

BEFORE THE NATIONAL GREEN TRIBUNAL

SOUTHERN ZONE, CHENNAI

Original Application No. 122 of 2021 (SZ)

IN THE MATTER OF

R.Ravimaran, Ennore,
Chennai

... Appellant(s)

Versus

Union of India,
Rep.by its Secretary, MoEF& CC,
New Delhi and Others

... Respondent(s)

INSPECTION REPORT BY THE JOINT COMMITTEE

1. We respectfully submit that the Appellant had filed Original Application No.122 of 2021(SZ) alleging certain irregularities in laying of pipelines along the Kosasthalaiyar river by the 4th Respondent the Tamil Nadu Generation and Distribution Corporation (TANGEDCO) and the 5th respondent, the North Chennai Thermal Power Station (NCTPS). It was alleged by the appellant though Environmental Clearance and CRZ clearance was obtained for this project, there was no specific permission granted under both these clearances for laying of pipelines across Kosasthalaiyar River for discharging of ash slurry. The appellant has also stated that even in the Environmental Impact Assessment (EIA) report, the place allotted for ash pond and disposal of ash slurry through pipelines at present by them have not been mentioned which is a gross violation of CRZ notification and also against the terms and conditions imposed while granting Environmental Clearance.

2. Based on the above, the applicant has sought the reliefs in the application by A) Directing the Respondents 1 to 5 to demolish the illegal structures constructed by the Respondents 4 & 5 for transporting ash slurry through pipelines across Backwaters of Kosasthalaiyar River B)To direct the Respondents 4 & 5 to replace the ageing pipelines for transporting ash slurry

from Stage-1 and Stage-2 Thermal Power Plants so as to prevent further contamination of environment.

3. It is further stated that in order to ascertain the genuineness of the allegations made in the application and the alleged violations of CRZ notification as well as the conditions granted in Environmental Clearance, the Hon'ble National Green Tribunal (SZ) in its order dated 07.06.2021 directed to constitute a Joint Committee comprising of (1) The District Collector, Thiruvallur District or a Senior Officer not below the rank of Sub-Divisional Magistrate or Assistant Collector as deputed by the District Collector (2) a Senior Officer from the Ministry of Environment, Forests and Climate Change (MoEF& CC), Integrated Regional Office, Chennai (3) a Senior officer from the Tamil Nadu Coastal Zone Management Authority (TNCZMA), Chennai (4) a Senior officer not below the rank of Superintending Engineer from Public Works Department (PWD) Irrigation Department (5) a senior officer from Tamil Nadu Pollution Control Board (TNPCB) deputed by its Chairman to inspect the area in question and submit a factual as well as action taken report if there is any violation found. The PWD/WRO will be the nodal agency for co-ordination.

4. The Committee was directed to ascertain (i) the impact of construction of pipeline on riverine environment and environment in general (ii) whether there is any violation of CRZ Notification 2011 or 2019 whichever is applicable or EIA Notification 2006 as amended from time to time (iii) Whether the Environmental clearance cum CRZ clearance granted for the unit has covered the work of laying pipeline for discharge of ash slurry in the Kosasthalaiyar river basin (iv) whether on account of laying down the pipeline, is there environmental damage caused any, environmental compensation if so what is the nature of damage caused and remedial measures to be taken and also assess the environmental compensation for the damage caused to the environment. The Committee is ordered to submit a report to the Hon'ble Tribunal on or before 23.07.2021.

5. In pursuance to the directions of the Hon'ble Tribunal in O.A.No. 122 of 2021 (SZ), the following Joint Committee members inspected the site on 14.07.2021 to submit the factual observed on the ground as below:

- a) Er.A.Muthaiya,
Superintending Engineer, Water Resources Department / PWD,
Chennai.
- b) Dr. C.Kaliaperumal,
Director, Ministry of Environment, Forest & Climate Change (MoEF&
CC), Chennai.
- c) Dr.P. Kamaraj,
District Environmental Engineer, Tamil Nadu Pollution Control Board
(TNPCB), Gummidipoondi, Thiruvallur District.
- d) Er.R. John Manoharan,
Assistant Executive Engineer, Assistant Conservator of Forest
(I/C), Department of Environment, Panagal Maligai, Chennai-15.
- e) Thiru.P.Selvam,
Revenue Divisional Officer, Ponneri, Thiruvallur District.

