

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH AT NEW DELHI,
NEW DELHI**

Appeal no. 50/2012

In the matter of:

1. T. Muruganandam
S/o M. Thangarasu
No 22, Old Colony Street, Killai Village & Post
Chidambaram Taluk, Cuddalore District, Tamil Nadu
2. T. Arulselvam
S/o G. Thirunavukkarasu
No 6, Nainarpet Street, Naduverpattu Post
Cuddalore Taluk & District, Tamil Nadu
3. S. Ramanathan
S/o P. Subramaniyan
No 74, South Street, Semmankuppam Village
SIPCOT Post, Cuddalore Taluk & District
Tamil Nadu

..... Appellants

Versus

1. Ministry of Environment & Forests
Through the Secretary
Paryavaran Bhawan, CGO Complex
Lodhi Road, New Delhi 110003
2. Tamil Nadu Pollution Control Board
Through the member Secretary
76, Mount Salai, Guindy,
Chennai – 600 032
3. M/s IL&FS Tamil Nadu Power Company Ltd.
B- Block, Navins Presidium, 4th Floor
103, Nelsom Manickam Road, Aminjikarai
Chennai – 600 029

Counsel for appellant:

Mr. Ritwick Dutta Advocate
Ms. Preeta Dhar Advocate

Counsel for Respondents:

Mr. Vikas Malhotra, Mr. M.P. Sahay
Advocates for respondent no. 1

Mr. C.S. Vaidyanathan Sr, Advocate, Mr. Piyush Joshi

Ms. Sumiti Yadav and Ms. Nimisha S. Dutta
Advocates for Respondent Nos. 2 & 3

Present:

Hon'ble Mr. Justice Swatanter Kumar (Chairperson)

Hon'ble Mr. U.D. Salvi (Judicial Member)

Hon'ble Dr. D.K. Agrawal (Expert Member)

Hon'ble Mr. Ranjan Chatterjee (Expert Member)

JUDGMENT

Per U.D. Salvi J.(Judicial Member)

Dated: 10th November, 2014

1. A trio has challenged the Order dated 14th August, 2012 being a Corrigendum to the Environmental Clearance granted to Respondent No. 3- M/s IL&FS Tamil Nadu Power Company Ltd. by the Respondent No. 1- Ministry of Environment and Forests for setting up of 2x600 MW and 3x800 MW imported Coal Based Thermal Power Plant at villages Kottatai, Ariyagoshti, Villianallur and Silambimangalam in Chidambaram Taluk, Cuddalore District, Tamil Nadu and prayed for directions to the Respondent No. 3 to re-conduct the cumulative impact assessment study as per universally accepted scientific parameters and for further directions to the Respondent No. 1 to re-appraise the grant of environmental clearance granted in light of such cumulative impact assessment study.

2. The Appellant No.1- T. Muruganandam claims to be resident from village Killai affected by the project of the Respondent No. 3 to establish and run Coal Based Thermal Power Plant in the region. He is also an ex-president of fisherfolks panchayat- Meenavar Grama Panchayat from the region, and sees the natural rights of the fishermen and the self sustainability of his village in jeopardy being adversely affected by the project.
3. The Respondent No. 2- T. Arulselvam is the coordinator of SIPCOT Area Community Environmental Monitors (SACEM), a community-based group involved in environmental monitoring and reporting activities in the SIPCOT Chemical Complex of Cuddalore, due to the efforts of which the said SIPCOT area was declared a critically polluted region. The Appellant No.3- S. Ramanathan, one of the founding members of SACEM, claims to be resident of Semmankuppam village a village worst affected due to the pollution from the Chemical units in SIPCOT region.
4. Initially, Environment Clearance to the said project was granted on 31st May, 2010. The Appellants herein challenged it before this Tribunal on several grounds, inter-alia, for the lack of a cumulative impact assessment study. This Tribunal after hearing the parties delivered a judgment dated 23rd May, 2012 and 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.”

5. The Respondent No. 3 filed the Review Application No. 25 of 2012 and prayed for abeyance of the order of suspension on the ground that complete stoppage of work at the project site before the onset of monsoon season would cause environmental damage at the site. This Tribunal after hearing the parties and considering the records declined to oblige the Respondent No. 3 with the following observations:

“The monsoon season in the region where the proposed project is to come up begins generally during late September and rapid cumulative impact assessment study can be planned before the onset of monsoon. In view of the importance of cumulative impact study in decision making in the case on hand and the logistic reason with regard to completing the civil works, we see no reason to provide relief as sought in the application. However, the applicant can proceed with the plantation of mangroves and development of green belt as proposed in the work plan. No other civil engineering and coal based thermal power plant related construction work should be carried out in the meantime.”

6. It is the case of the Appellants that the crucial cumulative impact assessment studies were hurriedly carried out by the Respondent No. 3 within two weeks without adhering to the universally accepted scientific parameters; and the EAC without any application of mind to the objections raised by the Appellants to the Cumulative Impact Assessment Report prepared by the Respondent No. 3 proceeded to recommend the project for Environmental Clearance with some cosmetic additional conditions, and the Respondent No. 1 acted upon such professedly additional recommendations to order corrigendum to the Environmental Clearance to the said

project on 14th August, 2012. It is this corrigendum which is challenged before us.

7. In reply the MoEF submitted that this Tribunal instead of quashing the EC dated 31st May, 2010 ordered its review based on Cumulative Impact Assessment Study and granted liberty to stipulate additional environmental conditions, if required, and pending this review suspended operation of EC. The MoEF further hinted at the observations made by this Tribunal vide order dated 30th May, 2012 that “ *Rapid Cumulative Assessment Study can be planned and completed before the onset of monsoon*” to explain the speed with which the impugned rapid Cumulative Environmental Impact Assessment study was carried out and submitted before it on 21st June, 2012. The MoEF further contended in its reply that it is after hearing and deliberating upon the submission made by the rival parties the appellant and Project Proponent the EAC observed that prima-facie the various studies made for the project appeared to be adequate and had recommended the continuation of the project, subject to additional conditions; and the MoEF had accepted the recommendations of the EAC and issued the corrigendum to the EC in question.

