied on the report of the NEERI regarding the impact of coal based thermal power plants on health conditions of the people and they have observed that people living within 5 km radius of the existing thermal power plants of the project proponent in the Ramagundam village are suffering from respiratory diseases. It may be mentioned here that it was a general study conducted by NEERI regarding the health impact in Ramagundam area on account of air pollution in which they have mentioned that thermal power plants are also contributing their share. So under such circumstances, it cannot be said that the pollution caused on account of coal based thermal power plant alone are solely responsible for such health impact study reference made in any of these reports. There are other contributions also which results in air pollution in an industrial area by other units as well. Further, it may be mentioned here that after the

45th meeting of the Expert Appraisal Committee, the project proponent had submitted a further report obtained from the Government Hospital in that area wherein it was specifically mentioned that there is no epidemic diseases reported in that area resulting in death on account of air pollution caused. This was considered by the Expert Appraisal Committee and accepted the same but while recommending the project as a Precautionary Principle directed the project proponent to conduct a detailed health study by appointing a proper agency for this purpose and submit the same to MoEF&CC on later occasion while complying with conditions of submitting their progress report while the project establishment activities are in progress. This was accepted by the MoEF&CC as well as a condition and it is seen by the reply submitted by the project proponent that for the purpose of conducting a detailed study an expert agency has been appointed and the report will be submitted to the MoEF&CC as when the same is completed. They also mentioned that as part of their Corporate social responsibility, they have already undertaken lot of health awareness programmes, conducted health camps and provided hospital facilities for the people in the locality and also to their employees and they will continue to do the same in future as well as part of their Corporate social responsibility and sufficient funds have been provided for this as well in their budget every year. Certain details were also given by them regarding the nature of activities undertaken by existing

thermal power plants owned by the 3rd respondent unit in that area itself. So under such circumstances, merely because there was some general study made and overall observations have been made that lot of death is being caused on account of air pollution and coal based thermal power plant are also contributing their share for that purpose alone is not sufficient to come to the conclusion that thermal power plant were responsible for such in the absence of any specific report regarding the number of persons died in a particular area on account of the same alone is made out. So under such circumstances, there is no merit in the submission made by the Learned Counsel for the appellant that there was no proper health study conducted and on that ground the environment clearance has to be set aside cannot be accepted especially when as a Precautionary Principle such a regular study was directed to be conducted by the 3rd respondent unit in future and remedial measures will have to be taken for providing necessary health care to the people who are likely to be affected on account of such activity if it is reported. So on that ground the environment clearance cannot be set aside as contended by the Learned Counsel for the appellant.

41. As regards the extraction of ground water is concerned, according to the appellant, there was no study conducted by the expert agency appointed to prepare the environment impact assessment report regarding the amount of ground water to be extracted for the purpose of construction activities and that

report has not been specifically envisaged or anticipated in the environment impact assessment report and that has not been considered either by the Expert Appraisal Committee or by the MoEF&CC. To this the 3rd respondent had categorically stated that there is no proposal to draw any ground water from that project area and they have alternative arrangements for getting the water for their construction purpose from the water Board and as such there was no necessity for conducting any study on that aspect in this regard. Only if there is a proposal for drawing any ground water from that area by the project proponent for the purpose of construction, the quantity of ground water available in that area for the purpose of drawing, the same has to be studied by the project proponent and in the absence of the same, non-conduct of study on that aspect will not vitiate the environment impact assessment report submitted by the project proponent and this has been properly considered by the Expert Appraisal Committee as well as MoEF&CC while considering the project and on that ground the environment clearance need not be set aside as claimed by the Learned Counsel for the appellant.