6. The Committee had a preliminary discussion with the TANGEDCO & NCTPS officials before inspection and the following facts and figures have been furnished by them as below:

- i). Water is being used for pumping out the ash slurry generated by burning of coal into the ash pond, which is filtered, treated and put into reuse. The ash slurry will be having water and ash in the ratio of 12:1. Everyday about 48,000 Tons of wet ash slurry is being pumped into ash pond which contributes 3,300 Tons of Fly ash.
- ii). The ash pond is located about 5kms from the Thermal Plant sprawling at an area of 245 Hectares.
- iii). The total height of the earthen bund of the Ash pond is 7metre of which 3metre freeboard is available right now.
- iv). The total quantity of ash deposited was 65 Lakh cu.m out of which 22 Lakh cu.m have been already removed and transported. Hence left out with 43 Lakh cu.m of ash at present.

- v). Both the Stage-1 & 2 Thermal plants have been designed for 40% Wet bottom and hence generation of ash slurry is inevitable. Only the Stage-3 Thermal Plant is designed for a Dry bottom and hence ash will be disposed to the ash pond as a contingency plan in case of emergency only.
- vi). The pipelines of Stage-1 were commissioned during 1994-95 and hence more than 25 years old. They have become rustic, corroded and brittle with numerous cracks. There are total 8 Nos. of series of pipelines of which 5 Nos. carries ash slurry and 3 Nos. being used for recycling the filtered water.
- vii). Out of the above 5 Nos., Line 1 & 5 was replaced and got completed during August 2020. These pipes were brought second-hand from Ennore Thermal Power Station (ETPS). They are Cast Basalt-lined having an Outer diameter of 406mm and Inner diameter of 356mm. Replacement of Line 2 & 3 is in progress and 50% work has been completed till date. Line 4 is yet to be replaced. The total cost of replacement is Rs.95 Lakhs. The timeline for replacement of all the 5 Nos. pipelines is by December 2021 to comply with the orders of the Hon'ble Tribunal in Applications No.8 of 2016, 152 of 2016 & 198 of 2016.
- viii). Both the series of ash pipelines of Stage-1 & 2 comprising 13 Nos.(8+5) starts near the Stage-2 Entrance Gate outside, cross the adjoining Buckingham Canal and Backwaters by supporting bridges.
- ix). Laying of ash pipelines for Stage-3 is in progress at an estimated cost of Rs.8.36 Crores. The pipelines will be laid parallel to the existing pipelines of Stage-1 & 2. It cross the Buckingham Canal and the adjoining Backwaters by RCC supporting Bridges. Piling work for the supporting Bridges is in progress.
- x). Combined Environmental Clearance for expansion of 1 x 800MW North Chennai Thermal Power Plant (Stage-3) and CRZ clearance for foreshore facilities at villages of Ennore & Puzhuvakkam,

Ponneri Taluk, Thiruvallur District was granted by the MoEF& CC dated 20.01.2016. It is valid up to 7 years from the date of issue i.e 19.01.2023.

7. It is also submitted that PWD/WRD accorded 'No Objection Certificate' vide Letter No.DB/T5(3)/NCTPP Stage-III Project TANGEDCO /2019/ Dated 12.09.2019 for the Proposed Construction of pipe carrying bridge across Buckingham canal & Backwaters for Stage-3 (1x 800 MW) Thermal Power Plant with specific terms and conditions. One such condition is to obtain clearances from Environment, PCB, CRZ etc., and other mandatory clearances if any before commencement of project by the TANGEDCO.