8. Quoting the additional conditions imposed on the project proponent and with reference to the minutes of meetings of the EAC dated 25th June, 2012 and 16th August, 2012, the MoEF contended that the Impugned Corrigendum was issued after due consideration of the data and findings of the Cumulative

Impact Assessment Study Report as well as the issues raised by the appellant before the EAC. According to the MoEF the EAC had taken a well informed decision and specifically taken note of positive points raised by the appellant while directing the project proponent to acknowledge the same and establish a well-equipped environmental laboratory for long term monitoring of sea water and sediment qualities in the impacted zone and to take mitigative measures in relation to the negative impacts of the project. The MoEF further contended that the appellants were estopped from reagitating the same issues agitated in Appeal 17 of 2011(T). In its view, the mathematical model adopted by the project proponent for working out the cumulative impacts is in consonance with the judgment dated 23rd May, 2012 of this Tribunal in Appeal No. 17 of 2011(T) to which no challenge was filed by the appellant; and the reappraisal of the project has been rightly done by the Expert Appraisal Committee. The Respondent No. 1 also referred to initiation of the 'carrying capacity study' as directed by this Tribunal.

9. The Respondent No. 2 Tamil Nadu Pollution Control Board placed before us certain facts and urged for justice in the present case. The Respondent No. 2 revealed that it had issued Consent to Establish to 2x600 MW Coal based thermal power plant and 12 MLD desalination plant with certain conditions- vide Board proceedings dated 14th June, 2011 under the Water (P&CP) Act 1974, as amended and Air (P&CP) Act 1981, to the

unit of the Respondent No. 3 M/s IL & FS Tamil Nadu Power Company Ltd. in response to their application to establish 3x600 MW capacity imported coal based thermal power plant, more particularly prioritized establishment 2x600 MW plant immediately at Kothattai, Ariyagoshti, Villanur and Silambimangalam villages Chidambaram Taluk, Cuddalore District. It further revealed that following the suspension of the EC vide order dated 23rd May, 2012 passed in Appeal No. 17 of 2011(T), the works at the project site were completely stopped on 26th May, 2012; and the works were resumed on 22nd August, 2012 only after the corrigendum dated 14th August, 2012 stipulating 11 new conditions to the EC accorded to the project was issued by the Ministry of Environment and Forests. The details of further works noted during the inspection of the unit done by the district Environmental Engineer of the Respondent No. 2 Board on 19th October, 2012 were also revealed in the reply.

10. According to the Respondent No.2 the Rapid Cumulative Environment Impact Assessment Study carried out by the Respondent No. 3 Project proponent covered the industrial activities within a radius of 25 kms. from the project sites including SIPCOT Industrial Complex Chemplast Sanmar Ltd, Cuddalore Power Company Ltd, Nagarjuna Oil Corporation Ltd, SRM Energy Ltd, Textile park and Good Earth Ltd. and the same was placed before the Expert Appraisal Committee in its meeting held on 25th June, 2012 and 16th July, 2012; and after

the review of the RCEIA Study, submissions made by the Appellants and the project proponents and detailed deliberations during the said meetings the Expert Appraisal Committee had recommended stipulation of additional conditions to the Environmental Clearance granted to the project on 31st October, 2010. The Respondent No. 2 further revealed that SIPCOT Industrial Complex Phase I and Phase II at Cuddalore, was categorized as critically polluted industrial cluster having Comprehensive Environment Pollution Index (CEPI) score 77.45; and the Ministry of Environment and Forests, Government of India had imposed moratorium on Environmental Clearance for the new projects and the expansion on the 43 critically polluted clusters on 31st January, 2010 in order to stipulate the environmental remediation/mitigation activities by the industries as well as State Governments concerned. Short term and long term action plans were prepared by the Board to monitor and improve the quality of Water and Air Environment and steps were taken towards its implementation. The Comprehensive Environment Pollution Index (CEPI) score after installation and implementation of pollution control measures was calculated as 54.69 and as such the Ministry of Environment and Forests; Government of India had lifted the moratorium on 15th February, 2011.

11. The Respondent No. 3 IL & FS Tamil Nadu Power Company Ltd.- the Project Proponent objected to the Appeal at its very

threshold with statement of objections dated 15th October, 2012. Adverting to para 23 of the Judgment dated May 23, 2012 in Appeal No. 17 of 2011(T) and the various orders of this Tribunal passed thereafter in relation to the said project the Respondent No. 3 contended that this Tribunal had not felt the need of quashing the EC granted by the MoEF it being by and large in consonance with the EIA process as required under EIA notification 2006, and the said verdict attained finality not being challenged by the appellants any time thereafter except the present Appeal. The Respondent No.3 questioned the competence of this Tribunal to review or Appeal over its own Judgment dated May 23, 2012. According to the Respondent No. 3 examination of the issue of the manner of conducting CIA and substitute the directions provided in para 20 of the said Judgment with new directions of conducting CIA as per *“universally accepted scientific parameters”* will not only invoke the exercise of review jurisdiction of this Tribunal but also amount to sitting in appeal over the Judgment/orders in relation to the said project.

12. According to the Respondent No. 3 there are no stipulated methodology/technologies/parameters under Indian Environment Legislation Scenario and there are no known *“universally accepted scientific parameters”* for (CEIA) study. The Respondent No. 3 submitted that under section 22 of the NGT Act, 2010 the appeals from the Judgments would lie to the Supreme Court of India and this Tribunal as indicated above

cannot sit in Judgment over its previous Judgment. Referring to para 20 of the Judgment dated May 23, 2012 in Appeal No. 17 of 2011(T) and the orders dated 30th May, 2012, 24th July, 2012, 9th August, 2012 in Application No. 25 of 2012, the Respondent No. 3 contended that this Tribunal accepted CIA study to be undertaken using mathematical models theoretically based on available information within a time frame that is before onset of monsoon of the year 2012 in Cuddalore region. The Respondent No. 3 further contended that the appellants were questioning the veracity of the data relied upon in the rapid cumulative impact assessment study and were seeking to claim that primary data needs to be gathered for such a study; and such claim was raised and specifically decided by this tribunal in para 20 of the Judgment dated May 23, 2012 and as such the plea in that regard cannot be reheard in the present Appeal. The Respondent No. 3 further contended that the impugned order of passing a corrigendum is not an order covered by the provisions of Section 16 of the NGT Act, 2010 and neither it can be a subject matter of dispute under Section 14 of the NGT Act, 2010, more particularly when it is not a order granting the Environmental Clearance to the project and merely a corrigendum thereto, stipulating the additional conditions to already existing Environmental Clearance.

