

**MINUTES OF THE 53<sup>rd</sup> MEETING OF THE EXPERT APPRAISAL (THERMAL & COAL MINING PROJECTS), HELD ON JULY 16, 2012, FOR CONSIDERATION OF THE AGENDA ITEM NO 10 AT SCOPE CONVENTION CENTRE, SCOPE COMPLEX, LODHI ROAD, NEW DELHI.**

**ITEM NO. 10 : 2x600 MW and 3x800 MW Coal Based TPP of M/s IL&FS Tamil Nadu Power Company Ltd. at villages Kottatai, Ariyagosthi, Villianallur & Silambimangalam, in Chidambaram Taluk, in Cuddalore, District, in Tamil Nadu - reg. review of Environmental Clearance.**

M/S IL&FS Tamil Nadu Power Company Limited (ITPCL) are setting up a 3600 MW (2X600 MW + 3X800 MW) coal based thermal power plant (TPP), in Parangipettai block of Cuddalore district, Tamil Nadu. The project was accorded Environmental Clearance on May 31, 2010.

2. Subsequently, an Appeal was filed by M/S T. Murugandam, T. Arulselvm and S. Ramanathan of Cuddalore ("the Appellants"), before the Hon'ble National Green Tribunal (NGT) seeking to assail the Environmental Clearance (EC) accorded to M/S ITPCL. NGT in its Order dated 23rd May, 2012 directed the Ministry of Environment and Forests (MoEF) to "review the Environmental Clearance based on a Rapid Cumulative Impact Assessment study and stipulate any additional environmental conditions, if required. Updated EIA may be shared with the 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".

3. In pursuance to the Order of the National Green Tribunal, dated 23.05.2012, the Expert Appraisal Committee (EAC- Thermal) in its 50<sup>th</sup> meeting held during June 25-26, 2012 reviewed the Rapid Cumulative Environmental Impact Assessment (RCEIA) study. The RCEIA was prepared by the project proponent applying mathematical models such as OCD5, ISCST3 for air quality and models MIKE 21, DHI-LITPACK-LITLINE, etc for marine studies covering industries in an area of 25 km radius of the ITPCL projects site. The secondary data available in the Environment Impact Assessment Reports submitted to MoEF by the respective project proponents for obtaining ECs.was used for preparation of the RCEIA .

4. A presentation was made by the Project proponent before the EAC (Thermal), on 25.6.2012. In this meeting, representatives of M/s IL&FS Tamil Nadu Power Company Ltd. informed the Committee that the Appellants were served with a copy of updated EIA Report incorporating Rapid Cumulative Environment Impact Assessment (RCEIA).

5. In the meantime the Member Secretary of EAC had informed that a letter signed by the three Appellants communicating their inability to be present in the meeting scheduled on 25.06.2012 was received. The reason cited for their inability to be present was that they require some time to study the report made available to them.

6. The Committee had noted that while the cumulative impact of all the proposed power plants and refinery etc. located within 25 kms distance of the project seem to have been dealt with, the issue of social impact assessment study is missing. It was observed that any meaningful social impact assessment study need to be based on detail socio-economic data and livelihoods source data of the population of the region. Information on marginalized section of society either due to land lost (owned or was dependent on the land for livelihood) to industry or due to indirect impacts of industrial activity needs appropriate method of assessment. It was also pointed that it is important to assess the impact of movement of ships on the fisheries. ]

7. The Committee had also noted the absence of the Appellants and had decided that one more opportunity needs to be given with a view to meet the end of natural justice. It was, therefore decided that the matter can be taken up in the forthcoming meeting of the Coal Committee meeting scheduled during July 16-17, 2012. It was also decided that the Ministry shall accordingly inform the Appellants through the registered post and also through the project proponents.

8. The Committee had also decided that comments on the rapid cumulative impact assessment report submitted by M/s IL&FS Tamil Nadu Power Company Ltd. may be obtained from the Appellants in the form of an affidavit for record.

9. The Committee further decided that either the Member Secretary of Tamil Nadu Pollution Control Board in person or his representative conversant with the matter shall be present in the forthcoming meeting.