8. It is further submitted that the Joint Committee inspected the pipeline crossings across Buckingham Canal, Backwaters and the Ash Pond. Although leakage of fly ash from pipelines were not noticed at the time of inspection, accumulation of fly ash deposits still persists in Backwaters and Buckingham Canal. This is due to the leakage of ash slurry from the ageing pipes and also direct letting out from the plant into these water bodies as well. As a result, Buckingham canal and backwaters have become a cesspool of ash. This has grossly reduced the exchange of tidal prism by choking of flow due to ash deposits. The livelihood of fisher folks have been vastly affected and paved way for abatement of fishing activities. Mangrove patches vanished considerably due to the sedimentation of fly ash deposits. The ash pond is found deposited with huge quantum of fly ash to an average depth of about 4 metre. Excavation and transportation of fly ash from the ash pond is noticed and requires removal on large scale. The earthen bund is about 7 metre height surrounding the ash pond of which a portion of bund has been raised another 3 metre height to augment the storage of ash. Raising of bund for the entire circumference is incomplete. The pond is devoid of Geo-membrane lining. There are no mechanisms for spraying / trickling of water to control spreading of fly ash in the air causing air pollution. The laying of pipelines for Stage-3 is also observed but not in a continuous stretch.

9. It is submitted further that Environmental Clearance (EC) was granted to TANGEDCO for their expansion of 1 x 800 MW (Stage -III) of North Chennai Thermal Power Plant and CRZ Clearance for foreshore facilities at villages of Ennore&Puzhuvakkam in Ponneri Taluk of Thiruvallur District by the MoEF& CC dated 20.01.2016 based on the information, clarification, documents and presentation made by TANGEDCO subject to compliance of specific terms and conditions under the provisions of EIA Notification dated September 14, 2006 & subsequent amendments therein and CRZ Notification 2011. The conditions state that i) Disposal of hot water shall meet the Tamil Nadu Pollution Control Board (TNPCB) norms. ii) Water temperature shall be monitored at outlets of each of the unit (3 Stages) and also at pre-cooling channel joining Ennore Creek iii) Construction activity shall be carried out strictly as per the provisions of CRZ Notification 2011. No construction work other than those permitted in CRZ Notification shall be carried out in Coastal Regulation Zone. iv). The Sulphur and ash content of coal shall not exceed 0.8% and 8% respectively. If any change arises, the same should be got amended from the Ministry for EC. v) A long term study of radio activity and heavy metal contents on coal to be used shall be carried out by a reputed institute and thereafter in-built mechanism for continuous monitoring for radio activity and heavy metals in coal & fly ash shall be put in place vi) Adequate dust extraction system such as cyclones / bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided. vii) No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.

At this juncture, it is submitted to the Hon'ble Tribunal that the fly ash generated from the Stage-1 & 2 Thermal Power Plants have greatly reduced the exchange of tidal prism with the sea due to chocking of ash deposit to considerable depth in Buckingham Canal & Backwaters . The fly ash contains heavy metals and potentially hazardous like Selenium, Arsenic, Mercury, Chromium, Lead, Silica and Titanium which leads to poisoning of Biota. These heavy metals are carcinogens and percolates into soil strata altering the ground

water potential and non-compliance of potability. As a result, drastic depletion of flora and fauna has been visualized surrounding the Ennore Creek. Moreover, Mangrove patches vanished considerably leaving traces alone due to fly ash sediments. In view of the above, the TANGEDCO must strictly fulfill and comply with the conditions imposed in the Environmental Clearance and CRZ Clearance without violations and deviations for Stage-3 TPP unlike the environmental damage already caused by the operation of Stage-1 & 2 Thermal Plants due to ash deposit in the water bodies and the air-borne fly ash in the nearby villages causing respiratory diseases.

10. It was alleged in the application that the structures constructed by the Respondents 4 & 5 (TANGEDCO & NCTPS) for transporting ash slurry through pipelines across Backwaters of Kosasthalaiyar River is illegal and the same should be demolished by the Respondents 1 to 5 and also to direct the Respondents 4 & 5 to replace the ageing pipelines for transporting ash slurry from Stage-1 and Stage-2 Thermal Power Plants so as to prevent further contamination of environment.

On scrutiny of the EIA report, it is mentioned that the total ash generated from the power plant will be about 806.4 TPD (Tons Per Day) for each unit considering maximum ash content of 12% in the imported coal. The quantum of bottom ash generated and fly ash generated will be 161.28 and 645.12 Tons Per Day respectively considering calorific value of 6000 Kcal/Kg and unit heat rate of 2100 Kcal/Kg. 100% dry ash system is envisaged and fly ash will be disposed of to the nearby cement plants and it is proposed to utilize the existing ash dyke of NCTPS for bottom ash disposal in case of emergency only. Besides, Fly ash and bottom ash would be collected and stored in the silos and given to end users for manufacturing cement and bricks purposes, impact on the environment would be negligible.

