REPORT OF JOINT COMMITTEEIN COMPLIANCE TO HON'BLE NATIONAL GREEN TRIBUNAL(SZ), CHENNAI ORDER DATED 30/07/2021 IN O.A.NO.162 OF 2021

Submitted to

Hon'ble National Green Tribunal (SZ)

Chennai

September 2021

1. Preamble

It is respectfully submitted that a case, O.A.No.162 of 2021, has been Suo-Motu registered by the Hon'ble National Green Tribunal(SZ), Chennai on the basis of the newspaper report published in the "Times of India" Chennai Edition dated 01.07.2021, under the caption **"ANOTHER PIPELINE LEAK AT ENNORE POWER PLANT"** Residents suffering from Air Pollution, Water Contamination and also another newspaper reports published in the "New Indian Express" Chennai edition, dated 13.07.2021 and 15.07.2021 under the caption **"TANGEDCO VIOLATING RULES IN Ennore"** and **"TANGEDCO's Ennore SEZ Project deviating from approved alignment"** respectively.

In all these newspaper report, the allegation was that the Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) has deviated the pipeline alignment in violation of the rules and carrying out the project against the conditions imposed in the clearances granted. Also, TANGEDCO constructing the bridge for supporting coal conveyor and sea water pipeline for proposed Ennore SEZ and for conveying bottom ash slurry from Stage III project to existing ash pond by dumping construction debris along the river course and without getting CRZ clearance. Further, it has been alleged that there was leaks in the bottom ash slurry conveyance lines from NCTPS I which resulted large scale spillage into water bodies causing air pollution and water contamination. Also stated that the Controller and Auditor General's report had mentioned about the ash dumping is contaminating the ground water in those areas.

2. Orders of the Hon'ble Tribunal

It is respectfully submitted that the Hon'ble Tribunal, Chennai in the order dated.30.07.2021 in O.A.No.162 of 2021 directed vide,

Para 9- In order to ascertain the genuineness of the allegations made in the newspaper report and also the alleged violations, the Hon'ble Tribunal appointed a joint committee comprising of (1) The District Collector, Tiruvallur District (2) a Senior Officer from Ministry of Environment, Forests and Climate Change (MoEF & CC), Integrated Regional Office, Chennai, (3) a Senior Office/Scientist from Central Pollution Control Board (CPCB), Integrated Regional Office, Chennai, (4) The Superintending Engineer from Public Works Department (PWD) and Water Resources Organisation (WRO), Chennai, (5) a Senior Officer from Tamil Nadu Coastal Zone Management Authority (TNCZMA), Chennai and (6) a Senior Officer from Tamil Nadu Pollution Control Board

as designated 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.

Para 10-The Committee is directed to ascertain as to whether i) there are any violations of conditions imposed in the clearances and permissions granted for Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), ii)whether there was any deviation from the proposed alignment of the pipe as permitted under the clearances granted without obtaining any approvals of modification of the same from the appropriate authorities, iii) whether there was any leakage of ash pipe resulting in spillage of fly ash in the neighbouring areas and if so, what is the nature of damage caused on account of the same, iv)whether there was any air pollution or water contamination caused on account of the spillage of fly ash due to leakage of pipe lines, v)whether any unlawful dumping of fly ash is being done in the nearby water bodies and if so, what is the nature of damage caused to the water bodies on account of the same and the remedial measures to be taken for restoring the damage caused to the water bodies.

Para 11-The committee is also directed to assess the environmental compensation, if there is any damage caused to the environment on account of the alleged act of the Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) to be recovered from them including the expenses required for carrying out the remediation measures and restore the damage caused to the environment including the rectifying the contamination, if any, caused to the water body and water quality in that area.

The copy of the order is enclosed as Annexure-I.

3. Composition of the Committee:

Sl. No	Name	Designation
1.	Thiru.R.R.Sridhar	Scientist 'D', MoEF & CC, Integrated Regional Office, Chennai.
2.	Tmt.T.Mahima	Scientist 'D', CPCB, Regional Directorate, Chennai.
3.	Thiru.S.Vijayarajan,	Environmental Engineer, TNPC Board, O/o.Joint Chief Environmental Engineer (M) Chennai Zone, Chennai.
4.	Thiru.P.Selvam,	Revenue Divisional Officer, Ponneri, Tiruvallur District. Representative of District Collector Tiruvallur

5.	Thiru.I.Vetrivelan,	Assistant Engineer, PWD (WRD), O/o Executive Engineer,Araniyar Basin Division. Representative of Public Works Department (Water Resource Department).
6.	Thiru.R.Sathish Kumar,	Assistant Engineer, PWD (WRD), O/o Executive Engineer, Kosasthalaiyar Basin Division. Representative of Public Works Department (Water Resource Department).
7.	Thiru M. Vinod Kumar,	Programme Officer, GIS Cell, Directorate of Environment, Chennai. Representing TNCZMA.

4. Submissions made the by TANGEDCO and M/s NCTPS to the Committee

The Joint Committee convened a meeting with TANGEDCO & NCTPS Power Plants official on 23.08.2021 and in response to Hon'ble NGT case OA 162/2021, the units furnished following ~~factual~~ information to committee:

i) Water is being used for pumping out the ash slurry, generated by burning of coal in Stage I and Stage II of North Chennai Thermal Power Plants, into the ash pond, which is filtered and put into reuse. 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 about 115 Hectares.

iii) The total height of the earthen bund of the ash pond is 7 metre of which 3 metre free board is available now.

iv) The total quantity of ash deposited was 65 Lakh cu.m, out of which 22 Lakh cu.m has been already removed and disposed. Hence left out with 43 Lakh cu.m of ash at present.

v) Both the Stage-I&II Thermal Power Plants have been designed for 40% Wet bottom and hence generation of ash slurry is inevitable. Only the Stage- III Thermal Power Plant is designed for a dry bottom ash and hence ash will be disposed to the ash pond as a contingency plan in case of emergency only. In Stage-IV (Ennore SEZ) plant, bottom ash is proposed to be disposed into ash dyke located adjacent to the unit.

vi) The pipelines of Stage-I 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. carry ash slurry and 3 Nos. being used for recycling the filtered water.

vii) In the matter of Hon'ble NGT case in OA.No.08/2016, 152/2016 & 198/2016 TANGEDCO has committed a timeline for replacement of all the 5 Nos. of pipelines by December 2021. Currently, out of 5 Nos. of ash slurry pipelines, Line 1 & 5 were replaced with old used Cast Basalt-lined pipelines (having an outer diameter of 406 mm and Inner diameter of 356mm) brought from Ennore Thermal Power Station (ETPS) during August 2020. Replacement of Line 2 & 3 is in progress with new Cast Basalt pipes, but for Line 4,the unit is yet to procure new pipes. Both the series of ash pipelines of Stage-I&II comprising 13 Nos(8+5) starts near the Stage-2 Entrance Gate outside, cross the adjoining Buckingham Canal, Backwaters and Kosasthalaiyar river by supporting bridges.

viii) TANGEDCO is operating a patrol team round the clock to check for pipeline leakages. Soon after leakages are noticed, pumps are stopped immediately, the left over ash slurry in the pipeline is flushed outside, fresh water is transported through pipelines, leaks are repaired and pipes are put back into operation.

ix) Further, TANGEDCO had proposed to establish 1x800 MW, NCTPP Stage III Super Critical Thermal Power Plant which is only an expansion unit in the vacant land available within the existing North Chennai Thermal Power Station Complex at Ennore and Puzhuthivakkam Villages of Ponneri Taluk, Tiruvallur District.

x) The on-going NCTPS Stage III project was conceived in 1989 itself as a Stage III project as the land had already been acquired for accommodating all the three stages of NCTPS and is developed to generate power using the existing features of NCTPS Stage I and Stage II within the industrial land of NCTPS complex, which is enclosed in a pucca compound wall constructed during 1990. The CMDA also declared the subject complex as "industrial land".

xi) Based on the power demand and financial status of TNEB, these power plants are executed in a phased manner utilizing the public exchequer. The Stage I power plant of installed capacity of 3x210 MW is being operated from 1995 onwards and Stage II power plant of installed capacity of 2 X 600MW is generating power from 2014 onwards inside the NCTPS Complex.

xii) NCTPS Stage III Project is now being established to offset the power demand of Tamil Nadu using the existing facilities of NCTPS complex without acquisition of any other land from the public and the progress of work is in a good phase.

xiii) The TANGEDCO & CE/NCTPP III Project had applied for the grant of Environmental Clearance as mandated under Environmental Impact Assessment (EIA) Notification 2006 to the Ministry of Environment, Forest and Climate Change.

xiv) Project presentation was made by TNEB (TANGEDCO) in the State level CZMA on 19/5/2015, wherein under the heading of Fly Ash Management, it had been informed that no ash disposal in sea/river and 100% dry fly ash collection in silos of one day (24 Hours) ash generation capacity of the proposed plant and also that bottom ash would be disposed through dry bottom ash handling system and in case of emergency, bottom ash will be disposed of in the Ash Dyke of NCTPS.

xv) The Director of Environment, Chennai, has sent the copy of the proposal with the reports, details, HTL map and Minutes of the 83rd meeting of TNSCZMA held on 19/5/2015 to the Department of Environment & Forests, Govt. of Tamilnadu. In line with the recommendations of TNSCZMA, Government of Tamil Nadu recommended the proposal of TANGEDCO to the Chairman/National CZMA and MOEF &CC. In the Lr. No. 10173/EC.3/2015-1 dated 16/6/2015 of the Principal Secretary to Government also, it has been mentioned that TANGEDCO has informed that the proposed project would be taken within the existing NCTPS complex as an expansion unit.

xvi) Project presentation and additional Information was made by TNEB (TANGEDCO) before the EAC of GOI on 27/11/2015. Under sl. no. II - Revised Layout of NCTPS complex prepared by the Institute of Remote Sensing, Anna University, Chennai various units viz., Stage I (3x210 MW), Stage II (2x600 MW) and facilities viz., Coal conveyor, Cooling water inlet/outlet and Bottom Ash disposal line to the Ash Dyke of NCTPS along with the Demarcation of HTL/LTL and CRZ Delineation for NCTPS Stage III (1x800 MW) at Ennore Village, Ponneri Taluk, Tiruvallur District are depicted and under sl. No. X - Explore various avenues for utilisation of bottom ash, wherein it has been mentioned that the bottom ash of the proposed plant would be collected through dry bottom handling system and used for brick manufacturing and road laying purposes and

excess, if any, disposed in to the existing ash dyke of NCTPS. From the presentations submitted, the ash pipe line for the project using the ash dyke of NCTPS has been furnished to MOEF & CC.

xvii) Considering all the above including the Environment Impact Assessment report, MOEF had issued combined Environmental Clearance under EIA Notification 2006 as amended and CRZ Clearance under CRZ Notification 2011 as amended for the above said project on 20.01.2016 with various conditions.

xviii) Further, TANGEDCO is executing one more Thermal Power Project namely Ennore Special Economic Zone Supercritical Thermal Power Project(2x660MW) at Vayalur village, Ponneri Taluk, Thiruvallur District to augment the growing Electric Power Demand of the state of Tamil Nadu.

xix) The above project includes erection of external coal handling system for carrying coal from Ennore Port(M/s. Kamarajar Port Ltd- KPL) to project site 5 KM crossing NCTPS-II Land, Buckingham Canal, Kosasthalaiyar River (Pulicot Back water), KPL Land, TIDCO Land, TANGEDCO Ennore SEZ Supercritical Thermal Power Project site for which necessary clearance from Energy Department, PWD, MOEF (EC & CRZ), KPL RoW (Right of Way), TIDCO RoW, TNPCB (CTE) has been obtained.

xx) Coal Corridor Alignment Consists of Belt Conveyor stretch from Ennore Port Ltd to TH-1 (Transfer House - 1) near KPL Road Y junction and Pipe conveyor stretch from TH-1 to Project site. The conveyor system is designed for the transportation of coal capacity of 4000TPH.

xxi) Seawater intake system starts from Existing NCTPS-II sea water intake Forebay to Sea water intake pump house situated in Stage-II via open channel and water pumped from Pump house and then supported by concrete pedestals and crosses Stage-II Land, Buckingham Canal, KPL Road, Railway track and joins with coal conveyor at Y junction of KPL (TH-1). The total system (Coal Conveyor + Sea water pipe lines(2 Intake pipes and 1 Blowdown pipe)) travels in a single corridor from TH-1 to project site.

xxii) After detailed surveys and geo-technical conditions of the site, the Coal Conveyor route was finalized by proposing to cross the water bodies and land portions encountered in the alignment in the shortest route crossing the water bodies.