42. As regards the coal linkage is concerned, it will be seen from the conclusion portion of EIA report prepared by the accredited agency that the total coal requirement for the project is estimated as 8MT per annum and existing coal handling system will be used to handle the coal requirement. Ministry of Coal vide its office Memorandum dated 10.09.2015 has allotted

Mandakini-B coal mine in Odisha State to proposed NTPC Telangana State Thermal Power Plant. Further, in pursuance to expedite the process of project implementation, Ministry of Cola vide its letter dated 29.05.2015 had accorded in Principle approval for grant of tapering linkage of coal from Coal India Limited to Telangana State Thermal Plant stage-I 2x800MW as an exceptional case till the operation of Mandakini-B coal mine block. So they have not taken into consideration the quality of coal to be obtained from Western Coal Limited, West Bengal in respect of which certain linkage has been obtained by the project proponent till they obtain coal from Mandakini-B coal mine block of Odisha and Coal India Limited. It is also in a way admitted by the project proponent that the radio-activity and heavy metal study was not conducted of any of the quality of the coal to be used for the proposed unit and that was obtained only in November, 2016 as produced by the project proponent along with the rejoinder statement after the environment clearance was issued. Further, the laboratory report of the Western Coal Limited, which was produced for consideration by the Expert Appraisal Committee also, did not contain the radio-activity and heavy metal presence in the coal to be used and the Expert Appraisal Committee on the basis of the representation made by the project proponent and its expert appointed observed that the worst coal condition was taken for the purpose of assessing the impact of coal to be used, namely, western coal limited. But that also did not take in the

laboratory report regarding the radio-activity and heavy metal presence and no study was conducted to ascertain its impact on environment either by the Expert Appraisal Committee or by the expert body appointed by the project proponent. It is also in a way admitted by the project proponent in their reply statement, rejoinder and sub-rejoinder statement filed by them that no such study was conducted and they have only requested all the coal linking agencies in respect of whom approval have been granted by the Ministry of Coal to furnish the laboratory reports on this aspect.

43. Further, in the decision reported in Appeal No. 07/2011(T) - Krishi Vigyan Arogya Sanstha & Ors. Vs. Union of India & Ors. the Principal Bench discussed about the necessity for conducting radio-activity and heavy metal study conducted by accredited laboratories to be furnished for consideration by the Expert Appraisal Committee regarding its impact on the environment and the appeal was disposed of with certain directions and observations which reads as follows:

> *"However, the Environmental Impact Assessment as well as Expert Appraisal Committee have completely ignored by objections raised by Mr. Paliwal and others regarding nuclear radiation that would be caused by the proposed project. But we are of the opinion that in a project of this nature, as stated by Mr. Paliwal, in the public hearing, the effet of nuclear radiation was neither studied nor examined and it was simply brushed aside in the arguments before this Tribunal stating that there was no necessity of examining the project from nuclear radiation point of view as no such plant would cause nuclear radiation which harms the human habitation or the environmental ecology in the surrounding area.*
>
> *.....*
>
> *.....*
>
> *10.Taking all the above into consideration, we are of the considered opinion that this appeal requires to be disposed of with the following directions keeping in view the principles of sustainable development and precautionary principle.*

a. The first respondent, Ministry of Environment and Forests is directed to look into the matter as to long term impacts caused by nuclear radiation from the thermal power projects, by instituting a scientific long term study involving Bhabha Atomic Research Agency or any such other recognised scientific institution dealing with nuclear radiation with reference to the coal ash generated by thermal power project (Respondent no. 3) particularly the cumulative effect of a number of thermal power project located in the area on human habitation and environment and ecology. The study shall also take into consideration the health profile of the residents within the area in which the pollutants are expected to spread from the thermal power project.

.....

.....

c. The Ministry of Environment and Forests shall include in the Terms of Reference of all the future projects asking the proponent to furnish details of possible nuclear radio-activity levels of the coal proposed to be used for the thermal power plant.

d. The Ministry of Environment and Forests shall get the national standards prescribed, if not already available, from the Department of Atomic Energy, Government of India within a period of one year from the date or receipt of this order, as to permissible levels of nuclear radiation in residential, industrial and ecologically sensitive areas of the country.

44. So it clear from the above conclusion of the Tribunal that it is highly necessary to conduct environment impact assessment on the basis of the radio-activity and heavy metal presence in the coal to be used and that must be made available for appraisal by the Expert Appraisal Committee and the MoEF&CC before recommending or issuing the clearance to the proposed project.