10. The Appellants had expressed inability to attend the EAC meeting scheduled for 16 July 2012 at scope complex, Lodhi Road, New Delhi due to non-availability of train tickets. They had requested that their legal counsels Shri. Ritwick Dutta and Shri Rahul Choudhary be allowed to represent them at the EAC meeting. This was accepted by the EAC (Thermal). Shri. Ritwick Dutta and his colleague were allowed to attend the EAC meeting . The EAC also allowed the project proponent's legal counsel, Shri Piyush Joshi, to attend and participate in the EAC proceedings.

11. The EAC (Thermal) met on 16.07.2012 at the Scope complex, Lodhi Road, New Delhi to review the EC given to 2X600 MW and 3X800 MW coal based TPP of ITPCL as per the directions of NGT.

12. Shri Ritwick Dutta, Advocate and Ms Srilekha Sridhar, Advocate represented the Appellants. Shri Piyush Joshi represented the project proponent. Shri A. Raja, District Environmental Engineer, Tamil Nadu Pollution Control Board, Cuddalore was also present.

13. The Chairman, EAC(Thermal) in his opening remarks highlighted the key aspects of the NGT judgments dated 23.5.2012, 30<sup>th</sup> May and 5<sup>th</sup> July, 2012. The Chairman read the salient parts of the NGT judgments.

14. The Chairman, EAC (Thermal) read a letter written by the Appellants, alleging inter-alia the Ministry's conduct of outsourcing official communication process to M/s IL&FS Tamil Nadu Power Company Ltd. It was clarified that the EAC had instructed the Secretariat (i.e. the Ministry) to serve notices for being present on the scheduled date i.e.16.07.2012 both through Registered Post and copies through M/s IL&FS Tamil Nadu Power Company Ltd to facilitate the reaching of the notices to the Appellants in time. This was decided based on the information made available to the EAC in the meeting held on 25.06.2012 that the addressee were particularly difficult to be served with notices and that two of the Appellants were traced with great difficulty and that one of the Appellant address is untraceable.

15. M/S IL&FS Tamil Nadu Power Company Ltd and their consultants thereafter gave a presentation on the findings of Rapid Cumulative Environment Impact Assessment (RCEIA), status of compliance of the directions of the NGT and the status of the project site covering inter alia the following:

- i. The civil works at the site have been completely suspended with effect from 25.5.2012 based on the judgment of NGT on 23.5.2012.

- ii. The damage caused to the site and structures due to the rain on 13.7.2012 was highlighted with photographs and emphasized that the damage would be far more significant when the north east monsoon starts in September.
- iii. The EIA consultants explained the methodology adopted for conducting the RCEIA and the areas/industries covered within 25 km radius of the ITPCL project site.
- iv. As per the order of NGT, the RCEIA study worked out the likely cumulative impacts, by applying mathematical models based on capacity of projects, EIA reports collected from TNPCB, MoEF, etc and other information from Government Departments/sources.
- v. Various discharges comprising of warm water, brine and industrial effluents were studied using the mathematical models. The studies indicate that all the discharges undergo dilution and reach the ambient levels of sea water within 50 m during monsoon and 100-300 m during fair weather. Hence there will be only localized impacts and impacts over large areas are not expected.
- vi. The impacts on shoreline due to construction of marine structures/breakwaters were also presented along with the suitable/appropriate mitigation measures. Also it was reiterated that the Vellar river mouth shall be kept open at all times for preservation of Pichavaram Mangroves.
- vii. Suitable offshore dredge disposal locations have been identified using mathematical modelling.
- viii. The cumulative impact due to the ship movements for all the projects within the study area were studied and found to be minimal.
- ix. The type and number of fishing crafts to be used in the study area have been assessed. The impact on fishermen due to structures proposed by the industries within the study area were assessed and found to be minimal.
- x. Entrapment and Entrainment issues in sea water intakes during operation stage were presented along with the mitigation measures to minimize the loss of marine life.
- xi. Baseline ambient air quality was arrived considering primary air quality data in the EIA reports of respective industries submitted to the Ministry and extrapolated statistically. Cumulative concentrations of PM<sub>10</sub>, NO<sub>x</sub> and SO<sub>2</sub> were predicted using CPCB approved mathematical models such as OCD5 and ISCST3 at the 30 receptors which have been objectively selected were presented to EAC (Thermal).
- xii. The resultant concentrations in respect of PM<sub>10</sub> and NO<sub>x</sub> are within the National Ambient Air Quality Standards (NAAQS).
- xiii. In the case of SO<sub>2</sub>, at 4 out of 30 receptors, resultant concentrations exceeded NAAQS. The probabilities of increase in the concentration were worked statistically and found out to be very low. All the four receptors are more than 10 km away from ITPCL location (three of them > 17km). The pollutant concentrations arising due to ITPCL is substantially low with the respect to overall resultant concentrations. The predicted air quality at Pichavaram was found to be well within norms and the impacts of marine discharge from the