As per orders in MoEF letter No.19-31/2015-IA-III dated 27.02.2015, it has been informed that in the project in the CRZ areas permissible activities which are integral and ancillary to the operation of approved projects including

that of construction of temporary bridges over creeks or backwaters, temporary make-shift infrastructure / constructions required for completing the main permitted activity, transportation of men and material by any mode, etc. will not be deviation from the conditions of approval because the project proponents often undertake such works either on the direction of local authorities or necessitated during construction which are very minor in nature serving the public at large without damaging environment.

Environmental Clearance issued states that Environmental clearance for expansion by addition of 1 x 800MW (Stage-III), North Chennai TPP and CRZ Clearance for foreshore facilities at Village Ennore & Puzhudivakkam, Taluk of Ponneri, District Thiruvallur, Tamil Nadu by M/s. Tamil Nadu Generation & Distribution Corporation Ltd.(TANGEDCO). As per the EC obtained, the CRZ clearance is granted only for construction of following foreshore facilities for this Stage-III TPP.

- i. Coal conveyor having length of 3.5 km and elevation of 6 m for coal transportation from Ennore Port to NCTPS Stage-III TPP.
- ii. Supporting trestles (Steel frames) for coal conveyor at about 6m /8m from ground level.
- iii. Sea water intake from fore bay of NCTPS stage -II intake & outlet pipe to pre cooling channel of NCTPS for discharge with intake pipe length of 3 km and outlet pipe length of 1.5 km.
- iv. GRP(Glass Reinforced Plastic)pipes on the ground level for cooling Water inlet and coolant water outlet.

With regard to the replacement of ageing pipes, it is in progress and expected to be completed by December 2021 pursuant to the timeline framed by this Hon'ble Tribunal (SZ) in Applications No.8 of 2016, 152 of 2016 & 198 of 2016.

11. It is further submitted that the leakage of ash pipelines and accumulation of fly ash in Buckingham Canal and Backwaters has become an everyday phenomena and these facts have been already dealt by the Hon'ble

Tribunal (SZ) in Applications No.8 of 2016, 152 of 2016 & 198 of 2016. In this regard, the Hon'ble Tribunal (SZ) constituted an Expert Committee comprising Central Pollution Control Board (CPCB), IIT, Madras, TamilNadu Pollution Control Board (TNPCB) in its order dated 25.05.2019 to ascertain the status of fly ash / bottom ash disposal, damage caused to the environment, environmental compensation if so what is the nature of damage caused and remedial measures to be taken and also assess the environmental compensation for the damage caused to the environment. The Hon'ble Green Tribunal (SZ) passed orders dated September 11, 2017 for failure of TamilNadu Pollution Control Board (TNPCB) to contain the fly ash leak and the TamilNadu Coastal Zone Management Authority (TNCZMA) for failing to protect salt pans, mangroves from converting into ash ponds. Subsequently, Hon'ble Green Tribunal (SZ) passed orders dated December 21, 2017 to deposit the required funds to PWD/WRD for removing the accumulated fly ash from Buckingham Canal & Backwaters and also ordered TANGEDCO to replace the ash slurry pipes as early.

The Expert Committee findings indicated contamination of ground water wells and Backwaters with heavy metals in abnormal level. The air pollution level due to fly ash was alarming and exposed to respiratory diseases. The Expert Committee also noted NCTPS had no response protocol in the event of Dyke breach or pipeline burst. The Committee had also recommended non-permeable (Geo Membrane) lining for the Ash pond/ Dyke to avoid percolation of fly ash into soil strata there by reducing the ground water pollution.