13. In reply, the Respondent No. 3, besides reiterating exceptions taken to the admission of the Appeal countered the grounds of the appeal specifically. According to the Respondent

No. 3, on completion of the rapid cumulative assessment as envisaged in the order of this Tribunal dated 23.05.2012 it has submitted its report together with updated environment assessment report and its executive summary to the EAC and Ministry of Environment and Forests (MoEF) with a copy to the Respondents; and the said report in Chapter-3 identified the major projects/industrial activities in various stages of implementation within a radius of 25 km from ITPCL and the cumulative impact of these had been studied as part of the report:

1. Cuddalore Minor Port.
2. SIPCOT Industrial Complex.
3. Chemplast Sanmar Limited (CSL).
4. Cuddalore Power Company Limited (CPCL).
5. Nagarjuna Oil Corporation Limited (NOCL).
6. SRM Energy Limited (SRMEL).
7. SIMA Textile Processing Park.
8. Good Earth Limited

Likewise, the Respondent No. 3 added that in chapter-6, the major industries/projects having no marine facilities as mentioned herein above within radius of 25 km of ITPCL were identified and the cumulative impact of these particularly on the marine environment had been studied and made part of the cumulative marine environmental impact assessment in the report.

14. To counter the ground of the appeal that the MoEF and EAC had not applied its mind to the rapid cumulative impact and

had failed to give reasoned decision, the Respondent No. 3 quoted facts regarding the opportunity given to the Appellant's Counsel to make submission over considerable length of time i.e. 2 hours on 25.06.2012 and more than 3 hours on 16.07.2012 from the observations recorded by the EAC in its minutes of 53rd meeting held on 16.07.2012 at para 17 to 24. These facts, according to the Respondent No. 3, clearly show that there was meaningful hearing affording fair and reasonable opportunity to the Appellants to present their point of view. The additional conditions recommended by the EAC, the Respondent No. 3 added, provided reasoning and basis for its imposition. Use of term, *prima facie*, "in para 23rd of the minutes as suggested by the Appellant as indication of non-application of mind, the Respondent No. 3 submitted, is wholly misleading and erroneous, and minutes are required to be read wholly and not in parts".

15. Quoting from 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 Respondent No. 3 submitted that the principles of sustainable development and precautionary principle clearly stipulate the need to balance environmental concern with that of developmental requirements. Replying to the objections that there was no data on the ozone levels in the report, the Respondent No. 3 submitted that the ozone is not a parameter for impact

assessment of power projects in India and submitted that studies of State of Ohio cannot be used as law/regulations in India. According to the Respondent No. 3, the formation of ozone in the presence of sunlight and oxidants like NOX is not a steady formation and it is not emitted through stack, and hence cannot be modelled. The Respondent No. 3 further added that the formation of ozone is near ground as a result of the leakages, and as such it is a 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 occurrences to generate smog for long hours during summer time; and ground based inversion in Tamil Nadu region is only 15% and 12% during January and February respectively with non-existent or rare inversion in other months and as such no comparison of Ohio can be made with Cuddalore area. Citing CPCB study for Kolkata where concentrations of ozone in ambient air in industrial/residential area had remained well within NAAQS 2009 standards for all season of the year despite high NOX and VOC concentration in ambient air the Respondent No. 3 submitted that with low concentrations of VOC and NOX in study area expected concentration of ozone was to be much lower than the NAAQS 2009 standards irrespective of the level of industrialization there. In such circumstances, the Respondent No. 3 contended that there was no need for predicting ozone levels for their mitigation in the cumulative environmental impact assessment study.

16. The Respondent No. 3 further contended in its reply that there were no universally accepted norms of cumulative impact assessment study, and the foreign cases cited by the Appellant are piecemeal reproduction of concept of cumulative impact assessment without any linkage to the Indian context. According to the Respondent No. 3, the carrying capacity analysis and cumulative impact studies are distinct in as much as the carrying capacity analysis is a tool for planning environmental sustainable development of the region, whereas CEIA is a tool for environmental impact prediction due to a number of proposed developmental projects. The Respondent No. 3 further contended in its reply that the moratorium of industrialization in Cuddalore area had been lifted by the MoEF in light of the restriction of CEPI score in the area in 2010 – 2011 at 54.69 after installation and commissioning of pollution control equipments/measures and in fact CEPI score was 35.88 as per the study carried out by NEERI.

17. The Respondent No. 3 further contended that the mathematical modelling based on available data as intended by this Tribunal at para 20 of its judgment dated 23.05.2012 in Appeal No. 17/2011 cannot be assumed to go against the directions therein; and the RCEIA report has used internationally accepted mathematical models such as MIKE 21, DHI-LITPACK-LITLINE, etc. for assessing cumulative impact of existing and proposed marine and coastal infrastructure of industries in the study area of 25 kms. radius from the project

site and the capacities of various projects/industrial activities such as discharge volume and temperature and salinity difference for discharges from eight marine outfalls (brine/warm water/trade effluent) vis-à-vis sea water had been taken into account and modelled for impact. The Respondent No. 3 added that annual northerly and southerly drift in respect of two port projects along with areas of attrition and deposition were determined in order to determine cumulative impact on marine environment. In addition capital and maintenance dredging quantities, method and point of disposal and impact of disposal were also taken into account. In light of these facts, the Respondent No. 3 contended that it was misleading to submit that the study methodology adopted was faulty and incorrect.