45. The project proponent had relied on the subsequent environment clearance granted dated 21.10.2020 vide their proceedings no. F. No.J-13012/112/2010-IA.I(T) which modified conditions number (xv) of environment clearance dated 20.01.2016 which is under challenge as follows:

i. "Radio activity and heavy metals contents in coal and fly ash (including bottom ash) shall be carried out through a reputed institute once in a year and the analysis reported to be submitted to the Ministry and its Regional office."

ii. The total Radio-activity in the working areas such as coal stock yard, flyash pond shall be calculated based on the analysis results per unit weight of coal/ash. The total radio-activity in the atmosphere is to be compared with the maximum permissible dosage levels of each person working in those areas. This is to be conducted once in a year.

iii. While commissioning the proposed unit, the compliance of revised emission norms issued vide Notification dated 07.12.2015 and as amended time to time shall be achieved along with specific water consumption as per notification dated 28.06.2018. The FGD system and Nox control measures such as SCR/SCNR/De-NOX burners shall be installed to achieve the revised emission norms.
iv. As per the revised Tariff Policy notified by Ministry of Power vide dated 28.01.2016, project proponent shall explore the use of treated sewage water from the sewage Treatment plant of Municipality/local bodies/similar organization located within 50km radius of the proposed power project to minimize the water drawl from surface water bodies. The details of sewage Treatment Plants located within 50 Km radius along with the capacities shall be submitted.

46. Further there was an amendment to the environment clearance granted earlier by amended environment clearance dated 06.03.2017 vide its proceedings no. J-13012/112/2010-IA.II(T) whereby they have amended specific condition no. 6A(xvii) as follows:

i. Specific condition no. 6A(xvii): High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed the standards prescribed in the MoEF&CC vide Notification S.O. 3305(E) dated 07.12.2015 or any other standards notified by the Ministry whichever is stringent. Emission standards notified vide S.O. 3305(E) dated 07.12.2015 shall be complied with. Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided along with an environment friendly sludge disposal system.
ii. Specific condition no 6A(xvii): Wastewater generated from the plant shall be treated and reused for various purposes within the plant. There shall not be any discharge of wastewater. Zero liquid discharge shall be adopted and specific water consumption shall be achieved as per the MoEF&CC Notification S. O. 3305(E) dated 07.12.2015.

47. These two amendments were made at the time even the present appeal is pending. So, whatever amendment made can be only to be treated as subject to the final orders to be passed by this Tribunal in general and they cannot get exemption from carrying out certain responsibility by virtue of subsequent amendment obtained by them by filing necessary subsequent application before the authorities. Further, they have not

produced necessary inputs regarding study conducted by the project proponent which were considered by the Expert Appraisal Committee or the MoEF&CC before effecting such amendments to the conditions imposed in the original environment clearance dated 21.01.2016 which is under challenge. So under such circumstances it is clear from the discussion above that there was no study conducted by the Expert agency appointed by the project proponent for preparing the EIA report and no study was conducted regarding the impact of coal to be used on environment on account of the possible emission of radio-activity and heavy metal from the fly ash/bottom ash generated on account of use of the coal as fuel in such thermal power plant effect which has been considered by this Tribunal in Appeal No. 07/2011 mentioned above. Such studies were not available before the Expert Appraisal Committee or before the MoEF&CC though the Expert Appraisal Committee in 45th meeting had deferred the consideration of proposal by insisting for such study as well and in spite of the same, the Expert Appraisal Committee had recommended the project with a direction to the project proponent to conduct this study and submit the report to MoEF&CC. MOEF&CC also simply reiterated this condition and directing the project proponent to conduct the study and produce the report later for consideration and granted environment clearance. So as such there was non-compliance of the direction issued by this Tribunal regarding study to be

conducted and impacts on environment before considering the grant of environment clearance to thermal power plants.

48. So, the MoEF&CC had to be directed to direct the project proponent to conduct such studies and submit the environment impact assessment report to them which has to be considered by the Expert Appraisal Committee and on the basis of their appraisal and recommendations additional condition, if any, has to be imposed by MoEF&CC.