While so, there was a development took place whereby M/s.Chettinad Coal Yard and connected infrastructure facilities were being developed by the said private body which was falling in the vicinity of the Ennore SEZ project's Coal Conveyor site route of the TANGEDCO. Hence, the TANGEDCO was constrained to act accordingly. Earlier, TANGEDCO proposed to erect closed type belt Coal Conveyor. However, the Pipe Conveyor System is subsequently preferred to avoid spillage of coal.

The closed pipe conveyor system has to be erected in a smooth curved line and as such the routing of pipe conveyor was designed suitably in a curvilinear manner as per the technical requirement to erect Pipe conveyor to avoid spillage of coal dust for environmental friendly approach.

The total length of conveyor from Ennore Port Limited to Project site is 4500 meters; the length of conveyor under execution is only 4328 meters.

xxiii) In this condition, the general public from Kattukuppam Village agitated and conducted dharna on 19.07.2021. After the talks with the people and to avoid law and order problem, the Thasildar, Ponneri after discussions with the Revenue Divisional Officer/Ponneri, requested TANGEDCO to suspend the works temporarily until the peace meeting which was proposed to be held on 23.07.2021. After the Peace meeting, work was resumed on 24.07.2021.

Now based on the request made by Revenue officials, the work has been temporarily stopped on 27.07.2021 and the removal of filling sand has been commenced on 04.08.2021 and completed from Pier No.13 to Pier No.19 (144 meters removed out of total 230.3 meters). The removal of the filling sand in the balance area (about 86.3 meters) is under progress.

5. Observations of the Committee:

The Joint committee inspected the area in question on 23.08.2021 and the following are submitted:

5.a. *To ascertain as to whether there are any violations of conditions imposed in the clearances and permissions granted for Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO).*

1. Though TANGEDCO had conceived NCTPS Stage-III project in 1989, TANGEDCO obtained combined Environmental Clearance and CRZ clearance

from MoEF&CC on 20.01.2016. Establishment of 1x800 MW, NCTPP Stage-III Super Critical Thermal Power Plant an expansion unit in the vacant land available within the existing North Chennai Thermal Power Station Complex at Ennore started during 2017.

2. It is submitted that combined Environmental Clearance under EIA Notification 2006 as amended and CRZ Clearance under CRZ Notification 2011 as amended for expansion of 1 x 800MW North Chennai Thermal Power Plant (Stage-III) and for the following foreshore facilities at villages of Ennore & Puzhudivakkam in Ponneri Taluk of Thiruvallur District has been granted by the MoEF&CC on 20.01.2016 with certain conditions. The validity of EC is up to 7 years from the date of issue i.e up to 19.01.2023. In the CRZ clearance, only the following activities have been mentioned in CRZ area.
   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 6 m/8 m 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.

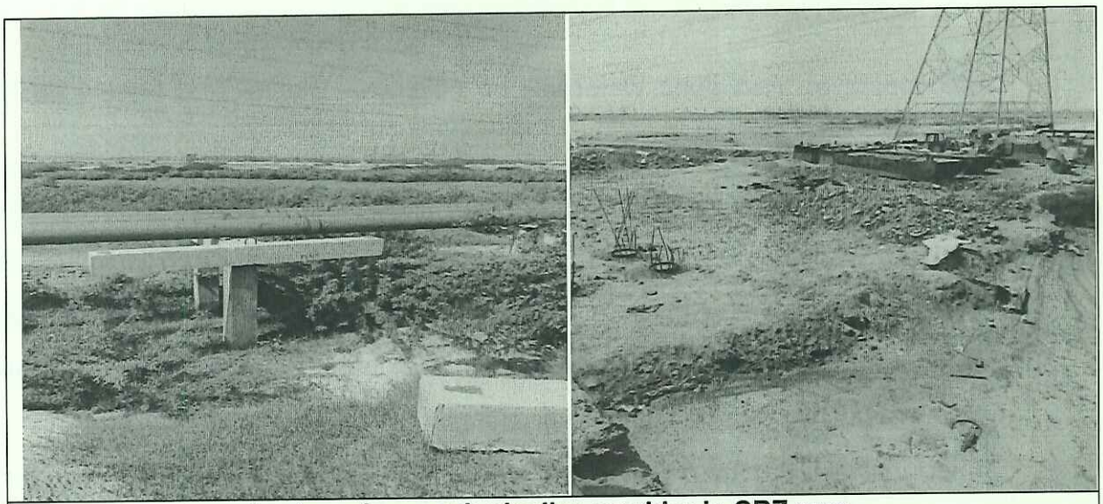
3. It is further submitted that vide para 6 of EC issued, it is mentioned that the fly ash and bottom ash would be collected and stored in the silos and supplied to cement/brick industries for manufacturing cement and bricks. 100% dry fly ash collection will be done by providing pressurized dry fly ash collection system. It is further submitted that under para-viii of General conditions, In the combined EC and CRZ clearance, NCTPS Stage-III is directed for Utilization of 100% fly ash generated from 4th year of operation.

4. It is further submitted that on scrutiny of the Environmental Clearance and CRZ Clearance, it is noticed that there is no specific mentioning about the laying of pipelines in CRZ area for conveying the bottom ash to the ash dyke or bring back the ash pond water from the ash dyke to the plant for reuse except the

mentioning of "Ash pond water will be collected, treated and reused for slurry making".

5. Ash pipelines for Stage-III (reported as 2 lines for ash slurry, and third one for recovery of water from Ash pond) was laid parallel to the existing pipelines of Stage-I & II on the other side of the ash pond road, not in the same pipeline corridor of Stage-I & II. It crosses the Buckingham Canal and the adjoining Backwaters by RCC supporting Bridges in CRZ area. TANGEDCO has categorically not obtained CRZ clearance for laying new ash pipeline corridor.
6. TANGEDCO submitted to the committee that laying of new ash pipeline corridor was informed during public hearing and during presentations made to MoEF&CC but records for the same were not made available.
7. TANGEDCO has stopped the piling work and pipeline laying on 27.07.2021, due to the cases filed before Hon'ble Tribunal. During committee inspection, it was observed that laying of pipeline has been stopped. As on date of 23.08.2021, the following works were completed in connection with laying of pipeline:
   a. Three cast basalt lined new pipelines were laid to a length of 3km from Stage-II gate towards ash dyke.
   b. The new ash pipelines are passing through CRZ area for a length of1KM.

	
Ash conveying pipelines of NCTPS- III partially laid in backwaters	**Piling work for Ash conveying pipelines of NCTPS- III in Kosasthalaiyar river**



Laying of new ash pipeline corridor in CRZ area.

5.b *To ascertain whether there was any deviation from the proposed alignment of the pipe as permitted under the clearances granted without obtaining any approvals of modification of the same from the appropriate authorities.*

1. For establishment of Ennore SEZ super critical thermal power plant (Stage-IV), EC clearance was obtained vide order dated 07.01.2014. Ennore SEZ has categorically obtained CRZ clearance dated 01.01.2014 for laying coal conveyor pipelines to transport coal from M/s Kamarajar Port Ltd to Stage-IV and cooling water system (2 for intake and 1 for rejects).

2. It is submitted that the CRZ clearance under CRZ Notification 2011 as amended for M/s Ennore SEZ Supercritical Thermal Power Station (2x800 MW) for the following foreshore facilities, as read in para 2, has been granted by MoEF, GoI on 01.01.2014 with certain conditions.
   i) Coal conveyor having length of 4.5 km long closed conduit for coal transportation from Ennore Port to Ennore SEZ Supercritical Thermal power station.
   ii) Sea water intake from fore bay of NCTPS Stage–II intake & outlet to cooling water canal located at NCTPS. The intake and outfall pipeline length will be 4 km.
   iii) The pipelines and the coal conveyor cross Buckingham Canal through CRZ.

   The validity of CRZ clearance granted above was extended up to 31.03.2023 vide MoEF&CC letter dated 09.04.2021.

3. As per approved CRZ clearance, the delineation of the conveyor system was indicated and 130m of pipeline was crossing the water body.

4. Though CRZ clearance was obtained during 2014 but actual laying work was started in 2019, and several developments had happened in the area and coal conveyor pipelines could not be laid as per approved delineation of pipelines. Hence the unit without seeking amendment in the CRZ clearance has undertaken laying of coal conveyor system by deviating the delineation. Currently, as per latest proposed delineation, coal conveyor system is crossing the water body for 450m.

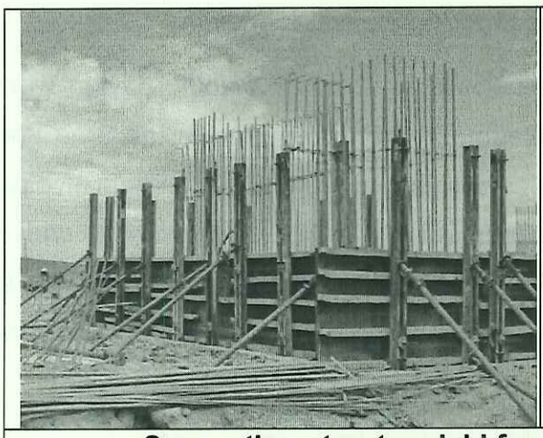
5. Ennore SEZ Supercritical Thermal power station (Stage–IV), Coal conveyor pipelines from M/s Kamarajar Port Ltd and Sea water pipelines from Sea water intake pump house situated in NCTPS Stage-II will join at Y junction of road leading to M/s Kamarajar Port Ltd after crossing the Buckingham canal. After that, it will traverse through a single corridor crossing Kosasthalaiar river to reach M/s Ennore SEZ Supercritical Thermal power station (TANGEDCO).

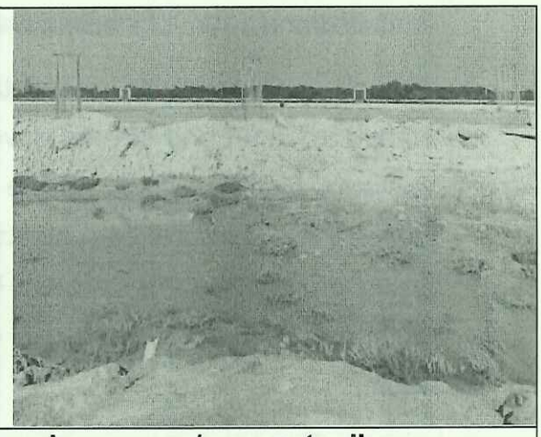
6. No work has been taken up in Buckingham canal area whereas construction of supporting structure for coal conveyor, sea water intake and outfall pipeline works were carried out by M/s.Ennore SEZ Supercritical Thermal power station (TANGEDCO) inside the Kosasthalaiyar River by filling the water course with dredged sea sand from M/s Kamarajar Port Ltd. After the local people and the fisherman agitation, construction work has been temporarily stopped and the dumped material is being removed from that place. At present, the dumped material has been partly removed and the removal work for the remaining portion is under progress.