18. The Respondent No. 3 further contended that raising of contention that there was need of joint sitting of EACs to appraise the cumulative impact on environment in the present case is an attempt to litigate on policy issues which cannot be a subject of the present appeal.

19. The Respondent No. 3 further contended that the cumulative impact assessment was undertaken with utmost diligence based on reliable data which was publically available for industries in between years 2007 and 2012 and as no major project had been commissioned in the given area during the said period there would not have been any substantial change in ambient air quality and as such the linear extrapolation to

2012 is acceptable methodology. The Respondent No. 3 further submitted that the various data considered for the rapid cumulative impact assessment report was collected from the following sources:

- Details of industries existing within 25 Km radius from Tamil Nadu Pollution Control Board (TNPCB).
- Industries proposed within 25 km radius were collected based on Environmental Clearances and Terms of Reference issued by Ministry of Environment and Forests (MoEF) to the respective industries.
- Baseline Terrestrial Environmental Data from the primary data generated during course of respective EIA studies of the industries proposed within 25 km radius. The data was collected from EIA reports approved by TNPCB and MoEF.
- Baseline Marine Environmental Data was collected from Centre for Advanced Studies in Marine Biology (CASMB), Annamalai University, Parangipettai from the primary surveys carried out in the project region.
- Meteorological data were obtained from LAGAS system.
- Details pertaining to emissions and wastewater discharges were collected from the accepted EIA reports and Status report on the implementation of the action plan for critically polluted industrial clusters, SIPCOT industrial complex Phase I and II by TNPCB.
- Socio-economic data was collected from Census Department and socio-economic impact from the approved EIA Reports.
- Corporate Social Responsibility (CSR) committed by the individual industries in their respective EIA Reports.

According to the Respondent No. 3, further reliable data or information was not possible to be obtained by a single project proponent despite due diligence. The Respondent No. 3 disputed the fact that the ambient air quality study was incomplete and did not constitute a cumulative impact study. As regards the SO₂ emission the condition recommending installation of flue gas de-sulphurisation system was sufficient to take care of any adverse

environmental impact likely to take place on that count. The Respondent No. 3 contended that the air modelling had taken into account all the factors such as emission from ash disposal and transportation, coal handling and coal storage, traffic emissions; and there were mitigative measures such as dust suppression system with water sprinkling arrangement for coal handling, and storage and sale of fly ash to the cement plants, as well as collection and transportation of bottom ash in slurry form to ash pond through closed pipes and minimal traffic on asphaltic concrete roads of all the vehicles compliant with exhaust emission standards. The Respondent No. 3 further pointed out that the coal transport was to be by ship to the plant and no further, and as such was not expected to have any impact on air quality, and the air quality modelling study had taken into consideration the principal source of stack emission.

20. According to the Respondent No. 3, there are very few mangroves at the Vellar River which do not come under the category of ecologically sensitive area as notified by the Government of India, and the modelled air quality result at Port Novo and Vathiapalli corroborated that the air quality of the region is well within the limits, particularly, SO₂ emission effect would be minimal below NAAQS, 2009 standards for ecologically sensitive area; and the Annamalai University was to be engaged for monitoring the impact on mangroves and advise regarding its conservation from time to time, to ensure measures for protection of Pichavaram Mangroves.

21. The Respondent No. 3 further disputed that cumulative environment impact study is incomplete and pointed that the report discusses the impact of shoreline erosion and dredged material disposal from project and other projects in detail at section 6.6.2, 6.6.4 of RCEIA report, and marine modelling studies were carried out considering the shoreline changes and disposal of dredged material. The Respondent No. 3 further added that based on marine modelling studies, heavy metals, petroleum hydrocarbons, oil and grease and phenol were found to be in trace quantities which would not alter the chemistry of water at the disposal site and as the dredged material does not have toxic substances, no negative impact on the flora and fauna can be assumed. As regards, marine mammals, coastal water of Cuddalore is not the natural habitat and there could be occasions of marine mammals being stranded and rarely sighted as mentioned in the article cited in the appeal.

22. The Respondent No. 3 further contended that the data collected during the study indicated movement of two ships per day for all the projects situate within 25 km radius of the project and the concerns regarding the fish were duly answered with the imposition of fourth additional condition of the MoEF in corrigendum for monitoring of fish catch along the impacted zone of sea monitored periodically by the Department of Fisheries, Government of Tamil Nadu.

23. Controversy thus raised warrants answers to the following pertinent questions:

1. Whether the Appeal is maintainable in law?
2. Whether the review of the EC done by the MoEF on the basis of Cumulative Impact Assessment Study conducted by the Respondent No. 3-the Project Proponent and the recommendations of EAC is proper?

Point Number I: Maintainability of the Appeal

24. Legal exceptions to the maintainability of the present Appeal are raised on two counts:

1. The Appeal lies to the Hon'ble Supreme Court of India against the impugned order and the Tribunal cannot re-write its own Judgment.
2. The Appeal is not maintainable under section 16 as well as under Section 14 of the NGT Act, 2010.

25. Referring to the prayers made in the Appeal and the Judgment dated 23rd May, 2014 in Appeal No. 17 of 2011 as well as orders passed in Application 25 of 2012, the project Proponent submitted that the Appeal attempts to persuade the Tribunal to re-write its own Judgment dated 23rd May, 2012 disposing of the Appeal 17 of 2011. This calls for examination of the prayers made in the present Appeal in light of the Judgment and the orders referred to by the Project Proponent. The appellants are seeking:

- a. The quashing Of the Order dated 14-08-2012 being a "corrigendum" to the Environmental Clearance granted to the Project Proponent.

b. Directions to the Project Proponent to re-conduct the Cumulative Assessment study as per universally accepted scientific norms.

c. Directions to the MoEF to reappraise the grant of EC granted in light of the EIA Study in question.