49. The other contentions raised by the Learned Counsel for the appellant was that there was no cumulative impact assessment of ambient air quality modelling was conducted while preparing the ambient air quality report in respect of 15 km as has been directed in the Terms of Reference and without having such study, it cannot be said that the modelling of Ambient Air Quality conducted was proper. Further, they have also pointed out certain deficiencies in the ambient air quality modelling conducted regarding selection of number of locations, area and non consideration of other polluting industries available in that area and its impact on the same.

50. The Terms of Reference number xxxix and xl prescribed for EIA Study by project proponent read as follows:

> xxxix. *Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with the laboratory reports.*
> xl.*Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.*

51. Further, Terms of Reference no. (i) and xxxviii also deal with this aspect which read as follows:

i. *Cumulative impacts including the rise in temperature within 10/15 kms, as applicable shall be studied.*

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

52. Instead of conducting cumulative impact for ambient air quality modelling within 15 kms radius, the project proponent had taken only 10 kms radius and even within the 10 km according to the appellant, certain industries were not mentioned. Further, since Ramagundam area is already declared as industrial area with lot of polluting industries including number of thermal power plants, the area should not be limited to 10 kms but it should have been 15 km as suggested in the ToR. The appellant also extracted the details of all polluting industries within 15 kms in the appeal memorandum as follows:

S.No.	**Name of the Project**	**Production capacity in MTPA**	**Distance from the plant**
1	Ramagundam OC-II (Named as SCCL OCP by project proponent	6.80	4.5 Km
2	Adriyal Shaft (UG)	3.14	15
3	Jallaram	2.28	10
4	Medappalli OC (Named as SCCl OCP IV by the project proponent)	4.09	8
5	Peddampet (UG)	1.45	6
6	Ramagundam OC-I	3.3	13
7	Ramagundam OC-II	4.5	15
8	Godavarikhani- 1 incline underground mine		5
9	Godavarikhani-2 incline underground mine		5
10	Godavarikhani-5 incline underground mine		7
11	Godavarikhani-10	0.45	10

	incline underground mine		
12	Godavarikhani-11A incline underground mine	1.75	9
13	Godavarikhani-9 incline underground mine	4.5	10
	Total	More than 29 MTPA	
Thermal Power Plants			
S.No.	**Name of the Project**	**Production capacity in MTPA**	**Distance from the plant**
1	NTPC Thermal Power plant	2600MW	Adjacent
2	SCCL Thermal Power plant	1200MW	13KM
3	TSEB Thermal Power plant	62.5MW	2.1KM
4	SCCL Thermal Power Plant	18MW	3.7KM
Other Industries			
S.No.	**Name of the Project**	**Production capacity in MTPA**	**Distance from the plant**
1	Kesoram Cements Limited		7.3KM
2	Fertilizer corporation limited		1.7KM

53. They have also given a number of industries considered by the project proponent as table V extracted in the appeal memorandum as follows:

Table-5
List of Industries in 10 KM Radius

S.No.	Industry	Type of Industry	Distance	Status
1	NTPC, Ramagundam	Thermal Power Plant	Adjacent	Operating
2	FCI, Ramagundam	Fertilizer	1.7 KM,SE	Not working (under Revival)
3	Telangana State Electricity Board (62.5 MW)	Thermal Power plant	2.1 KM, NW	Operating
4	SCCL-OCP-IV	Coal Mine	2.9 KM, N	Operating
5	Singareni Power House at Godavari Khani (18 MW)	Thermal Power plant	4.5 KM,ENE	Operating
6	SCCL-OCP	Coal Mine	4.5 KM, SE	Operating
7	Kesoram Cements Limited	Cement plant	7.3 KM, SW	Operating

54. The appellant has also given the details of Coal mines situated within a distance of 15 kms and other thermal power plants which read as follows:

COAL MINES			
S.No.	**Name of the Project**	**Production capacity in MTPA**	**Distance from the plant**
1	Adriyal Shaft (UG)	3.14	15
2	Jallaram (UG)	2.28	10
3	Peddampet (UG)	1.45	6
4	Ramagundam OC-I	3.3	13
5	Ramagundam OC-II	4.5	15
6	Godavarikhani-1 incline underground mine		5
7	Godavarikhani-2 incline underground mine		5
8	Godavarikhani-5 incline underground mine		7
9	Godavarikhani-10 incline underground mine	0.45	10
10	Godavarikhani-11A incline underground mine	1.75	9
11	Godavarikhani-9 incline underground mine	4.5	10
THERMAL POWER PLANT			
S.No.	**Name of the Project**	**Production capacity in MTPA**	**Distance from the plant**
12	SCCL Thermal Power plant	1200MW	13KM

55. The necessity for conducting Ambient Air Quality Modelling in a cumulative manner taking into consideration the institutions available in the locality and the proposed unit that are likely to come had been considered by the Tribunal in T. Muruganandam & Ors. Vs. Union of India & Ors Appeal No. 50 of 2012 as follows:

> *"41.... Thus, the cumulative Impact as the term indicates is not the impact of any project in isolation but it is a total impact resulting from the interaction of the project with other project activities around it-past, present and those to come up in future. It is a comprehensive view of the impacts resulting from all the projects- past, present or planned ones on the environment. Cumulative Impact may be same or different and those arising out of individual activities and tend to be larger, long lasting and spread over a greater area within the individual impact. Such studies are therefore commonly expected to:*
> *1. Assess effects over a larger area that may cross jurisdiction boundaries;*

2. Assess effects during a longer period of time into the past and future;
3. Consider effects on other eco-system components due to interactions with other actions and not just the effect of the single action under review;
4. Include other past, existing and future (reasonably foreseeable) action; and
5. Evaluate significant effect in consideration of other than just local and direct effects."

56. Further it will be seen from the EIA study conducted that number of locations taken were only four depending upon the wind which reads as follows:

Table-3.4.1
DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS

Station Code	**Name of the Station**	**Distance w.r.t proposed plant (Km)**	**Direction w.r.t proposed plant**	**Zone**	**Environmental Setting**
AAQ1	Proposed plant site	----	----	Industrial	--
AAQ2	Mallialpalli	2.5	W	Residential	Downwind
AAQ3	Malkapur	1.8	NE	Residential	Upwind
AAQ4	Near FCI Gate	2.1	SE	Residential	Crosswind

57. Further, they have only taken distance of 2 to 3 kms only for even locating the areas where study has to be conducted. Further, they have conducted baseline study only for one season from December, 2014 to February, 2015 and prepared the modelling which according to the appellant does not even tally with the ambient air quality assessed by other units during the relevant period. Further, according to the appellant, the project proponent even in the reply statement did not mention any scientific data as to why they did not conduct the impact assessment study of 15 kms and selecting only four locations alone. The appellant had relied on the Ambient Air Quality data provided by Food Corporation of India and M/s

Kirloskar Construction Pvt. limited and also the Central Pollution Control Board regarding Ramagudam area to contradict the data furnish by the project proponent. The project proponent mentioned in the reply that there is no mandatory provision for conducting Ambient Air Quality Modelling for 15 km. Further, they have taken the worst climate condition for the purpose of conducting the modelling and as such there is no illegality. Further they have also contended that the subsequent documents produced by them before this Tribunal including the latest report of the CPCB in respect Ambient Air Quality level in Ramagundam area will go to show that there were lot improvements and as such there will not be any impact on environment on account of the present unit. They also mentioned that they have taken 50 years of raise in temperature level from the data available in Indian Meteorological Department which will go to show that there was decrease in the temperature level in the project area. They have also mentioned that there is no specific provision regarding number of locations to be taken as well.