7. It is further submitted that the Ennore SEZ TPP has earlier proposed pipeline corridor alignment of 4500 metres by crossing the Kosasthalaiyar river for a distance of about 130 metre and crossing the present Chettinad Coal Terminal site. However, it was reported that at the time of execution, the alignment has been changed for a distance of about 4328 metre by crossing the Kosasthalaiyar river for a distance of 450 metre.

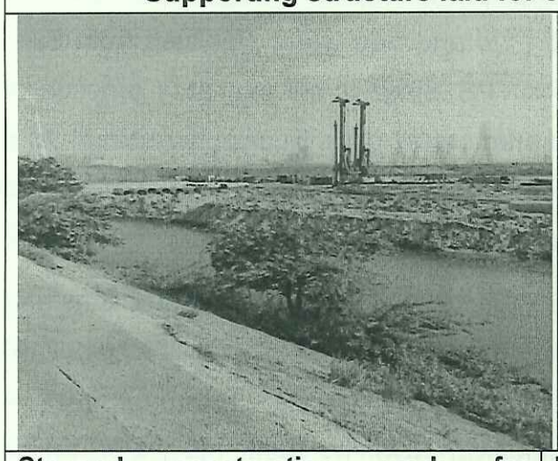
8. It is further submitted that on scrutiny of the Environmental clearance and CRZ Clearance granted to M/s Ennore SEZ Supercritical Thermal Power Station, it is noticed that there is no specific mentioning about the laying of pipelines in

backwater/Kosathalaiyar river (CRZ area) for conveying the coal and Sea water to the power plant and reject water back to cooling water channel of NCTPS.





Supporting structure laid for coal conveyor/ sea water line



Stopped construction work for supporting structure for the coal conveyor / Sea water line.

Removal of dumped dredged sea material in Kosasthalaiyar Riverin progress.

5.c. *Whether there was any leakage of ash pipe resulting in spillage of fly ash in the neighbouring areas and if so, what is the nature of damage caused on account of the same.*

1. The pipelines from NCTPS Stage-I and NCTPS Stage-II cross Buckingham Canal, Backwaters and Kosasthalaiyar River and reach the Ash Pond. On the day of inspection, line -2, 3 & 4 was in service, line-1 was under maintenance, line-5 was standby. Although leakage of fly ash from pipelines were not noticed at the time of inspection, accumulation of fly ash in Backwaters and Buckingham Canal, due to the leakage of ash slurry from the ageing pipes of NCTPS Stage -I is noticed. Fly ash is deposited in ash pond up to a depth of 4m. Excavation and transportation of ash from the ash pond was in progress which requires removal

on large scale. The earthen bund is about 7 metre height surrounding the ash pond and the height of the bund is further increased by 3m (totally 10m) in a portion of bund. Raising the height of the bund is in progress. There are no mechanisms for spraying / trickling of water to control spreading of ash in the air causing air pollution.

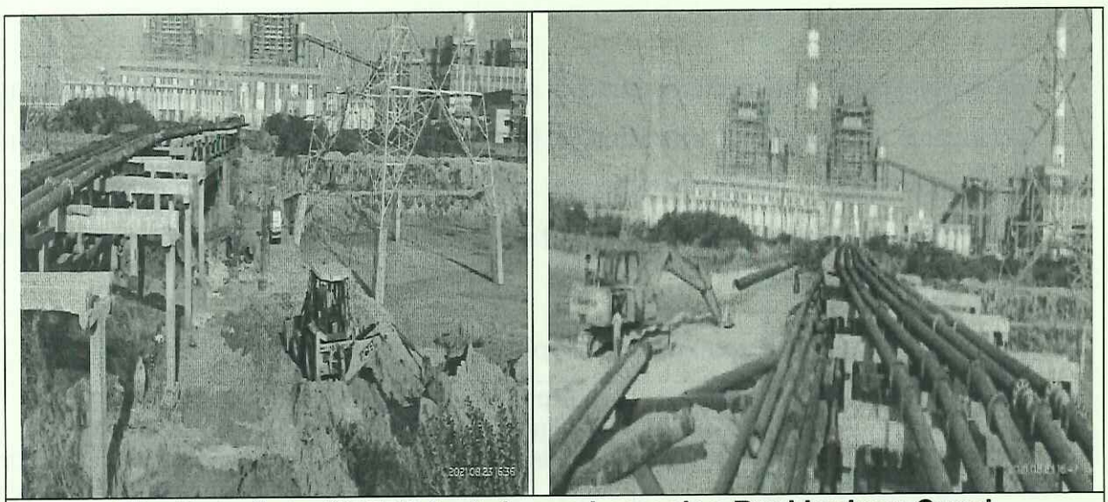
The present status of replacement of pipelines is as follows:

Sl. No.	Description of pipeline	Outer diameter	Pipe thickness	Length of pipeline	Present status
1	Ash slurry disposal line-1	406mm	6mm	5129m	Replaced with second hand pipes retrieved from ETPS.
2	Ash slurry disposal line-2	406mm	6mm	5405 m	Replacing with new pipe and reported to be completed before December 31, 2021.
3	Ash slurry disposal line-3	406mm	6mm	4942 m	Replacing with new pipe and reported to be completed before December 31, 2021.
4	Ash slurry disposal line-4	406mm	6mm	4942 m	Old pipeline. Tender invited for procuring new pipes.
5	Ash slurry disposal line-5	356 mm	6 mm	5577 m	Replaced with second hand pipes retrieved from ETPS.

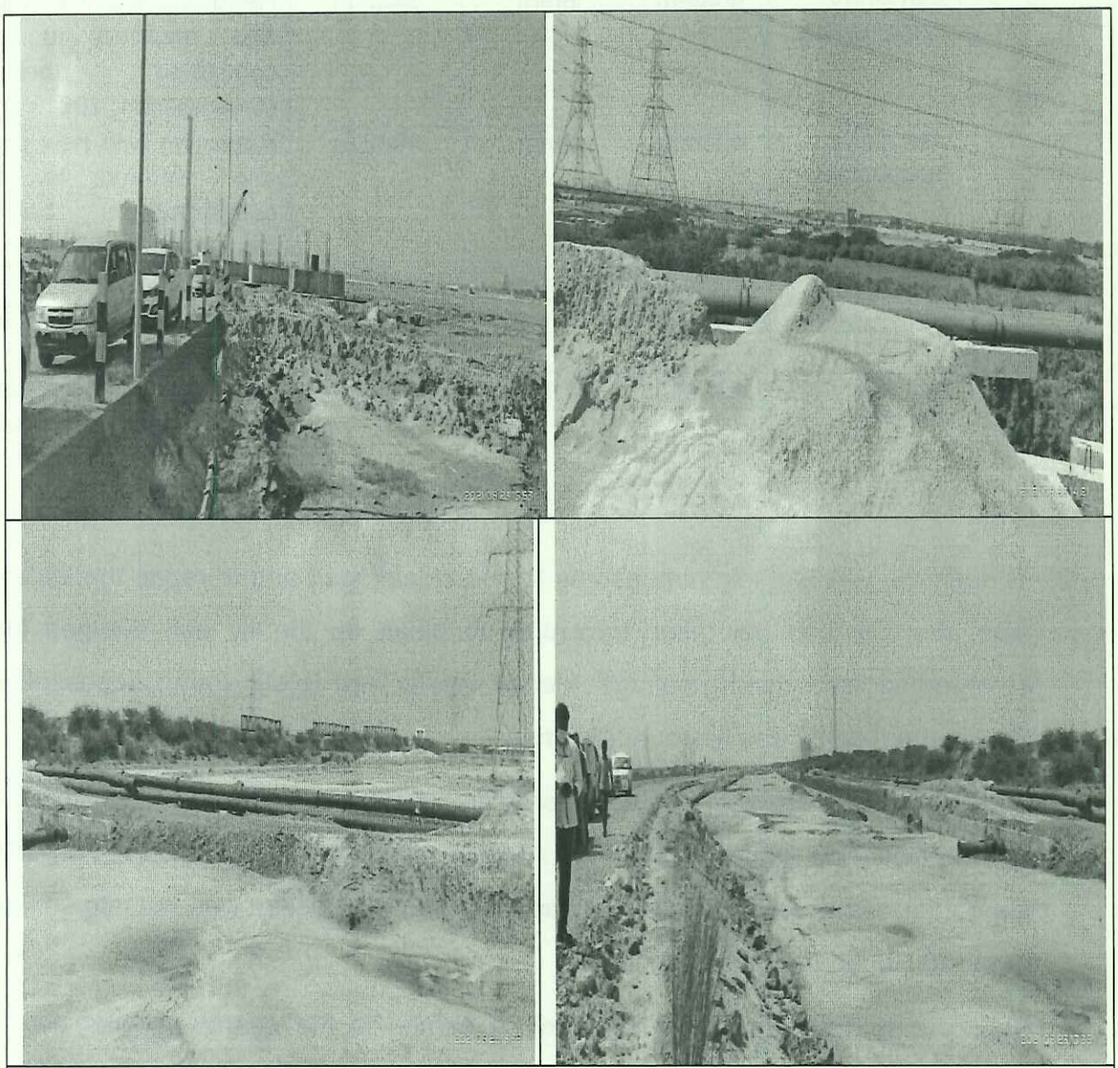
2. Though the unit has taken measures to detect leakages and to repair the leaking pipe, the unit has not taken measures to clean up the fly ash dumped into surrounding area during leakage. Hence the fly ash is still found deposited in Buckingham canal and surrounding area.

3. The committee observed that, as reported in newspaper, leakage has occurred in ash pipeline-2 on 29.06.2021 at 7:20 AM and the pump was stopped at 7:25 AM, the portion of the pipeline damage was repaired and pipeline was put into service by 12:30 PM on the same day.

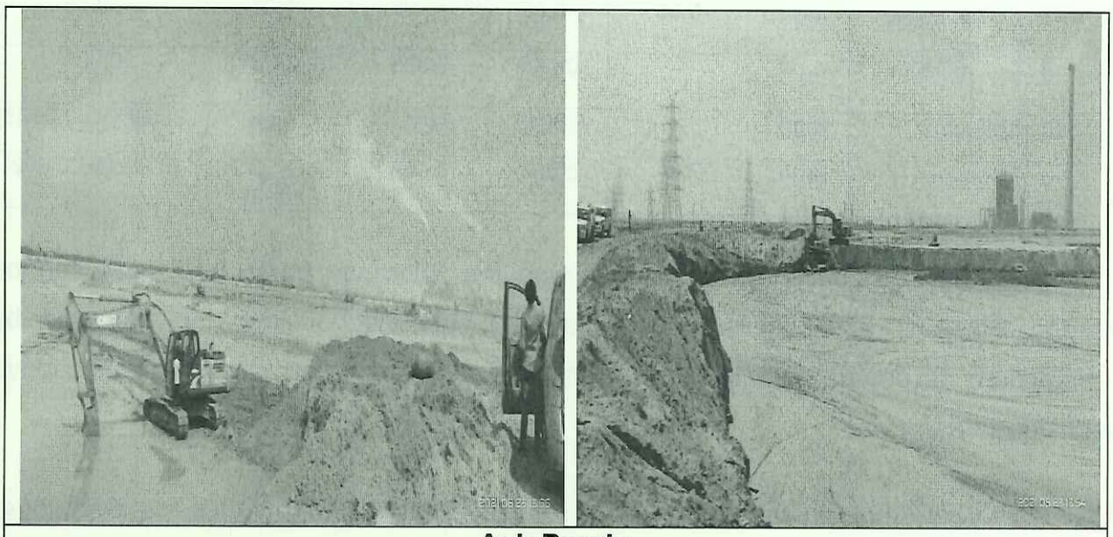
4. During rainy season, the fly ash may be carried to the nearby villages due to runoff. The unit has constructed an earthen bund of height 1 feet during 2020 to prevent storm water runoff from entering the village.