projects are generally localized. Therefore there is no cumulative impact on Pichavaram Mangroves due to the activities of the industries in the study area.

- xiv. As part of conservation of mangroves, a restoration programme in association with Centre for Advanced Studies on Marine Biology, Annamalai University has already been initiated. This will enrich the fisheries resources in the area.
- xv. The pollutant concentrations at the receptor located near Pichavaram Mangroves are very well within NAAQS. The resultant 24 hourly concentration predicted near the Pitchavaram at village Killai which is at a distance of 0.5 km from the mangrove is  $20 \mu\text{g}/\text{m}^3$  and the average value is less than  $10 \mu\text{g}/\text{m}^3$ . The value is well below the National Ambient Air Quality Standard of  $80 \mu\text{g}/\text{m}^3$ .
- xvi. For predicting the likely concentrations of Ozone, it was made clear that there will not be any Ozone emissions from the stack. On CSR, ITPCL's capital outlay would be Rs.80 crore and its recurring outlay during operation would be Rs.16 crore. Also, ITPCL has already started implementing CSR programmes.

16. The compliance to the requirements under para 11 of the judgment of NGT dated 23.5.2012 was considered by EAC with reference to siting conditions, cumulative impact assessment, project proponent's response on the objections raised by public in Public Hearing etc. In this regard, the Project Proponent explained the following:-

- i. Siting conditions of the project were reviewed already by the then EAC as the sub-committee of the EAC had visited the site before issuing TOR.
- ii. Cumulative Impact Assessment Report has since been prepared in consonance with the direction of NGT and submitted.
- iii. The responses to the views raised in the Public Hearing as well as written objections were considered before according Environment Clearance in May 2010. However, the response to the views raised above was presented once again to the Committee for information.
- iv. The reports and compliance to conditions stipulated in the environmental clearance and consent to establish and periodic monitoring reports would be made available in web site of project proponent in addition to whatever is uploaded already.

17. Based on the presentation made by the project proponent, the Committee members made the following observations and suggestions:

- i. The dredging material to be deposited at a distance of 13 kms from the project site may result in change in the sediment quality which may have impact on the benthic flora and fauna. It was therefore suggested that an additional condition in the Environmental Clearance accorded should be stipulated regarding continuous monitoring of sediment quality to assess the impact on benthic flora and fauna, if any and based on which appropriate mitigation measures would be put in place.
- ii. The Pitchavaram mangroves are on the down stream of the project site. To preserve the marine flora and fauna of the region including Pitchavaram Mangroves, it is essential to maintain the optimum salinity and temperature level and water quality of estuarine water. Therefore, online monitoring of sea water quality shall be carried for salinity, turbidity and temperature at selected sites across the estuary.