58. It may be mentioned here that the range of 10/15 km was provided for conducting cumulative impact ambient air quality modelling in the Terms of Reference depending on the area where the unit has to be established and whether it is a highly polluted industrial estate covering larger area and what would have been the probable impact of the new project that is to be established in that area and what all further precautionary

method will have to be taken for protecting environment on account of such establishment. In fact this aspect has been considered by this Bench in Appeal No. 50 of 2012 mentioned above in respect of thermal power plant and considered the necessity for conducting environment impact for a larger area of 25 kms radius considering the area where the present unit was to be established. So under such circumstances, the submission made by the Learned Counsel for the project proponent that they were justified in conducting the ambient air quality modelling in respect of 10 kms radius and taking four locations within 2 to 3 km radius depending upon the wind direction cannot be accepted.

59. Further, there were wide discrepancies noted in the measurement shown in respect of so many criteria when compared with other studies relying on certain studies conducted by others, namely, Food Corporation of India and Kirloskar Construction Pvt. Limited conducted by the appellant. Further, It is also seen from the materials provided by the appellant regarding the units available within 15 kms there are coal mines and there was no study conducted of their cumulative impact while conducting the modelling by the project proponent and there was no explanation forthcoming for the same as well. It is true that there may be some difference in the study conducted regarding the quantity of pollutants like PM, Carbon, Carbon dioxide, Nitrogen oxide etc depending upon the time of study and the location of study. But while

considering the impact of the same, if it is within the study area, then that will have some impact to be caused on account of establishment of new unit as well.

60. Further, it will be seen from the EIA report itself that the pollution will be more considering wind direction on south western direction but that locations taken by the project proponent for the purpose of the study do not taken in that direction as well. So under such circumstances, the number of locations identified and also the distance restricting to 2 to 3 km from the proposed project area and restricting the distance to 10 kms radius done by the project proponent cannot be accepted and the Expert Appraisal Committee as well as the MoEF&CC should have directed the project proponent to conduct a cumulative impact assessment study of ambient air quality modelling taking into consideration these aspects. Further, they should have conducted a modelling study though primary data was collected for one season but they have to mathematically calculate the impact after taking into the account the secondary data for different seasons in respect of 15 kms radius taking into account all industries operating and proposed to start during that time. Such an exercise was also not properly conducted by the Expert agency appointed by the project proponent and that aspect was not considered by the Expert Appraisal Committee or MoEF&CC but simply stating that modelling was done for one season, namely, winter season being the worst season and as such that is enough for

consideration So under such circumstances, this Tribunal feel that a direction has to be given to MoEF&CC to direct the project proponent to conduct a proper cumulative impact assessment of ambient air quality modelling taking into account 15 km radius and also taking more numbers of location in different areas within 15 km radius depending upon the nature of polluting industries located including the coal mines and other thermal power plant by conducting a rapid ambient air quality modelling for a different season other than winter season and also taking into account the secondary data to be collected from the other units for a period of one year during the relevant period where impact assessment was conducted and then prepare a proper ambient air quality modelling and then submit the same to the MoEF&CC within a period of four months and thereafter the MoEF&CC shall forward the same to the Expert Appraisal Committee for appraisal and after getting their recommendations, impose further conditions, if any, necessary on that basis.

61. As regard the impact of the project on water quality in that area has not been conducted according to the appellant. It is seen from the EIA report that there was no possibility of any impact on ground water as they are going to use zero liquid discharge system. It was also mentioned that there is possibility of accumulation of bottom ash or fly ash which is likely to cause impact on ground water and they have only relied upon the technology to be used by them for that purpose. It may be

mentioned here that it is an admitted phenomena that on account of collection of fly ash and bottom ash and ash slurry in the ash pond have impact on ground water of that area if that is not properly maintained. It may be mentioned here that even in the periodical compliance report to be submitted by the thermal power plants, this deficiency was noted by the Regional office and certain directions were issued to the unit to rectify the same. Though there was ToR conditions directing the proposed project proponent to study about the deficiencies in the compliance of conditions of environment clearance by existing power plants run by them and to furnish the precautions to be taken by them, the same has not been furnished by the project proponent and they have only simply stated that since they are ZLD units and green technology unit there is no necessity for replying on that aspects. This was the stand taken by them in the subsequent reply submitted by them before the Expert Appraisal Committee in compliance of the directions issued by them vide their proceedings in the 45th meetings as mentioned above.