Pipelines from NCTPS to Ash pond crossing Buckingham Canal



Ash deposition in B canal, Backwater and on the way to Ash pond



Ash Ponds

Further to assess ground water contamination if any due to the spillage of ash from the leakage of pipelines and seepage from Ash pond, sub surface water samples have been collected from the Borewell nearby to ash pond (about 400m away from Seppakkam Village) and the piezometric wells provided near the ash ponds. The results of the sub surface water samples are submitted as follows:

Sl. No	Parameters	Unit	Tolerance limits for inland surface waters, Class C as per IS:2296-1982	Bore well@ nearby Seppakkam Village	Piezometric well@ south side of the Ash Pond near M/s.Zuari Cement	Piezometric well@west side of the Ash Pond near Seppakkam Village	Piezometric well@west side of the Ash Pond to the northern side of point-2 near Seppakkam Village
				1	2	3	4
1	Zinc (as Zn)	mg/L	15	0.58	0.73	0.82	0.78
2	Copper (as Cu)	mg/L	1.5	<0.033	<0.033	<0.033	<0.033
3	Cadmium	mg/L	0.01	<0.013	<0.013	<0.013	<0.013
4	Lead (asPb)	mg/L	0.1	<0.07	<0.07	<0.07	<0.07
5	Nickel	mg/L	-	<0.05	<0.05	<0.05	<0.05
6	Total Chromium	mg/L	-	<0.05	<0.05	<0.05	<0.05
7	Manganese	mg/L	-	0.18	0.26	0.44	0.38
8	Calcium	mg/L	-	152	1403	2004	1002
9	Magnesium	mg/L	-	131	913	819	585
10	Sodium	mg/L	-	975	10210	13600	12520
11	Potassium	mg/L	-	215	320	420	260

12	Total Iron	**mg/L**	-	0.41	0.68	0.84	0.77
13	Cyanide (as CN)	**mg/L**	**0.05**	<0.05	<0.05	<0.05	<0.05
14	Alluminium	**mg/L**	-	0.005	0.895	BLQ[LOQ: 0.002]	0.091
15	Mercury	**mg/L**	-	0.0016	0.0097	0.0010	BLQ[LOQ:0.0005]
16	Arsenic	**mg/L**	**0.2**	0.004	0.006	BLQ[LOQ: 0.002]	BLQ[LOQ:0.002]

The above results are compared with the tolerance limits for inland surface waters, Class C (Drinking water source with conventional treatment followed by disinfection) as per IS:2296-1982and found that the parameters are within the above said standards.

5.d. *Whether there was any air pollution or water contamination caused on account of the spillage of fly ash due to leakage of pipe lines, whether any unlawful dumping of fly ash is being done in the nearby water bodies.*

1. To assess the air pollution caused if any due to the carryover of ash, ambient air quality monitoring survey was conducted at Seppakkam Village (24 hours sampling on 31.08.2021) and Atthipattu Village (24 hours sampling on 26.08.2021)and at NCTPS, Near Sub Station (24 hours sampling on 02.09.2021).The results are tabulated below:

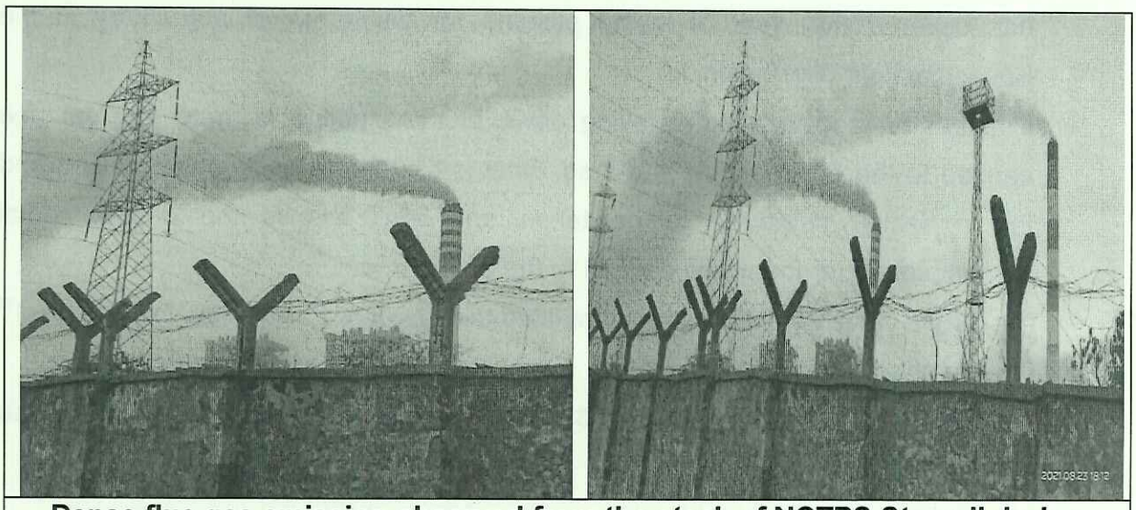
Parameters	**Standards (24hrs Average) (All values are in micro gram/m^3)**	**Atthipattu Village near NCTPS**	**Seppakkam Village near NCTPS**	**NCTPS near Sub Station**
PM10	100	**152**	80	76
PM2.5	60	14	22	19
SO_2	80	4.9	4	3.1
NO_2	80	25.8	19.1	16.6
CO	-	0.33	0.28	0.42
NH_3	400	37	41.6	27.9
Ozone	-	13.7	26.4	13.4

The results revealed that the parameter PM10 value (152micro g/m^3) at Atthipattu Village alone exceeded the Ambient Air Quality (AAQ) standards (100 micro g/m^3) prescribed.

2. Further, to assess ground water contamination if any due to the spillage of ash from the leakage of pipelines and seepage from Ash pond, sub surface water samples have been collected from the Bore well nearby to ash pond (about 400m

away from Seppakkam Village) and the piezometric wells provided near the ash ponds. The results of the sub surface water samples are compared with the tolerance limits for inland surface waters, Class C (Drinking water source with conventional treatment followed by disinfection) as per IS:2296-1982, and found that the parameters are within the above said standards.

Further, it is submitted that dense flue gas emission was noticed from the boiler stack of NCTPS Stage II at the time of inspection and the Online Continuous Emission Monitoring Sensors (OCEMS) such as PM, SOx & NOx was verified and found that PM sensor in unit-II was not properly working and no connectivity of sensors to CAC, TNPCB, Chennai was also found and it was reported that the connectivity has been suspended since 31.07.2021 due to server issue.



Dense flue gas emission observed from the stack of NCTPS Stage-II during inspection.

It is further submitted that a case OA.No.122 of 2021 has been filed by Thiru.R.Ravimaran of Ennore, Chennai against TANGEDCO alleged that though TANGEDCO has obtained environmental clearance under the EIA Notification &CRZ Notification for the proposed Stage-III project, there is no permission granted for laying a pipeline for discharging the disposal of ash slurry across the B' canal &Kosasthalaiyar River and requesting to direct the respondents to demolish the illegal structures constructed to carry pipelines to transport ash slurry through the backwaters and main channel of the Kosasthalaiyar river and to utilize the new pipelines procured by them to replace the leaking, ageing pipelines carrying ash slurry form the NCTPP Stage I, so as to prevent further contamination of the environment.

In this regard, the Hon'ble NGT(SZ) has constituted a Joint Committee comprising of (1) The District Collector, (2) a Senior Officer from the Integrated Regional Office, MoEF&CC, Chennai (3) a Senior Officer from Tamil Nadu Coastal Zone Management Authority, Chennai (4) a Senior Officer not below the rank of Superintending Engineer from Tamil Nadu Public Works Department and (5) Irrigation Department and (6) a Senior Officer from TNPCB. The committee was directed to consider

i) The impact of construction of pipeline on riverine environment and also on 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 the laying down of the pipeline is there any damage caused to the environment and if so, what is the nature of damage caused and the remedial measures to be taken and also assess the environmental compensation for the dame caused to the environment.

The above Joint Committee has submitted the report to the Hon'ble NGT in the 1st week of September 2021.

The copy of the order dated 07.06.2021 in OA.No.122 of 2021 is enclosed as Annexure-II.

6. Environmental Compensation

It is submitted that the leakage of ash pipelines provided for NCTPS Stage-I 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. Also, 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.

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 Crores to 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 2400 metres. 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. Though the works have been reported to be completed in all aspects by December 2020, accumulation of fly ash still persist in the completed stretch of Buckingham Canal.

Further, the NCTPS Stage-I has remitted an amount of Rs 16.461 Crores as Environmental Compensation for the period from 01.11.2004 to 12.11.2019 as assessed by the TNPC Board based on the findings of the violations noticed by the Joint committee constituted by the Hon'ble NGT in the above said cases.

It is further submitted that in pursuance to the Hon'ble NGT order dated 14.12.2020 in O.A. No.08 of 2016, 152 of 2016 & 198 of 2016, the Joint committee constituted in that case, has assessed further Environmental compensation of Rs. 41,40,000(for the period from 22.08.2020 to 06.01.2021) to be levied from NCTPS Stage-I for the breach of ash slurry conveying pipeline on 22.08.2020 leads to deposition of ash slurry in the Sembakkam hamlet and submitted to the Hon'ble Tribunal .

It is further submitted that the accumulation of fly ash still persists in the stretch of Buckingham Canal and back waters as noticed during the inspection of the Joint Committee constituted in this O.A.No.162 of 2021. Hence, the Environmental compensation for the above violations has been worked out by following the methodology specified in the CPCB document titled, "Report to CPCB in house Committee on Methodology for Assessing Environment Compensation &Action Plan to Utilize the fund" for the period from 07.01.2021 to 23.08.2021 (EC has been already assessed for the period from 22.08.2020 to 06.01.2021 by the Joint Committee constituted in O.A. No.08 of 2016, 152 of 2016 & 198 of 2016).

In the matter of O.A.No.162/2021 (SZ), the committee has calculated EC for the accumulation of fly ash in Buckingham canal and Kosathalaiyar river by NCTPS Stage-I as follows:

Environmental Compensation formulae-PI x N x R x S x LF

PI - Pollution index for industry – 80 for Red Category units.

N - Number of days for which violation took place = 229 days (from 07.01.2021 to 23.08.2021). As the unit has not cleaned up the area where ash slurry has leaked, date of committee inspection (23.08.2021) is taken for days of non compliance).

R- Factor in Rupees – Rs.250/ for violation

S- Scale of operation-1.5 for Large scale unit

LF- Location factor based on population. This unit is within 10 KM from the boundary of Chennai City Corporation having population 6.1 Million. Hence location factor is taken as 1.5.

Due to repeated violation (third time) the committee has used exponential factor of 4.

Hence, Environmental Compensation to the unit M/s.NCTPS Stage-I

= 80 x 229x 250 x 1.5 x 1.5 x4= **Rs.4,12,20,000/- (Rupees Four crore twelve lakhs &twenty thousand only).**

7. Findings of the Committee as directed by the Hon'ble Green Tribunal (SZ) in its order dated 30.07.2021:

i) **Direction of Hon'ble Tribunal Vide Para 10 (i)**:

To ascertain as to whether there are any violations of conditions imposed in the clearances and permissions granted for Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO).