26. Certainly, the Appeal against the Judgment dated 23rd May, 2012 passed in Appeal 17 of 2012 was required to be preferred to the Hon'ble Supreme Court as per Section 22 of the NGT Act, 2010. However, it needs to be noted that what is assailed in the present Appeal is the corrigendum dated 14-08-2012 which is issued upon the RCEIA study in question and not the Judgment dated 23rd May, 2012 passed in Appeal 17 of 2012. Submissions made on behalf of the project proponent questioning the propriety of RCEIA Study to study the cumulative impacts firstly, on the grounds of its legal requirement and secondly on the grounds of its location falling outside 10 km radius of proposed coal based thermal power plant developed by Cuddalore Co. Pvt Ltd and the Nagarjuna Oil Refinery have been duly answered and finally put to rest in para 19 and 20 of the Judgment dated 23rd May, 2012 which are reproduced hereunder:

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 or 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 in the vicinity. We, therefore, direct that cumulative impact assessment studies be carried out by the Project Proponent especially 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 25 Km from the power project of M/s. IL& FS Tamil Nadu power Co. Ltd. 3600 MW) and be submitted to MoEF for review of Environmental 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.

27. Referring to the Para 23 of the Judgment dated 23rd May, 2012 incorporating the directions in the Appeal No. 17 of 2011 and the Orders dated 24th July, 2012 and 9th August, 2012 in Application 25 of 2012 which reiterated the direction given to the MoEF to review the EC on the basis of Cumulative Assessment study and if necessary to stipulate additional conditions and the directions to suspend the EC granted till the decision of the MoEF; the project proponent contended that it amounts to re-writing its own final judgment dated 23rd May, 2012.

28. Weight of this submission can be assessed on the holistic view of the Judgment dated 23rd May, 2012. The Appeal 17 of 2011 was preferred to assail the EC granted to the proposed Coal Based Thermal Power Plant of the Project Proponent at Cuddalore on the basis of the concerns raised in relation to adverse impact on marine environment and fishermen community, anticipated environmental pollution due to proximity to SIPCOT Chemical commercial complex, increase in sea water temperature due to discharge of cooling water from the power plant and its impact on marine life, lack of Cumulative Impact analysis etc. The appellant, it appears, contended that the EAC and MoEF had not properly considered the following main issues before granting Environmental Clearance,

A. Power plant location in violation of citing Criteria for Thermal Power Plant, being within 25 kms. of ecologically sensitive area of Pichavaram Mangroves.

B. Lack of Cumulative impact assessment.

C. Lack of consideration of the views and objections raised during public hearing by EAC and MoEF.

D. Non publication of all the material studies and reports, 30 days before the public hearing.

In response it appears from the judgment, the MoEF submitted that the TORs given to Project proponent included cumulative impact on the Environment (Air, Water, Noise, Soil, Socio-economic aspects etc.) inclusive of the impact of the existing units located within 10 KM radius on recommendations of the EAC for the preparation of EIA report and Environment Management plan; and on the consideration of the Environmental issues such as, likely adverse impact due to discharge of brine from the desalination plant on marine ecology, the EAC had stipulated specific conditions in the EC adequately addressing the necessity of regeneration and protection of existing fragile Economic system such as marine flora and fauna due to brine water discharge etc.

29. Besides relying upon several documents and raising contentions in relations to the scope of section 11 of NEAA Act, 1977 and the limitations prescribed there under as well as the locus standii of the applicant to file an Appeal, the project proponent- the Respondent therein contended that there is no

mandatory legal requirement under EIA Notification 2006 or other applicable Indian Law for carrying out “cumulative impact assessment” of the projects. The Project Proponent further urged that there is no question of cumulative impact assessment as the project site of power plant was falling outside 10 Km radius of proposed Coal Based Thermal Power Plant being developed by Cuddalore Company Pvt. Ltd. and the Nagarjuna Oil Refinery being developed in SIPCOT area. The Project Proponent reiterated the stand of EAC and submitted that the MoEF had taken into account the concerns expressed in public hearing and applied its mind before granting impugned EC to the Project.

30. After hearing the parties this Tribunal in its wisdom had made the aforesaid observations *and* partially allowed the Appeal No. 17 of 2011 with the following directions:

23. As we are convinced that EC to the proposed project was granted by and large in consonance with the EIA process as required under EIA notification, 2006, we do not feel any necessity to quash the EC granted by MoEF. However, we direct the MoEF to review the EC based on the cumulative impact assessment study and stipulate an additional environmental conditions, if required. Updated EIA report 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.

31. Evidently, the Tribunal directed the review of the Environmental Clearance on the basis of cumulative Impact assessment study in order to arrive at adequate mitigative measures and environmental safeguards for the purposes of avoiding adverse impacts on ecologically fragile eco-system at the place of project. Though necessity to quash the EC was not felt by the Tribunal, the Tribunal suspended the EC. This is recognition of the fact that the Tribunal could see the need for correction in light of proper cumulative Impact Assessment Study of the ecologically fragile eco-system where the project in question was to come before the project was given green signal upon the EC in question. This in our considered opinion does not prompt re-writing of its own Judgment.

32. In this context it would be worthwhile to go through para 7 of the EC Regulations, 2006 which elaborately set out stages in the process of granting EC for new projects. Reading of para 7 of the Regulations reveals four material stages in the said process namely, Screening, Scoping, Public Consultation and Appraisal. Observations made by the Tribunal in the Judgment dated 23rd May, 2012 clearly reveal that despite there being declaration in Form-1 column 9.4 regarding the cumulative impact due to proximity of other existing or proposed projects, the EIA report which forms material parameter of the appraisal required to be done by the Expert Appraisal Committee revealed no

cumulative impact assessment. How material is the EIA report in the stage of appraisal can be gathered from reading of :