62. Further, even in the conditions imposed, it was mentioned that they will have to change the locations of the ash pond as well. Further, though as per subsequent amendment, they have been directed to install FGD for considering the impact of fly ash and minimise the impact of fly ash in respect of SO_2 and NO_X no, study was conducted regarding the nature of technology to be applied by the project proponent in this regard

except stating that they are committed to implement the directions issued by the MOEF&CC for installation of FGD for their unit. They have not submitted the location where this is going to be implemented as well. So under such circumstances, this Tribunal feel that project proponent has to be directed to submit fresh EIA report on these aspects as well after taking into account possibility of pollution and how far the system adopted by them is going to mitigate the same and that will have to be appraised by the Expert Appraisal Committee and MoEF&CC and if any further conditions have to be imposed that has to be done as well as the nature of the impact that is likely to be caused on account of ground water is much as has been observed by the various reports submitted by the Pollution Control Board as well as Central Pollution Control Board in connection with other thermal power plants and other industries. So, for that purpose also the matter has to be remitted to the MoEF&CC.

63. Further, the report submitted by the project proponent regarding the water quality also shows that there are certain aspects where the criteria is not confirmed with the standard provided and number of other metals were also not considered while conducting the impact of discharge of water from such units. Further, though they have mentioned that they are going to adopt ZLD and they simply provided certain diagram regarding the water to be used without any scientific data and that was accepted by the MoEF&CC and Expert Appraisal

Committee. In fact a detailed study ought to have been conducted by them regarding the quantity of water that they are going to use and the quantity of waste water to be generated and how much they are going to reuse or recycling and other purposes without discharging the same to show that there will not be waste water available for discharging the same either into the water bodies even during monsoon season which was expected to be discharged on the ground as per EIA report submitted by them. So under such circumstances, the details regarding the same as envisaged by the appellant in their appeal memorandum at least on mathematical basis though not on actual precise calculation has to be conducted for studying the hydro-geological impact on ground water and the water bodies in that area. They have only mentioned that they will strictly comply with the conditions imposed and also notification issued by the MoEF&CC in this regard which is not sufficient while considering its impact on environment to be considered by Expert Appraisal Committee/MoEF&CC for granting clearance for this purpose.

64. So under such circumstances, we are not fully agreeable with the submission made by the Learned Senior Counsel for the project proponent that MoEF&CC has reserved their right to impose further conditions, if necessary, if any failure was noted later and that will be sufficient applying the Precautionary Principle and Sustainable Development while granting the clearance. It may be mentioned here that it is not possible for

the project proponent to go into all the minute issues regarding the impact of the project on environment. But at the same time they are expected to have a wider study of probable impact that is likely to be caused and mitigation measures taken by them are sufficient to meet the same for this purpose and that must be satisfied by the authorities before granting the clearance. It is not possible to have a minute arithmetical ascertainment of possible pollution as well as has been exercised by the appellant in their appeal memorandum. The possible pollution likely to be caused on account of the material available has to be appraised by the Expert agency appointed to prepare the impact assessment report of the unit on environment and the probable mitigation measures to be provided to mitigate the possible pollution and protect environment while permitting the unit to operate. Merely because huge amount has been invested by them is not a ground for not directing the further studies and revisit the conditions imposed for granting the environment clearance by the authorities and for that purpose even this Tribunal can exercise the discretion of suspending the same for certain period instead of setting aside the environment clearance in toto as claimed by the appellant till all the other aspects and study conducted to the satisfaction of the authorities as directed.