Findings of the committee:

A) NCTPS Stage-III

1. Ministry of Environment Forest and Climate Change vide order dated 20.01.2016 has accorded combined Environmental Clearance under EIA Notification 2006, as amended for Expansion by addition of 1 x 800 MW (North Chennai Thermal Power Plant Stage-III) and CRZ Clearance under CRZ Notification 2011, as amended for foreshore facilities at Ennore & Puzhudivakkam Villages, Ponneri Taluk, Thiruvallur District to Tamil Nadu Generation & Distribution Corporation Ltd

(TANGEDCO). **Copy of the combined EC and CRZ clearance is enclosed as Annexure-III.**

2. As per the EC and CRZ clearance granted by MoEF&CC the following facilities will be in CRZ area:
   a. Coal conveyor having length of 3.5Km and elevation of 6m 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 forebay of NCTPS Stage-II intake & outlet pipe to pre 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.
3. In para 6 of the clearance, it is mentioned that ash pond water will be collected, treated and reused for slurry making. Also, in sl.no. (viii) of general conditions of the Clearance, it is stated that "Utilization of 100% fly ash generated shall be made from 4th year of operation" which implies that during first three years of operation fly ash will be transported to dyke. However, in the CRZ clearance, categorically it is not specified as how the ash slurry from NCTPS Stage-III will be disposed to ash dyke.
4. From the above it is inferred that the NCTPS Stage-III has not obtained CRZ clearance for laying of ash slurry pipeline or for laying new ash pipeline corridor in the CRZ area.

B) Ennore SEZ (Stage-IV)

1. The CRZ clearance under CRZ Notification 2011 as amended for M/s Ennore SEZ Supercritical Thermal Power Station (2x800 MW) for the following foreshore facilities as read in para 2, has been granted by MoEF, GoI on 01.01.2014 with certain conditions.
   i) Coal conveyor having length of 4.5 km long closed conduit for coal transportation from Ennore Port to Ennore SEZ Supercritical Thermal power station.
   ii) Sea water intake from fore bay of NCTPS Stage–II intake & outlet to cooling water canal located at NCTPS. The intake and outfall pipeline length will be 4 km.

iii) The pipelines and the coal conveyor cross Buckingham Canal through CRZ.

The validity of CRZ clearance granted above was extended up to 31.03.2023 vide MoEF&CC letter dated 09.04.2021.

2. The Ennore SEZ TPP has earlier proposed pipeline corridor alignment of 4500 metres by crossing the Kosasthalaiyar river for a distance of about 130 metre and crossing the present Chettinad Coal Terminal site. However, it was reported that at the time of execution, the alignment has been changed for a distance of about 4328 metre by crossing the Kosasthalaiyar river/backwaters for a distance of about 505 metre.

3. Also, on scrutiny of the Environmental clearance and CRZ Clearance granted to M/s Ennore SEZ Supercritical Thermal Power Station, it is noticed that there is no specific mentioning about the laying of pipelines in backwater/Kosathalaiyar river (CRZ area) for conveying the coal and Sea water to the power plant and reject water back to cooling water channel of NCTPS.

4. From the above, it is inferred that the Ennore CRZ (Stage-IV) has not obtained CRZ clearance for realignment of coal conveyor, sea water intake and outfall pipelines in the CRZ area.

ii) **Direction of Hon'ble NGT Vide Para 10(ii)**:

Whether there is any deviation from the proposed alignment of the pipe as permitted under clearances granted without obtaining any approvals of modification of the same from the appropriate Authorities.

Findings of the committee:

1. MoEF&CC accorded Environmental Clearance to TANGEDCO on 07.01.2014 for establishment of 2 X 800MW Ennore SEZ thermal power plant. The public hearing for the same was conducted on 23.02.2012. Based on revised proposal submitted by Project Proponent, Environmental Clearance was amended vide MoEF&CC order dated 14.08.2018 for change in project capacity to 2 X 660 MW. The Project Proponent submitted a proposal for grant of extension of validity of Environmental Clearance and CRZ Clearance. MoEF&CC vide order dated 09.04.2021 granted extension of validity of Environmental Clearance and CRZ Clearance for further 3 years i.e up to 31.12.2023.**Copy of the combined EC and CRZ clearance is enclosed as Annexure-IV.**

2. As per combined Environmental Clearance and CRZ Clearance granted, the unit was permitted to lay closed conduit Coal conveyor system from Ennore Port to Ennore SEZ for a total length of 4.5 KM. The map indicating the proposed area where the coal conveyor conduit shall be laid was approved by MoEF&CC.
3. The committee observed that actual laying of coal conveyor and sea water intake & outfall pipeline corridor is deviating from the proposed layout for which approval was accorded by MoEF&CC. The total length of proposed coal conveyor and sea water intake & outfall pipeline corridor was 4.5 KM and it was crossing the water body for a distance of 130m while the actual length of present proposal of corridor is 4.328 km and is crossing the water body at Buckingham canal and Kosasthalaiyar river for a length of 450m. The unit has not obtained approval for the revised alignment.
4. Now, the work has been temporarily stopped on 27.07.2021 and the removal of filling sand has been commenced on 04.08.2021.

iii) **Direction of Hon'ble Tribunal Vide Para 10(iii)**:

Whether there was any leakage of ash pipe resulting in spillage of fly ash in the neighbouring areas and if so, what is the nature of damage caused on account of the same.

Findings of the committee:

1. The pipelines of Stage-I 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. carry ash slurry and 3 Nos. being used for recycling the filtered water.
2. Out of the above 5 Nos. of pipelines, Line 1 & 5 were replaced and got completed during August 2020. These pipes are replaced with old used pipelines brought from Ennore Thermal Power Station (ETPS). They are Cast Basalt-lined having an outer diameter of 406 mm and Inner diameter of 356mm. Replacement of Line 2 & 3 is in progress with new Cast Basalt pipes, but for Line 4, the unit is yet to procure new pipes. The TANGEDCO has committed a timeline for replacement of all the 5 Nos. of pipelines 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.
3. The NCTPS Stage-I is taking breakdown maintenance works in the ash pipelines whenever leaks are detected. The unit has patrol team which keeps patrolling the

pipeline area and the pumps are stopped soon after leaks are detected. By the time the unit has identified any leaks and repair it with high capacity pumps, considerable quantity of ash slurry would have been disposed into surroundings (Buckingham canal & back waters). The committee verified the log book and found that leaks are taking place almost every week.

4. The fly ash that is leaked into the surrounding environment are not cleaned or removed by the unit. The committee observed that as reported in newspaper on 01.07.2021 regarding the leakage occurred in ash pipeline, it was reported that on 29.06.2021 at 7:20 AM leakage in ash slurry pipeline no.5 near Seppakkam hamlet was noticed and the pump was immediately stopped at 7:25 AM, the portion of the damage was repaired and pipeline was put into service by 12:25 PM on the same day. The Joint Committee noticed that the old pipelines 1 & 5 replaced with retrieved pipes from ETPS is also even leaking and got damaged.
5. Hence the committee opined that the NCTPS Stage-I has to replace all the old pipelines only with new pipes to permanently resolve the slurry ash disposal into water bodies.

iv) Direction of Hon'ble NGT Vide Para 10(iv):

Whether there was any air pollution or water contamination caused on account of the spillage of fly ash due to leakage of pipelines.

Findings of the committee:

1. To assess ground water contamination if any due to the spillage of ash from the leakage of pipelines and seepage from Ash pond, sub surface water samples have been collected from the Bore well nearby the ash pond (about 400m away from Seppakkam Village) and the piezometric wells provided around the ash ponds.
2. The results are compared with the tolerance limits for inland surface waters, Class C (Drinking water source with conventional treatment followed by disinfection) as per IS:2296-1982, and found that the parameters are within the above said standards.
3. Also, to assess the air pollution caused if any due to the carryover of ash, ambient air quality monitoring survey was conducted at Seppakkam village (24 hours sampling on 31.08.2021) and Atthipattu Village (24 hours sampling on 26.08.2021) and at NCTPS, Near Sub Station (24 hours sampling on 02.09.2021) which revealed that the parameter PM10 value (152micro g/m^3) at

Atthipattu Village exceeded the Ambient Air Quality (AAQ) standards (100 micro g/m^3) prescribed.

4. The unit has constructed a bund to prevent runoff or leakages from entering Seppakkam Village. Reported that the unit has proposed to install wind net of length of 324 metres and height 3 meters over the existing protection bund (1.5m height) to prevent dust emissions if any reaches the Village.

v) Direction of Hon'ble NGT vide Para 10(v):

Whether any unlawful dumping of fly ash is being done in the nearby water bodies and if so, what is the nature of damage caused to the water bodies on account of the same and the remedial measures to be taken for restoring the damage caused to the water bodies.

Findings of the committee:

Flyash is observed in Buckingham canal, Kosathaliayar river and salt pan due to pipeline leakage. The unit has not delibertaely discharged the flyash into these areas. The unit is involved in removing the flyash from Buckingham canal and kosasthaliayar river through PWD by dredging operations. The excavated flyash is taken to ash dyke. However flyash dumped in these areas has to be removed completely and transferred to ash dyke.

vi) Direction of Hon'ble NGT vide Para 11:

The committee is also directed to assess the environmental compensation, if there is any damage caused to the environment on account of the alleged act of the Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) to be recovered from them including the expenses required for carrying out the remediation measures and restore the damage caused to the environment including the rectifying the contamination, if any, caused to the water body and water quality in that area.

Action taken by the Committee:

It is submitted that the environmental compensation has been assessed (vide para 6 above) for NCTPS Stage-I for continuing the discharge of ash slurry in Buckingham Canal and Backwaters.

Further, due to works carried out for laying of ashpipeline fot Stage-III and coal conveyor & sea water intake and outfall pipleline corridor for Ennore SEZ, no physical

damage was observed. The committee suggests that TANGEDCO shall resume the above said activitiesonly after obtaining amendment to the existing CRZ Clearance.

8. Recommendations of the Committee

1. The TANGEDCO shall resume the activities pertaining to the NCTPS Stage III and Ennore SEZ Power Plants within the CRZ area in Kosasthalaiyar River/ Buckingham Canal/Backwaters only after obtaining amendment to the existing CRZ Clearance from MoEF&CC.
2. The TANGEDCO shall expedite removal of debris and dredged material from Kosathalaiyar river and restore natural flow within October 31, 2021.
3. The TANGEDCO shall strictly fulfill and comply with the conditions imposed in the Environmental Clearance under the EIA Notification as amended and CRZ Clearance under the CRZ Notification as amended without violations and deviations for NCTPS Stage III and Ennore SEZ Power Plants unlike the environmental damage already caused by the operation of NCTPS Stage-I & II Thermal Plants due to ash deposit in the water bodies and the air-borne fly ash in the nearby villages causing nuisance and air pollution.
4. The TANGEDCO shall procure and replace the existing ash slurry pipe lines 1, 2, 3, 4 & 5pertaining to the NCTPS Stage I with new cast basalt pipe before December 2021 as already committed to the Hon'ble National Green Tribunal in Applications No.8 of 2016, 152 of 2016 & 198 of 2016.
5. The TANGEDCO shall also procure and replace the retrieved pipes from ETPS utilized for ash slurry pipe lines 1 & 5 pertaining to the NCTPS Stage I with new cast basalt pipe to permanently resolve the slurry ash disposal into water bodies.
6. The TANGEDCOis stopping the pumps soon after identifying leaks, followed by flushing with water and replacing the damaged portion of the pipe. However, the TANGEDCO is not taking any measures to clean up the area, where leak has taken place. The committee suggests that in addition to stopping the pumps, repairing the pipes, the TANGEDCO shall also take measures to clean up the area, where ash slurry has leaked, and transfer the ash it into ash dyke.
7. From the log books, the committee observed that, pipeline leaks due to pipe burst/rupture of joints due to ageing of pipes are very common and frequently (average frequency of one leak/week) taking place in old pipelines. Apart from the

leaks due to pipeline bursts/rupture, pinhole leakage is taking place in all three old pipelines. The TANGEDCO is not taking measures to rectify pinhole leakages. If timely action is not taken to rectify these pinhole leakages, it may lead to a major leakage. The committee submits that the TANGEDCO shall immediately rectify the pinhole leakages in the pipelines that are noticed by the patrolling team.