- iii. On the issue of Socio-economic Impact Assessment, M/s IL&FS Tamil Nadu Power Company Ltd. stated that a budget of Rs.80.0 crore has been earmarked for undertaking CSR activities including welfare measures of fishermen communities. The Committee observed that environmental issues invariably involve livelihood issues. Further, against land acquisition issues for which Project Affected People are identified, the question of impacts on traditional fishermen community are mostly missed out since land is not involved in their case.
- iv. In the public hearing proceedings for the project, the issue of impacts of the project on fisheries was also raised. A project of such a large magnitude cannot ignore the impact on fishing community and therefore the EAC suggests that marginalized section of society (particularly traditional fishermen community) shall be identified based on 2011 population census data. The fishermen should be identified based on their strata of subsistence fishing and commercial fishing and impact on their livelihoods shall be studied and appropriate welfare scheme/measures shall be undertaken.

18. Then the representative of the Appellants, Shri Ritwick Dutta, was asked to give his views on the RCEIA. Shri Ritwick Dutta submitted written submissions. The Chairman asked whether the Project proponent had been provided with a copy of the same. It was clarified that no copy had been provided of the written submissions to the project proponent. The Chairman asked Shri Ritwick Dutta to provide a copy of the written submission to the project proponent and also to the members of the EAC.

19. Shri Ritwick Dutta submitted the following views:-

- i. Entire EIA and EC granted to the project are liable to be cancelled as EIA Report was prepared in a hurry to meet the legal requirement of the NGT Order with no application of mind and issues raised in public hearing were not taken into account. There was no difference between the draft EIA Report and final EIA Report after Public Hearing.
- ii. In the Public Hearing, the requirement of specific issue of Cumulative Impact Study and Regional EIA Study was expressed, which the EAC had overlooked. The Cumulative Impact Assessment is a statutory requirement required to be taken into account and is prescribed in Appendix - I at Clause No. 9 of Form -1 of the EIA Notification, 2006.
- iii. Sources of data relied upon in the said report are unverified and unreliable. Cumulative EIA report which is admittedly based on data gathered from such unverified secondary sources with no means of quality control whatsoever, the claims made thereunder cannot be accepted and the report is liable to be rejected for the reason. Further the lack of primary seasonal data would also vitiate the Report.
- iv. No data on Ozone emission levels in the report: the cumulative EIA report contains no analysis of how NOx emissions from the power plant would combine with NOx from other power plants in the area and Volatile Organic Compounds (VOC) emissions from the refinery and SIPCOT industries to increase ground level Ozone levels. It is also pertinent to note that during the summer months, when ozone levels are naturally at the highest, the prevailing wind direction is onshore would increase the probability that NOx emissions from power plant and VOC emissions from the refinery operations and SIPCOT industries would

combine to cause Ozone problems in populated areas. The report of Ohio State Study on Terrestrial Ozone was submitted to support this argument.

- v. Impact on Fisheries has been downplayed. Large amounts of water which would be sucked into would cause impact to fisheries.
- vi. Report does not take cumulative impact of Petrochemical Industries Zone into Account. Press release of 04.07.2012 indicates that Government of Tamil Nadu has sought an approval for a Petroleum Chemicals and Petrochemical Investment Region in Cuddalore area. This has not been taken into account in the Cumulative impact assessment report.
- vii. Cumulative impact of brine discharge on marine ecology has not been adequately refuted. The written submissions also refer to chemicals that could be used for Chennai plant and also mentions that coral reefs would be impacted due to change in temperature.
- viii. Shri Dutta cited judgments of the Delhi High Court and Himachal High Court, wherein, he stated that these High Court judgments specifically mention that it is the duty of the EAC to indicate as to how the objections raised in Public Hearing was dealt with and the response of the project proponent to the said objections. The Hon'ble High Courts have held that "failure to give such reasons would render the decision vulnerable to attack on ground of being vitiated due to non-application of mind to relevant materials and therefore arbitrary".
- ix. Shri Dutta also submitted his observations on the cumulative impact assessment study along with copies of the various judgments of the Courts and reference material on adverse impact on environment due to pollution parameters associated with thermal power plants for information of the Committee. A copy of the same was also served to M/s IL&FS Tamil Nadu Power Company Ltd. for submitting their response.
- x. Shri Ritwick Dutta also stated that the NGT Orders have not given any deadline for this Committee to take a final decision.
- xi. Appellant's counsel stated that the cumulative EIA report is liable to be rejected and the Environment Clearance be cancelled.