“ stage(4)-Appraisal-(i) Appraisal means the detail scrutiny by the Expert Appraisal Committees or State Level Expert Appraisal Committee of the application and other documents like the Final EIA report, outcome of the public consultations including public hearing proceedings, submitted by the applicant to the regulatory authority concerned for grant of environment clearance. This appraisal shall be made by the Expert Appraisal Committee or State Level Expert Committee concerned in a transparent manner in a proceeding to which the applicant shall be invited for furnishing necessary clarifications in person or through an authorised representative. On conclusion of this proceedings, the Expert Appraisal Committee or the State Level Appraisal Committee concerned shall make categorical recommendations to the regulatory authority concerned either for grant of prior environmental clearance on stipulated terms and conditions, or rejection of the application for prior environmental clearance, together with reasons for the same.” Recommendation for EC which result from such appraisal are required to be considered by the Regulatory Authority, in the present case-MoEF and normally the Regulatory Authority accepts the recommendations but upon disagreement it

would request its reconsideration by the Expert Appraisal Committee vide Para 8(ii) of the EC Regulations 2006. Pertinently para 8(xi) of the Regulations 2006 conceives of cancellation of prior EC granted on the basis of deliberate concealment and/or submission of false or misleading information or data which is material to screening or scoping or appraisal or decision on the applications. This underlines the importance of the data, particularly, the data concerning the Environmental impact assessment; and if the data furnished lacks material things either due to deliberate concealment or submission of false or misleading information for the purposes of screening, scoping or appraisal or decision on the application for EC, even prior EC granted on the basis of such data is vulnerable to its cancellation.

33. In the instant case the Tribunal found EIA study lacking in material data concerning cumulative impact assessment. Recommendation for granting EC on such basis, though the Tribunal did not observe any deliberate concealment and submission of false or misleading information or data, was found liable to be reviewed/relooked/reconsidered by the Expert Appraisal Committee on the basis of data collected upon the cumulative impact assessment study for the purpose of stipulating any additional environmental conditions, if required. Thus, there was no finality of decision of the expert appraisal

Committee in relation to the appraisal done for recommending the grant of EC.

34. The Expert Appraisal Committee, it is contended by the Project Proponent, through the process of re-appraisal of the data freshly collected by it had recommended certain terms and conditions to the Regulatory Authority i.e. MoEF. What followed was the Corrigendum dated 14-08-2012 in question. As a corollary, therefore, the impugned "Corrigendum" dated 14-08-2012 brought into existence an entirely new dispensation of Environmental Clearance.

35. Literally 'Corrigendum' means "thing to be corrected." Such correction, the subject matter of the present appeal, was the result of the review, which literally and judicially means re-examination or re-consideration, directed by the Tribunal. By directing such review, the Tribunal enjoined the Regulatory Authority to arrive at a decision on the grant of EC which was legally and properly made in order to avoid miscarriage of justice.

36. What is, therefore, now before us as a subject matter of the appeal is the order granting EC appended with the 'Corrigendum' dated 14-08-2012 which is a new configuration of an order granting EC to the industry subject to certain safeguards stipulated by way of fresh terms and conditions under the Environment (protection) Act, 1986. Evaluation of the Cumulative Impact Assessment Study and consequent corrigendum in the present appeal in our considered opinion is

not re-writing of our own Judgment and as such the order is certainly appealable under section 16(h) of the NGT Act, 2010.

37. Suffice it to say, once the law orders a particular course for getting a relief it is not open to any body to resort to any other course. Question of maintainability of the present appeal under section 14 of NGT Act, 2010, therefore, does not arise.

38. Discussion aforesaid clearly reveals that fresh dispensation of EC with the safeguards as prescribed in the Corrigendum had emerged with the issuance of the Corrigendum on 14-08-2012. Questions raised about the cumulative impact assessment study purportedly carried out by the Project Proponent and finding answers to such questions in the present appeal in no way can be said to be re-writing of the Judgment dated 23rd May, 2012. Judgment dated 23rd May, 2012 in fact reveals that the questions raised in the present appeal about the efficacy of the cumulative impact assessment study carried out by the Project Proponent were not before the Tribunal.

39. Submission of the Respondent in that regard therefore, deserves to be rejected. Point number one is therefore, answered affirmatively.

Point Number II: Broadly exceptions to the cumulative impact assessment study and its review can be categorized as under:

1. The cumulative impact assessment study carried out by the Project proponent is inadequate and erroneous for the reason

of faulty methodology adopted, and unreliable and inadequate data collected therefor.

2. There is no application of mind by the EAC in as much as there is failure to give any reasons as are required under para 7(IV) of the EC Regulations 2006.

Before we deal with these exceptions we must understand what is the Cumulative impact study; and also examine, firstly, the Cumulative Impact Assessment Study carried out by the Project Proponent and secondly, the review done by the MoEF for stipulating additional conditions. The worth of the review done depends upon the quality of work of the Cumulative Impact Assessment Study.

40. It has been the case of the appellants that the Cumulative Impact Assessment Studies were hurriedly carried out by the Respondent No. 2 without adhering to the universally accepted scientific parameters/understanding. The appellants have quoted a few guidelines: Canadian Environmental Assessment Agencies Guidelines as well as U.S Environmental Protection Agencies Guidelines to better our understanding as to the Cumulative impacts. The project proponent contended that there were no universally accepted norms of Cumulative Impact Assessment Study and the foreign cases are piecemeal reproduction of the concept of Cumulative Impact Assessment without any linkage to the Indian context. According to the Respondent No.3, the carrying capacity analysis and Cumulative Impact Assessment Study are distinct in as much

as the carrying capacity analysis is a tool for planning environmentally sustainable development of the region, whereas CEIA is a tool for environmental impact predictions due to a number of proposed projects. Admittedly, therefore, CEIA study is for predicting Environmental Impacts due to number of proposed projects. 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

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”.

43. Similarly, in the Technical EIA guidance manual for thermal power plants prepared for the Ministry of Environment and Forests, Government of India by the IL&FS Ecosmart Ltd, **a sister concern of the project proponent** in the instant case, way back in August, 2010, it is stated;

“2.8.3 Cumulative impacts

Cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIA together with other projects in the same vicinity causing related impacts. These impacts occur when the incremental impact of the project is combined with the cumulative effects of other past, present and reasonably foreseeable future projects”.....

“2.8.4 Induced impacts

The cumulative impacts can be due to induced actions of projects and activities that may occur if the action under assessment is implemented such as growth-inducing impacts and other effects related to induced changes to the pattern of future land use or additional road network, population density or growth rate (e.g. excess growth may be induced in the zone of influence around the thermal power plant, and in the process causing additional effects on air, water and other natural ecosystems). Induced actions may not be officially announced or be a part of any official announcement/plan. Increase in workforce and nearby communities contributes to this effect.