8. The TANGEDCO is replacing the portion of the old damaged pipeline with pipes retrieved from Ennore Thermal Power Plant to arrest leakage. After replacement, the damaged pipelines are laying at the place of leak itself. The committee submits that TANGEDCO shall take measures to remove all the old damaged pipelines laying in the ground and keep it in stores and subsequently dispose it.
9. The TANGEDCO shall carry out patrolling of ash slurry disposal pipe lines round the clock to notice and avert the leakages of pipe lines, so as to prevent the disposal of ash into Kosasthalaiyar River, Buckingham Canal etc. till the replacement of existing pipe lines.
10. During inspection, the committee observed that the ash previously removed from Kosasthalaiyar River and Buckingham canal was stored near the point of excavation.During rainfall, the ash will get into river & canal again. The committee submits that the TANGEDCO& PWD shall ensure that the removed ash shall be transferred to ash dyke.
11. The NCTPS Stage-I shall remit the environmental compensation of**Rs.4,12,20,000/- (Rupees Four crore twelve lakhs & twenty thousand only)** assessed by the Committee for continuing the disposal of ash slurry in water bodies.
12. The unit shall provide dust nets/mesh towards Seppakkam village to minimize the impacts of flyash dust and stack emissions.
13. The unit shall augment the air pollution control devices installed in Stage-I & II and ensure that stack emissions are complying with notified standards. The units shall ensure that OCEMS installed in Stage-I & II are working properly and real time actual data is transmitted to CPCB and TNPCB servers.
14. The unit shall strengthen the earthen bund laid towards Seppakkkam village and ensure that runoff from ash dyke or ash depositions are not carried to villages. The unit shall provide a drain before the bund so that runoff water is collected in drains and can be lifted back to ash dyke.

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.

M.Vinoth Kumar,
Programme Officer,
GIS Cell,
Directorate of Environment,Chennai
representing
Tamilnadu Coastal Zone Management Authority.

P.Selvam,
Revenue Divisional Officer,
Ponneri, Thiruvallur District.
representing
District Collector,
Thiruvallur District.

S.Vijayakumar
Environmental Engineer,
representing
Joint Chief Environmental Engineer(M),
Tamil Nadu Pollution Control Board,
Chennai Zone.

Mahima T
Scientist 'D'
CPCB,
Regional Directorate,
Southern Region, Chennai.

R.Sridhar,
Scientist 'D'
MoEF & CC,
Integrated Regional Office, Chennai.

A.Muthaiya,
Superintending Engineer,
Water Resources Department / PWD,
Chennai – 600 005.

ANNEXURE - I

Item No.05:

BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI

Original Application No. 162 of 2021 (SZ)

(Through Video Conference)

IN THE MATTER OF

Tribunal on its own motion- Suo-Motu based on the news Item published in the Times of India Newspaper, Chennai Edition, dated 01.07.2021, under the caption "Another Pipeline leak at Ennore Power Plant".

...Applicant(s)

Versus

1. Union of India, Rep. by its Secretary,
   Ministry of Environment and Forests and Climate Change,
   Indira Paryavaran Bhawan,
   Jorbagh Road, New Delhi – 110 003.

2. The Chief Secretary to Govt. of Tamil Nadu,
   Govt Secretariat, Fort St. George,
   Chennai, Tamil Nadu – 600 009.

3. The Principal Secretary to Government,
   Public Works Department,
   Govt Secretariat, Fort St. George,
   Chennai, Tamil Nadu – 600 009.

4. The Secretary to Govt., of Tamil Nadu,
   Department of Environment, Climate Change & Forests,
   Govt Secretariat, Fort St. George,
   Chennai, Tamil Nadu – 600 009.

5. The Principal Secretary to Govt. of Tamil Nadu,
   Department of Energy,
   Govt Secretariat, Fort St. George,
   Chennai, Tamil Nadu – 600 009.

6. Tamil Nadu Coastal Zone Management Authority,
Rep. by its Member Secretary,
First Floor, Panagal Building,
Saidapet, Chennai – 600 015.

7. The Chairman,
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
New Delhi – 110 032.

8. The Chairman,
Tamil Nadu Pollution Control Board,
No. 76, Anna Salai, Guindy,
Chennai, Tamil Nadu – 600 032.

9. Tamil Nadu Generation and Distribution Corporation,
Rep. by its Chairman cum Managing Director,
6th Floor, TANTRANSCO Building,
144, Anna Salai, Chennai 600 002.

10. North Central Thermal Power Station,
Rep. by its Chief Engineer,
Athipattu, Thiruallur,
Chennai – 600 120.

11. The District Collector,
Tiruvallur District,
First Floor, Collectorate,
Tiruvallur – 602 001.

12. The Chief Engineer,
Public Works Department, WRO,
State Ground Water & Surface,
Water Resources Data Center,
Taramani, Chennai – 600 113.

..Respondent(s)

Date of hearing: 30.07.2021.

CORAM:

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

HON'BLE MR. DR. K. SATYAGOPAL, EXPERT MEMBER

For Applicant(s): By Court

For Respondent(s): Dr. D. Shanmuganathan for R2 to R6, R11 & R12
Mrs. P. Jeyalakshmi for R7
Mr. C. Kasirajan through
Ms. D. Ashwini for R8

ORDER

1. The above case has been Suo-Motu registered by this Tribunal on the basis of the newspaper report published in the 'Times of India' Chennai Edition dated 01.07.2021, under the caption ***"ANOTHER PIPELINE LEAK AT ENNORE POWERE PLANT'*** *Residents Suffering from Air Pollution, Water Contamination* and also another newspaper report published in the 'New Indian Express, Chennai edition, dated 13.07.2021, under the caption ***"TANGEDCO VIOLATING RULES IN Ennore"*** and also another newspaper report published in the same newspaper namely, the 'New Indian Express' dated 15.07.2021 under the caption " ***TANGEDCO's Ennore SEZ Project deviating from approved alignment".***

2. In all these newspaper reports, the allegation was that the Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) was deviate the line in violation of the rules and carrying out the project against the conditions imposed in the clearances granted.

Apart from that, in the fly ash slurry pipe that is being used by the Ennore Power Plant for transferring the ash slurry from the plants, there was a leak which resulted in large scale spilling of fly ash slurries in the residential area which can result in air pollution as well as the water contamination.

3. Further, it is also mentioned in the 'Times of India 'newspaper report dated 01.07.2021 that the Controller and Auditor General's report had mentioned about the ash dumping is contaminating the ground water in those areas.

4. The Ennore Thermal Power Plant is expected to strictly comply with the conditions imposed in the clearances granted in respect of disposal of fly ash generated during their operation. They are also expected to take all necessary steps to see that the fly ash generated is disposed of in a scientific manner as per the directions issued by the Ministry of Environment, Forests and climate Change (MoEF& CC) in this regard without keeping the same for a long time. They are also expected to see that the ash slurries being conveyed through the pipe should not resulted in spillage affecting the nearby areas, especially nearby water bodies.

5. Ongoing through the allegations made in all the newspaper reports, this Tribunal is satisfied that that there arises a substantial question of environment which requires the interference of this Tribunal. So the

matter is admitted.

6. When the matter came up for hearing for admission today through Video Conference, Dr. D. Shanmuganathan represented respondents 2 to 6, 11 & 12, Mrs. P. Jeyalakshmi represented 7nd respondent and Mr. C. Kasirajan through Ms. D. Ashwini represented 8th respondent.

7. Issue notice to the respondents by Registered post with acknowledgement due, and also by e-mail along with the newspaper report mentioned above and gist of the Suo-Motu proceedings with full cause title immediately.

8. The Registry is directed to send notice through e-mail as well as to the respondents.

9. In order to ascertain the genuineness of the allegations made in the newspaper report and also the alleged violations, we feel it appropriate to appoint a joint committee comprising of **(1)** The District Collector, Tiruvallur District, **(2)** a Senior Officer from Ministry of Environment, Forests and Climate Change, (MoEF&CC), Integrated Regional Office, Chennai, **(3)** a Senior Officer/Scientist from Central Pollution Control Board (CPCB), Integrated Regional Office, Chennai, **(4)**The Superintending Engineer form Public Works Department (PWD) and Water Resources Organisation (WRO), Chennai, **(5)** a Senior Officer from Tamil Nadu Coastal Zone Management Authority (TNCZMA), Chennai and **(6)** a Senior Officer

from Tamil Nadu Pollution Control Board as designated 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.

10. The committee is directed to ascertain as to whether i) there are any violations of conditions imposed in the clearances and permissions granted for Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), II) whether there was any deviation from the proposed alignment of the pipe as permitted under the clearances granted without obtaining any approvals of modification of the same from the appropriate authorities, III) whether there was any leakage of ash pipe resulting in spillage of fly ash in the neighbouring areas and if so, what is the nature of damage caused on account of the same, IV) whether there was any air pollution or water contamination caused on account of the spillage of fly ash due to leakage of pipe lines, V) whether any unlawful dumping of fly ash is being done in the nearby water bodies and if so, what is the nature of damage caused to the water bodies on account of the same and the remedial measures to be taken for restoring the damage caused to the water bodies.

11. The committee is also directed to assess the environmental compensation, if there is any damage caused to the environment on account of the alleged act of the Tamil Nadu Generation and

Distribution Corporation Limited (TANGEDCO) to be recovered from them including the expenses required for carrying out the remediation measures and restore the damage caused to the environment including the rectifying the contamination, if any, caused to the water body and the water quality in that area.

12. The Tamil Nadu Pollution Control Board (TNPCB), Chennai will be the nodal agency for co-ordination and for providing necessary logistics for this purpose.

13. The Tamil Nadu Pollution Control Board (TNPCB) is also directed to submit an independent report regarding the pollution caused and the action taken by them in this regard.

14. The applicant is also directed to submit a set of papers to the members of the committee within a week, so as to avoid delay in submitting the report.

15. The above officials are directed to submit the report to this Tribunal on or before ***31.08.2021,*** by e-filing in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF along with necessary hard copies to be produced as per rules.

16. The Registry is directed to communicate this order to the members of the committee, official respondents immediately through e-mail along with the copy of the newspaper report and the gist of the Suo Motu proceeding with full cause title so as to enable them to comply with

the direction and for filing their independent response to the allegations made in the newspaper report and filing the report as directed by this Tribunal.

17. For appearance of parties and submitting their independent responses as directed, post on ***31.08.2021.***

Sd/--

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

Sd/--

.....E.M.
(Dr. K. Satyagopal)

O.A. No. 162/2021(SZ)
30.07.2021. Sr.

ANNEXURE - II

Item No.01:

BEFORE THE NATIONAL GREEN TRIBUNAL

SOUTHERN ZONE, CHENNAI

Original Application No. 122 of 2021 (SZ)

(Through Video Conference)

IN THE MATTER OF:

R. Ravimaran,
Ennore, Chennai. ...Applicant(s)

Versus

Union of India,
Rep. by its Secretary, MoEF & CC,
New Delhi and others. ....Respondent(s)

Date of hearing: 07.06.2021.