20. The Chairman after hearing the Appellant's Counsel, asked whether the project proponent's counsel has any response on the issues raised. Mr. Piyush Joshi, Advocate for the project proponent made the following oral submissions:

- i. The EAC is not a judicial body that can opine on points of law or replace the judgment of the National Green Tribunal. Presentation of legal arguments on the case to EAC and seeking cancellation of the EC negates the legal proceedings before National Green Tribunal. The arguments and prayer sought is seeking to circumvent and defeat the Judgment of May 23, 2012 of the National Green Tribunal. Para 23 of the Judgment of May 23, 2012 of the National Green Tribunal was referred to.
- ii. It is clear that the scope of the EAC's present proceedings are pursuant to the Judgment of the National Green Tribunal dated May 23, 2012 and it is limited to the review of the EC based on the cumulative impact assessment study and stipulate additional environmental conditions, if any.

- iii. EIA Report was not done in a hurry. It took almost two years. TOR was issued in 2008. The submitted EIA report was reviewed in two sittings of EAC and then the EC was granted in 2010. An entire addendum to the EIA Report was prepared and submitted.
  - iv. The issue of nature of data and scope of the cumulative impact assessment is clear from Para 20 of the Judgment of NGT dated May 23, 2012. Thus the issue of lack of data had been highlighted before the NGT. NGT directed that it is quite possible to work out likely cumulative impacts based on capacity of the coal based power plant (2x 660 MW), Nagarjuna Refinery etc., theoretically by applying mathematical models.
  - v. The issue of the time frame for the cumulative impact assessment had been clarified by the National Green Tribunal in its Order dated May 30 2011 on Application No. 25/2012. The civil work was directed to remain suspended on grounds that it can be completed and planned before monsoon season hits the region by mid September and a rapid cumulative impact assessment study can be completed before that.
  - vi. In relation to veracity of information issues raised, it has to be considered that all information is from Government authorities like TNPCB, MOEF, TN Fisheries Department, etc and established sources such as Annamalai University. In relation to the case law submitted there are other judgments of the Supreme Court of India that hold that sustainable development is about striking a balance between the needs of society and preservation for future generations.
  - vii. It was pointed out that Ozone is not a parameter for impact assessments of power projects in India and was not even raised as an issue during the entire legal proceedings before National Green Tribunal. Studies of Ohio State cannot be used as law/regulations in India. Also Ozone is not a stack emission and ozone can be monitored during regular monitoring of ambient air quality after the project is operational.
  - viii. The Petroleum Chemical & Petrochemicals Investment Region (PCPIR) being proposed is only a project announcement after the rapid cumulative impact assessment report had already been submitted. Furthermore, there is no master plan or any specific approvals or basic data in relation to the proposed PCPIR. Cumulative impact assessment report cannot take into consideration such project announcements. In relation to PCPIRs, the Government of India announced the policy in 2005 and about six PCPIRs were initially announced and till date (after 6 years) not even one PCPIR has been established. The RCEIA can be carried out only for projects with technical, environment and locational details.
  - ix. The Appellants are seeking to only delay in implementation of the project and seek cancellation of EC altogether and circumvent the process directed by the National Green Tribunal.
21. After reviewing the written submissions of the Appellants and the oral submissions made by the project proponent, the following points emerged:
- i. The arguments against grant of EC had already been heard by the National Green Tribunal and it has delivered its Judgment dated May 23, 2012 on the same. The scope of the present proceedings of EAC is as per the judgment and orders of the National Green Tribunal to review the EC in light of the cumulative impact assessment and impose additional conditions, if any.

- ii. The Appellants have been provided with a copy of the rapid cumulative impact assessment report.
- iii. The National Green Tribunal had stated that the cumulative impact assessment would be based on available information and through mathematical modelling. The need to undertake a rapid cumulative impact assessment before the onset of monsoon season in mid September had also been recorded by the National Green Tribunal in its Order of May 30, 2012.

22. The Committee deliberated the judgments of the NGT in the present matter. The Committee suggested that the project proponent need to acknowledge the good points made in the present case. The proponent should establish a well equipped environmental laboratory for long term monitoring of sea water and sediment qualities in the impacted zone to take mitigation measures if there are any negative impacts.