They usually have no direct relationship with the action under assessment, and represent the growth-inducing potential of an action. New roads leading from those constructed for a project, increased recreational activities (e.g., hunting, fishing), and construction of new service facilities are examples of induced actions.

However, the cumulative impacts due to induced development or third level or even secondary indirect impacts are difficult to be quantified. Because of higher levels of uncertainties, these impacts cannot normally be assessed over a long time horizon. An EIA practitioner can only guess as to what such induced impacts may be and the possible extent of their implications on the environmental factors. Respective EAC may exercise their

discretion on a case-by-case basis for considering the induced impacts.

The EIA should also consider the effects that could arise from the project due to induced developments, which take place as a consequence of the project. Ex. Population density and associated infrastructure and jobs for people attracted to the area by the project. It also requires consideration of cumulative effects that could arise from a combination of the effects due to other projects with those of other existing or planned developments in the surrounding area. So the necessity to formulate a qualitative checklist is suggested to test significance, in general.”

44. In the backdrop of this understanding **including that of the project proponent** it is necessary to evaluate the Rapid Cumulative Impact Assessment Studies carried out by the project proponent vis-a-vis the project location level of proposed projects in the area and the methodology adopted for such study. It also requires to be kept in mind that for the area in question Comprehensive Environmental Pollution Index- CEPI was 77.45 and was 16th most polluted industrial cluster in the country as per the study carried out by CPCB and Indian Institute of Technology in 2009, and was thus categorised as a critically polluted area in the country and a moratorium was imposed on all projects in the region. However, it is also revealed that this moratorium was removed following the

implementation of corrective measures taken by the State Pollution Control Board. However, a fact stands that the environment at the location of the project is susceptible to increase in pollution due to existing projects as well as the projects in offing due to declaration of PCPIR region.

45. Admittedly, the project proponent considered the data available for eight industries only whereas the appellant has revealed before us that there are at least 45 industries in 25 km radius of the project and no reasons have been given as to why the same have not even found a mention in the study. The information regarding the existing industries could have been obtained from the State Pollution Control Board which keeps eye on the industries and regulates their functioning in relation to the environment. As regards the primary baseline data for 10 km radius, the report does not make a mention of the date of sampling and location of sampling which it would have been required to make in case of EIA reports. Interestingly, the parameters of Air quality (vide table 13), Ground water quality (vide table 14) and surface water quality (vide table 15) are observed to be exceeding the prescribed national standards and even then there is no explanation or discussion made with respect to such existing parameters.

46. Para 3.6 of the report reveals that project proponent did know that 17 out of 30 industrial unit in SIPCOT industrial complex were generating trade effluents and each of them had ETP. It further reveals that 9 out of 17 industries were discharging

treated effluent into the Bay of Bengal and 8 industries were having system to achieve zero discharge. Mere acknowledgment of these facts in Rapid Cumulative Impact Assessment Report/Study is not sufficient, there ought to have been collection of data in respect of treated effluent discharged in the sea and the study of its impact on the marine environment. Furthermore, no study on impact on Air quality as a result of emissions from each of such industry has been carried out.

47. As regards the future industries which were in stage of planning, requisite information such as nature of the industrial process, product there from, likely effluents/emissions from the project, and systems to regulate such effluent/emissions and other relevant information could have been collected from the Pollution Control Board or the project proponent as declared by PCPIR and their probable impact on the environment could have been studied accordingly.

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

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 interpret 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 socio-economic 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,

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

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.

53. One of the arguments to contend that the EAC had applied its mind is the time consumed in the hearing before the EAC. We have before us the minutes of 53rd meeting of the EAC held on July 16, 2012 which reveals that on 25th June, 2012 the Project Proponent made the representation and informed the Committee about service of copy of updated EIA Report incorporating RCEIA on the appellants; and the EAC extending one more opportunity to the appellants and adjourning the proceedings to 16th July, 2012 in response to the appellant's request for time. It appears from the further reading of the minutes of the 53rd meeting of the EAC held on 16th July, 2012 that the matter was heard at length and the EAC recorded

the submissions of the rival parties. This would only mean that the opportunity of being heard was not denied by the EAC to any of the parties. It does not necessarily mean that there was application of mind to the merits and demerits of the case as expounded by the rival parties in course of hearing. This can only be understood from the EACs approach to the rival submissions and the reasons adduced by it in arriving at its conclusions.

54. Prelude to the actual hearing commencing with the appraisal of the parties with the key aspects of the NGTs Judgments is found recorded at Para 10 to 14 of the said minutes. Para 15 of the said Minutes bears record of the presentation given by the project proponent on the findings of the RCEIA Study conducted and status of the compliance of the directions of the NGT and the project site. Explanation of the Project Proponent regarding compliance of the requirements under para 11 of the judgment dated 23rd May, 2012 which refers to sitting conditions, Cumulative Assessment, project proponents response to the objections raised by public in public hearing etc. finds place at para 16 of the minutes.

55. The Committee Member's observations and suggestions based on the presentation made by the Project Proponent are shown to be recorded at the para 17 of the minutes. The Committee acknowledged the likelihood of impact on benthic flora and fauna as a result of change in sediment quality due to deposition of dredging material as well as the importance of

maintaining optimum salinity, temperature level and water quality of estuarine water for preservation of marine flora and fauna in the region including Pichavaram mangroves. The Committee further acknowledged the fact of impacts on livelihood issues due to the project, particularly as regards the fishermen community.