12. Pursuance to the orders dated December 21, 2017 in Applications No.8 of 2016, 152 of 2016 & 198 of 2016 by the Hon'ble National Green Tribunal (SZ), TANGEDCO deposited a sum of Rs.28.50 Croresto PWD/ WRD for the work of Dredging the Backwaters (Kosathalaiyar River) deposited with fly ash between NCTPS Main Gate up to KPL (Kamarajar Port Limited) Main Gate for a length of 2400metres. In addition, they had also deposited Rs.66.23 Lakhs for removal of fly ash deposited in the adjoining Buckingham Canal between NCTPS Main Gate up to KPL Main Gate for a length of 2400metres. The works have been completed in all aspects during December 2020. But the accumulation of fly ash still persist

in the completed stretch of Backwaters & Buckingham Canal and the orders of the Hon'ble Tribunal left un- addressed till date.

Further the TANGEDCO had remitted an amount of Rs.16.46 Crores as Environmental compensation to TNPC Board for the period 01.11.2004 to 12.11.2019 as assessed by the TNPCB based on the findings on the violations noticed by the Joint Committee constituted by the Hon'ble Green Tribunal(SZ) in O.A No.8 of 2016,152 of 2016 & 198 of 2016 with regard to the accumulation of fly ash in riverine environment.

13.The Hon'ble Green Tribunal (SZ) in its order dated 07.06.2021 directed the Joint Committee to ascertain the following facts given below:

(i) *The impact of construction of pipeline on riverine environment and environment in general.*

The impact on environment has not been assessed yet due to the fact that the construction of pipelines across water bodies has not been commenced by TANGEDCO. Proper construction methodology must be adopted while crossing the river and canal so that damage to the riverine environment would be minimum and negligible. The water bodies must be restored to their original condition after the completion of work.

(ii) *Whether there is any violation of CRZ Notification 2011 or 2019 whichever is applicable or EIA Notification 2006 as amended from time to time.*

Environmental Clearance issued states that Environmental clearance for expansion by addition of 1 x 800MW (Stage-III), North Chennai TPP and CRZ Clearance for foreshore facilities at Village Ennore & Puzhuvakkam, Taluk of Ponneri, Thiruvallur District, Tamil Nadu by M/s. Tamil Nadu Generation & Distribution Corporation Ltd.(TANGEDCO).As per the EC obtained, the CRZ clearance is granted only for construction of following foreshore facilities for Stage-III TPP.

a) Coal conveyor having length of 3.5 km and elevation of 6 m for coal transportation from Ennore Port to NCTPS Stage-III TPP.

- b) Supporting trestles (Steel frames) for coal conveyor at about 6m /8m from ground level.
- c) Sea water intake from fore bay of NCTPS stage –II intake & outlet pipe to pre cooling channel of NCTPS for discharge with intake pipe length of 3 km and outlet pipe length of 1.5 km.
- d) GRP(Glass Reinforced Plastic)pipes on the ground level for cooling water inlet and coolant water outlet.

Hence it is pertinent that Environmental Clearance and CRZ Clearance was granted for foreshore facilities only and not for laying of pipes which is a gross violation as per CRZ rules 2011.

(iii) *Whether the Environmental clearance cum CRZ clearance granted for the unit has covered the work of laying pipeline for discharge of ash slurry in the Kosasthalaiyar river basin.*

The Environmental Clearance cum CRZ clearance was granted for expansion of 1 x 800MW TPP and foreshore facilities only. On scrutiny, it was evident that laying of pipelines for transmitting slurry across Kosasthalaiyar Backwaters has not been covered in the present scope.

(iv) *Whether on account of laying down the pipeline, is there environmental damage caused any, environmental compensation if so what is the nature of damage caused and remedial measures to be taken and also assess the environmental compensation for the damage caused to the environment.*

The TANGEDCO has started the work of laying pipelines for Stage-III and crossing across the Kosasthalaiyar River has not been taken up so far. Hence the environmental damage due to crossing of pipes has not been assessed for working out the compensation due to environmental damage. It was stated by the TANGEDCO in EIA report that 100% bottom ash and fly ash generated will be consumed by the end users and will be pumped to ash dyke in case

of emergency only. It must be ensured that new pipes must be laid intact to avoid any leakage of fly ash into the water bodies thereby environmental damage will be averted

It is, therefore, prayed that this Hon'ble Tribunal may take on record the above status report based on the observations made by the Joint Committee and pass appropriate and further orders as this Hon'ble Tribunal may deem fit and necessary in the circumstances of the case and thus render justice.

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