65. So under such circumstances, we feel there is no necessity to set aside the environment clearance granted in toto but it can be suspended for a reasonable period directing the MoEF&CC

to direct the project proponent to conduct fresh environment impact assessment study on certain aspects as detailed below and then direct the Expert Appraisal Committee to appraise the same and impose necessary additional conditions required and then consider the same and issue necessary amendment to the environment clearance dated 21.01.2016 by incorporating additional conditions for that purpose. The MoEF&CC is directed to direct the project proponent to conduct following fresh studies:

1) Project proponent shall be directed to conduct radio-activity and heavy metal test of coal to be used including alternative coal which they propose to use and probable impact of the same on environment and the mitigative measures to be taken to reduce impact if any on environment.
2) The project proponent shall be directed to conduct cumulative impact assessment of ambient air quality modelling for a radius of 15 kms from the project area by collecting primary data regarding air quality for another season other than the winter season during the relevant period and also taking more number of locations within 15 kms radius selecting the probable polluting industries situated and the impact of the present as the proposed projects in those areas as directed by the National Green Tribunal in T. Muruganandam & Ors. Vs. Union of India & Ors Appeal No. 50 of 2012.
3) The project proponent shall be directed to conduct fresh study regarding the area for installation of FGD system, Hydro-geological impact assessment on account of the ash pond due to storage of ash slurry in the ash pond, its location and the mitigation measures to be taken for avoiding any possible pollution on account of the same on water quality in that area.

4) They are also directed to conduct a proper study on the disposal of waste water/effluent by using methodology of ZLD system on a scientific basis taking into account the water quality in that area including the heavy metals which were likely to be present on account of probable contamination be caused on account of breach of ash pond, if any in future.
5) After getting the impact assessment report as directed, the MoEF&CC is directed to forward the same to Expert Appraisal Committee for further appraisal and getting their recommendations of additional conditions, if any, to be imposed and then consider the same and impose necessary additional conditions for this purpose and allowing the unit to operate till then the environment clearance dated 21.01.2016 and other environment clearance granted in 2017 and 2020 relied on by the project proponent are directed to be kept in abeyance. All these exercises will have to be completed within a period of seven months.

66. The points are answered accordingly.

67. In the result, the appeal is disposed as follows:

1) The Environment clearance granted to the project proponent dated 21.01.2016 and subsequent amended clearance in 2017 and 2020 are directed to be kept in abeyance for a period of 7 months or till the re-appraisal is done and additional conditions imposed by the MoEF&CC whichever is earlier.
2) The MoEF&CC is directed to direct the project proponent to conduct a further study on following aspects:
    1. Project proponent shall be directed to conduct radio-activity and heavy metal test of coal to be used including alternative coal which they propose to use and probable impact of the same on environment and the mitigative measures to be taken to reduce impact if any on environment.
    2. The project proponent shall be directed to conduct cumulative impact assessment of ambient air quality modelling for a radius of 15 km from the project area by

collecting primary data regarding air quality for another season other than the winter season during the relevant period and also taking more number of locations within 15 kms radius selecting the probable polluting industries situated and the impact of the present as proposed projects in those areas as such directed by the National Green Tribunal in T. Muruganandam & Ors. Vs. Union of India & Ors Appeal No. 50 of 2012.

3. The project proponent shall be directed to conduct fresh study regarding the area for installation of FGD system, Hydro-geological impact assessment on account of the ash pond due to storage of ash slurry in the ash pond its location and the mitigation measures to be taken for avoiding any possible pollution on account of the same on water quality in that area.
4. They are also directed to conduct a proper study on the disposal of waste water/effluent by using methodology of ZLD system on a scientific basis taking into account the water quality in that area including the heavy metals which were likely to be present on account of probable contamination be caused on account of breach of ash pond, if any in future.
5. After getting the impact assessment report as directed, the MoEF&CC is directed to forward the same to Expert Appraisal Committee for further appraisal and getting their recommendations of additional conditions, if any, to be imposed and then consider the same and impose necessary additional conditions for this purpose and allowing the unit to operate till then the environment clearance dated 21.01.2016 and other environment clearance granted in 2017 and 2020 relied on by the project proponent are directed to be kept in abeyance. All these exercises will have to be completed within a period of seven months.

68. Considering the circumstances, the parties are directed to bear their own costs in the appeal.

69. With the above directions and observations the appeal is disposed.

.....J.M.
(Justice K. Ramakrishnan)

.....E.M.
(Shri. Saibal Dasgupta)

Appeal No. 46/2016
27th May, 2021(AM)