56. Para 19 & 20 of the said minutes bears point wise record of the submissions made by the rival parties, the appellant and the project proponent respectively. Of particular importance are the objections raised by the appellant regarding RCEIA Study- particularly, with reference to source of data, lack of primary seasonal data, absence of data on ozone level, cumulative impact of NOX emission and volatile organic compounds emission from the refinery, power plants and petro-chemical industries, Cumulative Impact of petro-chemical industries zone, brine discharge on marine ecology, changes of temperature on coral reefs etc. Countering these submissions the project proponent submitted that the RCEIA report was not done in hurry and cumulative impacts were worked out by applying mathematical models and the study was completed before monsoon season, as expressed by the Tribunal in the order dated 30th May, 2011 in Application No. 25 of 2012. The Project Proponent further submitted that the data was collected from the Government authorities and established sources like Annamalai University. The Project Proponent further elaborated that the ozone was not the parameter of power

project in India and study of US cannot be used as law/regulations in India, particularly, when the ozone was not a stack emission. As regards petroleum chemical and establishment region, the Project Proponent submitted that it was merely a project announcement and the same cannot be taken into consideration for the purpose of cumulative impact assessment.

57. In response to the submissions the EAC briefly expressed its view in following words:

“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 environment conditions including the executive summary of the specific studies carried in respect of the project and update the same periodically.”

58. On complete reading of the minutes, particularly, in reference to the rival submissions and the observations made there is no whisper of reasons which could have prompted the additional conditions for issuance of EC. How the EAC/MoEF was satisfied with the response of the Project proponent on technical issues raised by the appellants and especially mentioned at para 19(iii, iv, vi and viii) of the minutes is unclear from the record. Logic and technique which could have probably outweighed submissions of the appellants striking at the very root of Cumulative Impact Assessment Study in question is not apparent from the entire text of EAC minutes. Apparently, the EAC had acknowledged the impact of the industries in the region on the environment but had not perceived its extent and, therefore, expressed need for further monitoring of sea water and sediment quality in the impacted zone and left the mitigative measures, requisite for regulating its adverse impacts in the hands of the Project Proponent.

59. One such instance is evident from the condition number 24(i), which reads as under:

“24 (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”.

60. Most large scale coastal thermal power plants draw large quantity of water from sea for cooling purposes and dispose it back to sea; and in the process of cooling some water gets evaporated and the brine gets concentrated, the disposal of which in the sea creates high salinity plume. Without proper dilution, the brine plume tends to sink, harming the ecosystem along the way and most at risk of extinction are the benthic marine organisms living at the sea bottom. Fishes are cold blooded animals which are unable to regulate their body temperature and cannot adjust to abrupt changes in thermal environment. PH, conductivity, rate of chemical reaction, ionic movement, solubility of gas and metals, rate of BOD change due to rise in temperature. Marine water parameters can be rapidly regulated with installation of multiport diffusers at the

pipe end from where the water after cooling is returned to the sea.

61. RCEIA Study is expected to give clear insight into the local conditions that would have been obtaining and would be obtained in the region as a result of cumulative effects/impacts of projects- past present and future on the environment. Normally, therefore, a good RCEIA study would have helped to understand the probable changes in the quality of water and temperature of the sea water due to such cumulative impacts and the temperature to be achieved in context with the local conditions and depending thereupon a suitable diffuser system to minimise the impact of turbidity, salinity and temperature could have been suggested as a condition by the EAC. This clearly demonstrates that the RCEIA Study in question was neither adequate and in fact was erroneous nor was the application of mind done by the EAC to such study.

62. Perusal of the additional conditions imposed by EAC as referred to at para 24 of the minutes indicates a casual approach as these conditions are extremely general in nature and do not prescribe extent or level of work required to be carried out and in the absence of any specifics, such conditions shall remain on paper without being effectively monitored for implementing the conditions and the mitigative measures required. Such casual approach is further demonstrated from the fact EAC/MoEF remained unmindful of NAAQS 2009 in face of reference in RCEIA Report to non-existent NAAQS 2005.

63. We are, therefore, of the considered opinion that the EAC failed to apply its mind to the material placed before it by the rival parties and proceeded to recommend the conditions purportedly for safeguarding the environment. Reading of the conditions stipulated in the corrigendum show that the MoEF did nothing more than merely reiterating the conditions previously stipulated in the corrigendum dated 14th August, 2012 in different language. The point number II is therefore, answered accordingly.

64. In view of the aforesaid discussion the corrigendum dated 14-08-2012 issued by the MoEF to the project in questions deserves to set aside and a fresh review of the environmental Clearance on the basis of fresh cumulative impact assessment study as indicated above needs to be ordered. However, it is clarified that additional baseline data of each and every industry- existing as well proposed falling within 25 km radius of the project as indicated above needs to be gathered for the purposes of cumulative impact assessment study as the real changes are noticed in subsequent steps of impact prediction and modelling. We may further point out that as per the guidance manual of MoEF "The difference between Comprehensive EIA and Rapid EIA is in the time-scale of the data supplied. Rapid EIA is for speedier appraisal process. While both types of EIA require inclusion/ coverage of all significant environmental impacts and their mitigation, Rapid EIA achieves this through the collection of one season (other

than monsoon) data only to reduce the time required. This is acceptable if it does not compromise on the quality of decision-making. The review of Rapid EIA submissions will show whether a comprehensive EIA is warranted or not” (Source: Section 1.3 of envfor.Nic.in/divisions/iass/eia/Chapter1.htm).

Hence the order:

1. Corrigendum dated 14-08-2012 to the EC as issued by the MoEF is quashed.
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.
3. The Respondent No. 3 shall place report of such study before the EAC and the EAC shall consider such report and assess whether comprehensive CEIA study is necessary or not and advise the Respondent No. 3 accordingly and thereafter shall carry out the appraisal of the said study or the comprehensive CEIA Study as the case may be as per EC Regulations 2006 and may either recommend the grant of EC on certain specific conditions or decline to recommend the grant of EC by passing a speaking/reasoned order i.e. either recommend or refuse to recommend on reasons adduced therefor.
4. MoEF shall duly consider the recommendations made by the EAC and shall pass an order in accordance with law.
5. Parties shall cooperate with each other in carrying out such Study.
6. Parties to bear their respective costs.

....., CP
(Swatanter Kumar)

....., JM
(U.D. Salvi)

....., EM
(Dr. D.K. Agrawal)

....., EM
(Ranjan Chatterjee)



NGT