CORAM:

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

HON'BLE MR. Dr. K. SATYAGOPAL, EXPERT MEMBER

For Applicant(s): M/s. Poonghulali represented
Mr. A. Yogeshwaran

For Respondent(s): Dr. V. R. Thirunarayanan for R2 & R3
Mr. Saravanan represented
Mr. Vijay Meghanath for R4 & R5

ORDER

1. The grievance in this application is regarding the construction of pipelines along the Kosathalaiyar River basin by respondents 4/Tamil Nadu Generation and Distribution Corporation (TANGEDCO) and 5/ North Chennai Thermal Power Station for the purpose of disposing the Ash Slurry that is likely to be generated during of the course of operation of the unit which is a Coal fuel base Thermal Power Plant.

2. It is alleged in the application that though they have obtained Environmental Clearance and CRZ clearance for this project, there is no permission granted under both these clearances for the purpose of laying a pipelines for discharge of disposal of ash slurry across the Kosathalaiyar River. Even in the Environment Impact Assessment (EIA) report, they have not mentioned anything about the place allotted for the ash pond and also for disposal of the same through pipeline as being done by them at present. This is in gross violation of the CRZ notification and also against the terms and conditions provided under the environmental clearance granted, is the allegation made in the application. So the applicant filed this application seeking the following reliefs:-

> A. *Direct Respondents No. 1 to 5 to forthwith demolish the illegal structures constructed by the 4th and 5th respondents to carry pipelines to transport coal ash across the backwaters and main channel of the Kosathailar river.*
>
> B. *Direct the 4th and 5th respondents to utilize the pipelines procured by them to replace the leaking, ageing pipelines carrying ash slurry from the 1st and 2nd phase Thermal Plants. So as to prevent further contamination of the environment.*

3. When the matter came up for hearing for admission today through Video Conference, M/s. Poonghulali represented Mr. A. Yogeshwaran counsel for applicant. Dr. V. R. Thirunarayanan represented respondents 2 & 3 and Mr. Saravanan represented Mr. Vijay Meghanath counsel for respondents 4 & 5.

4. On going through the allegations made in the application, we are satisfied that there arises a substantial question of environment which requires the interference of this Tribunal for resolving the same. So the matter is admitted.

5. The learned counsel appearing for the applicant wanted an interim order to be granted restraining the respondents 4 and 5 from proceeding with the construction of laying a pipeline. We feel that before getting a report regarding the violations if any, it is not proper to grant an interim order. However any work done by the respondents 4 and 5 allegedly in violations of environmental clearance and CRZ notification will be subject to the further orders to be passed by this Tribunal in the matter. If ultimately, it is found that it was laid without obtaining necessary clearance or environmental clearance both under the EIA notification, 2006 and under CRZ notification, then they will have to face the consequences, including for removal of the same, apart from the payment of environmental compensation for the damage caused to the environment.

6. Issue notice to the respondents by Registered post with acknowledgement due and by e-mail and produce proof of service on them by filing proof of affidavit as per rules.

7. The applicant is also directed to serve a copy of the application along with the documents produced to the standing counsel appearing for the

respondents 2 to 6 within a week and produce proof of such service by filing proper affidavit as per rules.

8. The applicant is also directed to produce necessary requisites along with postal cover and the necessary postal stamps before this Tribunal within a week, to send notice to all the respondents through Tribunal, to ensure service on them, so as to enable this Tribunal to proceed against them, if they did not appear in their absence in accordance with law.

9. In order to ascertain the genuineness of the allegations made in the application and also alleged violations of CRZ notification, as well as the conditions of CRZ and environmental clearance granted, we propose to appoint a joint committee comprising of **(1)** The District Collector, Tiruvallur District or a Senior Officer not below the rank of Assistant Collector or Sub Divisional Magistrate as deputed by the District Collector, **(2)** a Senior Officer from the Integrated Regional Office, Ministry of Environment Forest and Climate Change (MoEF & CC), Chennai, **(3)** a Senior Officer from Tamil Nadu Coastal Zone Management Authority (TNCZMA), Chennai **(4)** a Senior Officer from not below the rank of Superintending Engineer from Tamil Nadu Public Works Department and **(5)** Irrigation Department and **(6)** a Senior Officer from the Tamil Nadu Pollution Control Board (TNPCB) deputed by its Chairman to inspect the area in question and submit a factual as well as action report if there is any violation found.

10. The committee is also directed to consider

(i) The impact of construction of pipeline on riverine environment and also on 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 Kosathalaiyar river basin,

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

11. The Public Works Department (PWD) will be the nodal agency for co-ordination and for providing necessary logistics for this purpose.

12. The applicant is also directed to submit a set of papers to the members of the committee within a week, so as to avoid delay in submitting the report.

13. The committee is directed to submit the report to this Tribunal on or before ***23.07.2021***, by e-filing in the form of searchable PDF/OCR

Support PDF and not in the form of Image PDF along with necessary hard copies to be produced as per rules.

14. The District Collector, Tiruvallur District is also directed to co-ordinate with the Public Works Department (PWD) to provide all necessary assistance to carry out the work and submit the report without delay.

15. The Registry is directed to communicate this order to the members of the committee as well as the official respondents immediately through e-mail, so as to enable them to comply with the direction and for filing their independent response to the allegations made in the application and also for filing their independent report as directed by this Tribunal.

16. For appearance of parties, for filing independent response and also for consideration of report, post on ***23.07.2021.***

Sd/--

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

Sd/--

.....E.M.
(Dr. K. Satyagopal)

O. A. No.122/2021, (SZ)
07.06.2021, Sr.

ANNEXURE-III

SE/E/T & H | SE/M
SE/C/P & E | SE/PD
SE/C/TP | SE/C/UP

30 JAN 2016

F.No. 10-13012/14/2012-IA.II (T)
Government of India
Ministry of Environment, Forest and Climate Change
Indira Paryavaran Bhawan, Jor Bagh Road,
Aliganj, New Delhi-110003

Dated: 20.01.2016

To

M/s Tamil Nadu Generation & Distribution Corporation Ltd.
(A successor entity of TNEB),
5th Floor Western Wing, NPKRR Maaligai,
144, Anna Salai, Chennai-2,
Telefax: - 044-28520878; E.mail:- cepr@tnebnet.org

25 JAN 2016

Sub: *Environmental Clearance for Expansion by addition of 1x800 MW (Stage-III), North Chennai TPP and CRZ Clearance for foreshore facilities at Villages Ennore & Puzhudivakkam, Taluk Ponneri, District Thiruvallur, Tamil Nadu by M/s Tamil Nadu Generation & Distribution Corporation Ltd. (TANGEDCO).*

005157

Sir,

This has reference to your online application dated 26.05.2015 and additional information/documents submitted vide letter dated 18.11.2015 & 20.11.2015 w.r.t the aforesaid project. This Ministry has examined the proposal. It is inter-alia, noted that the ToR for preparation of EIA/EMP report was accorded by the Ministry on 28.05.2012 and the validity of TOR was extended upto 27.05.2015 on 08.09.2014. Public Hearing was conducted on 05.03.2015. The State level CZMA in its meeting dated 19.05.2015 has recommended the CRZ clearance for foreshore facilities.

2. The land requirement for the proposed expansion is 76.9 Ha (190 acres), which is located inside the NCTPS complex. Entire land is under possession of TANGEDCO. There are no R&R issues. No further expansion is envisaged. There are no National Parks, Sanctuaries, Elephant/Tiger Reserves, Migratory Routes/Wildlife Corridors within 10 km of the project site. The site is 500 m away from High Tide Line (HTL) of Sea and 100 m away from the HFL of canal. The project site is a graded area with necessary drains developed during execution of NCTPS Stage I project (3x210 MW). The capital and recurring cost towards EMP is Rs. 480 Crores and 48 Crores respectively.

3. The imported coal requirement of 2.09 MTPA will be sourced through MMTC, New Delhi. FSA/MoU for Imported Coal MoU has been signed between MMTC limited, a GOI Enterprise and TANGEDCO on 25.05.2015 for supply of 2.51 MTPA of Coal for proposed NCTPS Stage III (1x800 MW) plant. The maximum sulphur and ash contents of the imported coal shall be 0.8% and 8% respectively. Ennore Port is establishing Coal Berth 3 (CB 3) exclusively for the use of TANGEDCO in addition to existing Coal Berth 1 & 2. It is proposed to transport coal from CB 3 to the NCTPS Stage III plant site through closed belt conveyors since the coal conveyor route is well within Port and Power plant area alone. Kamarajar Port Limited (erstwhile Ennore Port Limited) vide letter dated 28.07.2015 has consented for handling of imported coal for the proposed expansion TPP. Radio activity and heavy metal contents of coal to be sourced have been tested and the parameters are well within limits.

4. The potable water of about 9 MLD required for the plant will be met by treating sea water in R.O. based desalination plant. The sea water (1,65,600 KLD)

will be sourced Ennore port basin via existing intake channel of NCTPS Stage II. COC of 1.3 has been proposed to optimize water usage. The domestic wastewater from plant and service wastewater will be collected and treated and reused for greenbelt, dust suppression, etc. and zero discharge will be maintained. As sea water is proposed for cooling purpose, the same will be discharged into sea through the existing pre cooling channel of NCTPS.

5. The following facilities will be in CRZ area:

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

ii. Supporting trestles (Steel frames) for coal conveyor at about 6 m/8 m from ground level.

iii. Sea water intake from forebay 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.

6. Fly ash and bottom ash would be collected and stored in the silos and supplied to cement/brick industries for manufacturing cement and bricks. 100% Dry Fly ash Collection will be done by providing Pressurized Dry Fly ash Collection System. The fly ash from the existing Units is being sold by e-auction and the same is proposed for the instant Unit. An MOU is executed with M/s Dalmia Cements (Bharat) Ltd, Dalmiapuram, Tamilnadu for off take of fly ash from the proposed NCTPS Stage III (1x800MW). Ash pond water will be collected, treated and reused for slurry making.

7. Based on the information, clarification, documents submitted and presentations made by you and your consultant, viz. Ramky Enviro Engineers Ltd., Hyderabad, before the *Expert Appraisal Committee (EAC - Thermal Power) in its 38th & 46th Meetings held during 25th-26th June, 2015 & 26th-27th November, 2015, respectively and EAC (CRZ) in its 150th Meeting held during 29th-31st July, 2015*, the Ministry hereby accords environmental clearance to the above power plant under the provisions of EIA Notification dated September 14, 2006 & subsequent amendments therein and CRZ clearance for foreshore facilities under the provisions of CRZ Notification, 2011 & subsequent amendments therein subject to compliance of the following Specific and General conditions:

A. Specific Conditions:

(i) *Explore the feasibility of multiple distributing point for the discharge of cooling water into pre-cooling channel and also the widening of the pre-cooling channel.*

(ii) *PP shall endeavor to enter into MoUs with NHAI, Associations of Cement Industries and Municipal Authorities for ensuring full ash utilization.*

(iii) *As committed, FGD shall be installed to ensure emission below threshold limits.*

(iv) *Coal conveyance shall take place in closed conveyor and that there shall be no open stacking of the coal in the CRZ area.*

(v) *The intake water pipeline shall be laid as per provisions of CRZ Notification, 2011.*

(vi) *Disposal of hot water shall meet Tamil Nadu Pollution Control Board (TNSPCB) norms.*

(vii) *Water temperature shall be monitored at outlets of each of the unit (3 phases) and also at pre-cooling channel joining Ennore creek.*

(viii) *All the recommendations and conditions specified by Tamil Nadu Coastal Zone Management Authority (TNCZMA) vide letter No.10173/EC.3/2015-1 dated 16.06.2015, shall be complied with.* CZMA

(ix) *Explore to develop Green belt along the conveyor.*

(x) *Periodical monitoring of the sea water at the discharge point shall be done and report be submitted along with the six monthly monitoring reports.*

(xi) *Construction activity shall be carried out strictly as per the provisions of CRZ Notification, 2011. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.*

(xii) Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within **six months**.