23. The Committee observed that prima facie, the various studies made for the project appears to be adequate and felt that no purpose in particular of environmental and social concerns will be solved by further delaying in implementation of the project. As directed by NGT, the MoEF shall initiate a Carrying Capacity Study taking into account the assimilating and supportive capacity of the region. The information used during the time of the appraisal of the projects from environmental angle by the EAC and MoEF should be made available in public domain including the executive summary of specific studies. The MoEF shall make available the relevant information other than EIA report and report of the Public Hearing considered during the appraisal of the project through its website. The MoEF should upload from time to time the compliance status of the stipulated conditions during the grant of environmental clearance to the projects. The project proponent must also upload the compliance status of environmental conditions including the executive summary of the specific studies carried in respect of the project and update the same periodically.

24. The Committee, therefore, recommended continuation of the project and upheld the environmental clearance accorded on 31.05.2010 subject to further compliance to stipulation of the following additional conditions:

- i. Maintaining optimum sea water quality is necessary to preserve the marine flora and fauna of the region including Pichavaram mangroves. Hence, sea water quality shall be continuously monitored for salinity, turbidity and temperature at selective sites across the impacted zone. Sea water quality and sediments shall also be monitored at selective sites across the impacted zone including estuarine waters. Mitigative measures shall be taken through institutes such as Annamalai University for preservation of mangroves and their ecology. The data should be uploaded on the website and also submit to Regional Office (RO) of the Ministry every 6 months.
- ii. In order to preserve and improve the health of the Pichavaram mangroves, required maintenance dredging shall be carried out by the project proponent to keep the Vellar river mouth open at all times to ensure good tidal exchange.
- iii. To minimize entrapment of even small marine flora and fauna, state of the art low aperture intake screens with high effectiveness for impingement and entrainment and fishnet around intake shall be installed.
- iv. Fish catch along the impacted zone of sea should be monitored periodically by the Department of Fisheries, Government of Tamil Nadu..

- v. Due to the port projects, shoreline erosion has been predicted in the marine studies. In order to stabilize the shoreline and control the erosion, sand bypassing needs to be carried out on the northern side of the project.
  - vi. As per RCEIA, in 4 out of 30 receptor locations, the resultant SO<sub>2</sub> concentration could exceed the NAAQS 2009 marginally on rare occasions. As a measure of abundant caution, the project proponent should install Flue Gas De-sulphurisation system (FGD) to reduce the overall stack emissions of SO<sub>2</sub>. The waste stream if any from the FGD should be disposed in an environmentally sound and safe manner.
  - vii. The project proponent shall upload environmental quality monitored data on a regular basis on its website.
  - viii. Marginalized section of society particularly traditional fishermen communities shall be identified based on 2011 population census data and socio-economic study of the various strata of families such as those carrying out subsistence fishing, commercial fishing etc. shall be carried out and impact on their livelihoods shall be assessed separately. Accordingly, sustainable welfare scheme/measures shall be undertaken and status of implementation shall be submitted to the R.O. of the Ministry within six months.
  - ix. A study on the identification of local employable youth shall be immediately carried out and training shall be imparted for eventual employment in the project itself. The status implementation shall be submitted to the R.O. of the Ministry within six months.
  - x. Since the dredged material will be dumped 13 km away from the dredging site, the quality of sediments at the dumping site in sea should be monitored periodically and its impact on benthic fauna, if any, should be mitigated.
  - xi. To address the apprehensions raised by the Advocate of the Appellants, the project proponent should establish a state-of-the-art environmental laboratory at the project site for long term monitoring of sea water quality and sediment in the impacted zone and air quality in the area. The proponent shall undertake mitigative measures if there are any negative impacts
25. The Committee recommended that the Ministry may accordingly suitably amend/ prescribe the above mentioned additional conditions in the environment clearance already accorded for the project. The Committee also recommended that the Ministry shall take early action in compliance to the directions contained in the Order issued by the NGT.

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