(xiii) Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.

(xiv) *The sulphur and ash content of coal shall not exceed 0.8 % and 8 % respectively. In case of variation of quality at any point of time, fresh reference shall be made to the Ministry for suitable amendments to the environmental clearance.*

(xv) A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.

(xvi) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 30 mg/Nm^3. Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided along with an environment friendly sludge disposal system.

(xvii) 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.

(xviii) The SO_2, NOx and Hg emissions shall not exceed 100 mg/Nm^3, 100 mg/Nm^3 and 0.03 mg/Nm^3 respectively.

(xix) The specific water consumption shall not exceed 2.5 m^3/MWh and zero waste water discharge shall be achieved.

(xx) COC of atleast 1.3 shall be adopted.

(xxi) Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.

(xxii) A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.

(xxiii) 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.

(xxiv) Wastewater generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB/CPCB.

(xxv) Explore the commercial utilization of brine instead of discharging into sea.

(xxvi) Disposal of solid/liquid from Desalination plant shall comply with the prescribed standards and if need be, environmental safeguard measures by providing balancing/neutralizing tank may be set up and operated regularly & efficiently.

(xxvii) Sea water quality shall be continuously monitored for salinity, turbidity and temperature at selective sites across the impacted zone including estuarine waters. Mitigative measures shall be undertaken through institutes such as Annamalai University for continuous preservation of mangroves and their ecology. The monitoring data shall be uploaded on the company's website and also submit to Regional Office of the Ministry every six months.

(xxviii) To minimize entrapment of even small marine flora and fauna, state of the art low aperture intake screens with high effectiveness for impingement and entrainment and fishnet around intake shall be installed.

(xxix) Fish catch along the impacted zone of sea should be monitored periodically by the Department of Fisheries, Government of Gujarat. The project proponent shall accordingly take up the matter with the Fishery Dept., Govt. of Gujarat from time to time.

(xxx) The project proponent shall upload environmental quality monitored data on a regular basis on its website.

(xxxi) Marginalized section of society particularly traditional fishermen communities shall be identified based on 2011 population census data and socio-economic study of the various strata of families such as those carrying out subsistence fishing, commercial fishing etc. shall be carried out and impact on their livelihoods shall be assessed separately. Accordingly, sustainable welfare scheme/measures shall be undertaken and status of implementation shall be submitted to the Regional Office of the Ministry within six months.

(xxxii) A state-of-the-art environmental laboratory at the project site shall be established such that the laboratory has facilities for long term monitoring of sea water quality and sediment in the impacted zone over and above and ambient air, soil quality analysis of the area. The proponent shall undertake mitigative measures if there are any negative impacts.

(xxxiii) Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.

(xxxiv) Fugitive emission of fly ash (dry or wet) shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided in consultation with the local Panchayat.

(xxxv) Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.

(xxxvi) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) shall be monitored in the bottom ash. No ash shall be disposed off in low lying area.

(xxxvii) Green Belt consisting of three tiers of plantations of native species all around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 80 %.

(xxxviii) Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary.

(xxxix) An Environmental Cell comprising of at least one expert in environmental science/ engineering, ecology, occupational health and social science, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.

(xl) The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.

(xli) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken.

CSR

Company shall provide separate budget for community development activities and income generating programmes.

(xlii) For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.

B) General Conditions:

(i) The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.

(ii) A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.

(iii) Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.

(iv) Storage facilities for auxiliary liquid fuel such as LDO/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.

(v) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.

(vi) Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 85 dB(A) from source. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy/less noisy areas.

(vii) Regular monitoring of ambient air ground level concentration of SO_2, NOx, $PM_{2.5}$ & PM_{10} and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.

(viii) Utilization of 100% Fly Ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.

(ix) Provision shall be made for the housing of construction labour (as applicable) within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care,

crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

(x) The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in.

(xi) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.

(xii) The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM ($PM_{2.5}$ & PM_{10}), SO_2, NO_x (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.

(xiii) The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.

(xiv) **The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.**

(xv) Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six monthly basis. **Criteria pollutants levels including NO_x (from stack & ambient air) shall be displayed at the main gate of the power plant.**

(xvi) Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment

protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.

(xvii) The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.

(xviii) Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry / CPCB/ SPCB who would be monitoring the compliance of environmental status.

C) An as built or as completed report on EMP to be submitted stating the scope/extent of work envisaged in the EIA along with estimated cost vis-à-vis the actual completed works and cost incurred. A certificate/completion certificate accordingly, shall have to be submitted before commissioning of the TPP.

8. The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.

9. The environmental clearance for the power plant **shall be valid for a period of 7 years** from the date of issue of this letter to start operations by the power plant. The CRZ clearance for foreshore facilities **shall be valid for a period of 5 years** from the date of issue of this letter for commencement of construction & operation of foreshore facilities.

10. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

11. In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.

12. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management, Handling & Transboundary Movement) Rules, 2008 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.

13. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Yours faithfully,

(B. B. Barman)
Scientist 'F'

Copy to:
1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi

2. The Secretary (Environment), Environment Department, Government of Tamil Nadu.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Tamil Nadu Pollution Control Board, No. 76, Mount Road, Mount Salai, Guindy, Chennai - 600 032
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi- 110032.
6. The Additional Principal Chief Conservator of Forests (C), Regional Office (SEZ), 1st and IInd Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai- 34.
7. The District Collector, Thiruvallur District, Govt. of Tamil Nadu
8. Guard file/Monitoring file.
9. Website of MoEF&CC

(B. B. Barman)
Scientist 'F'

ANNEXURE - IV

F. No. J-13012/36/2010-IA.II (T)
Government of India
Ministry of Environment, Forests and Climate Change
(IA Division)

2nd Floor, Vayu Block
Indira Paryavaran Bhawan
Jor Bagh Road, Aliganj
New Delhi - 110 003

Dated: 09th April, 2021

To,

The Chief Engineer / Projects – 1
M/s Tamil Nadu Generation and Distribution Corporation (TANGEDCO)
5th Floor, Western Wing, NPKRR Maaligai
144, Anna Salai, Chennai – 600 002

Sub: 2x660 MW Ennore SEZ Thermal Power Plantby M/s TANGEDCO at Vayalur Village, Ponneri Taluk, District Tiruvallur, Tamil Nadu – Extension of validity of Environmental Clearance – reg.

Sir,

This has reference to your online application no. IA/TN/THE/173531/2020 on 16th September, 2020 for extension of validity of the Environmental Clearance dated 7th January, 2014.

2. The Ministry of Environment, Forest and Climate Change has considered the proposal for grant of extension of validity of Environment Clearance dated 7th January, 2014 (i.e. till 6th January, 2014) and amendment dated 14th August, 2018 for change in project capacity i.e. from 2X800MW to 2X 660MW under the provisions of EIA Notification, 2006 and amendments therein.

3. Following are the details submitted by Project Proponent for the instant proposal.

(i) The EC for establishing 2x800MW was granted by the Ministry on 7.1.2014. Public hearing for the project was conducted on 23.2.2012. The configuration has been changed to 2x660MW vide Ministry's amendment letter dated 14.8.2018.

(ii) CRZ Clearance for coal pipe conveyor, cooling water and discharge pipelines under CRZ Notification, 2011, was granted by the Ministry on 1.1.2014 based on the TNCZMA recommendations dated 4.10.2011.

(iii) The current time schedule for the completion of the power project is 2022-23. The works are progressing in a fast track basis to commission the project within the time schedule. Physical progress of around 45% and financial progress of 55% has been achieved.

(iv) Considering slippages due to cyclones and Covid-19 lock down and other force majeure, commissioning of the project is delayed. Progress achieved so far for main plant is around 45%.

(v) It is estimated that extension of validity of EC for 3 more years is essential to complete the project works including provision of FGD for compliance of latest environmental norms. vi. It is expected that all the works including pollution control measures require another 3 years to complete the project. The unit-1

and unit-2 are expected to commission by May 2022 and August 2022 including completion of FGD.

(vi) Tender for installation of FGD is in process and it is expected that the work will be awarded for commencement by April 2021 and scheduled to be completed by August 2023.

(vii) Environmental Clearance has been issued by MoEFCC for the project based on the submission that the existing ash dyke of NCTPS will be utilized for the bottom ash disposal, since, the captioned project itself is being developed over the abandoned primary ash pond of NCTPS.

(viii) TANGEDCO has proposed augmentation of volume of the existing NCTPS Ash Dyke by raising 6 m under technical guidance of IIT Madras. After the above augmentation, the carrying capacity of Ash Dyke will increase to around 78,30,000 m3. The above work will be completed along with the completion of the captioned power project.

(ix) The proposed augmentation of the ash pond will cater to the bottom ash disposal. Further bottom ash is being evacuated by Govt. departments and other agencies for filling purposes and for brick manufacturing. xi. Coordinates of ash pond are as below:

Point	Latitude	Longitude
A	13°17'5.63"N	80°18'45.43"E
B	13°15'51.87"N	80°18'31.97"E
C	13°15'54.08"N	80°18'24.54"E
D	13°17'12.30"N	80°18'6.42"E

(x) TANGEDCO applied to Tamil Nadu Coastal Zone Management Authority on 08.10.2020 to issue recommendation for extension of CRZ Clearance 1.1.2014, separately for 3 years.

(xi) Area of Green Belt proposed to be developed is 130 Acres. Around 10 Acres are already developed with suitable type plantation. It is submitted that around 40 Acres per Year will be developed as Green belt in the next 3 years within power plant before commissioning of the power plant. The selection of species for greenbelt will be based on the recommendations of District Forest Officer, Thiruvallur District

4. The Expert Appraisal Committee in its 4th Expert Appraisal Committee (Thermal Power) meeting held on 17th November, 2020, through Video Conferencing has recommended the proposal for grant of extension of validity of Environmental Clearance. The recommendations of the SCZMA were examined in CRZ Sector in the Ministry. Based on the recommendations of the EAC and in view of the recommendations of the SCZMA and information, clarifications and documents submitted by TANGEDCO, the Ministry of Environment, Forest and Climate Change hereby grants approval for extends the validity of the Environmental Clearance dated 7th January, 2014 & CRZ Clearance dated 1st January, 2014 for further 3 years i.e. up to 31.12.2023 in terms of the EIA Notification, 2006, as amended and CRZ Notification, 2011 *read with amendment vide S.O. 1002 (E) dated 06.03.2018* and subject to compliance of following additional conditions:

i. Flue-gas Desulphurisation (FGD) shall be installed and the progress (physical and financial) shall be submitted as part of compliance report.

ii. The ash pond (about 353 acres) augmentation by increasing the dyke height by 6 m to accommodate additional & unutilised ash generated from 2x660 MW Ennore SEZ TPP shall have all adequate environmental and safety

measures such as HDPE liner, high concentration slurry disposal system, ash water recycling system, dyke stability measures, and minimum distance of 500 m from the water bodies.

iii. The safety and structural stability of the ash pond is to be ascertained once in three years by reputed agency which has expertise in the field of geo-technical aspects, to avoid breaching as Ennore creek is less than 1 km from the said ash pond.

iv. Greenbelt consisting of three tiers of plantation of native species of at least 20 m width around the periphery of the ash pond (353 acres) shall be developed.

5. All other conditions stipulated in this Ministry's letter of even no. dated 7th January, 2014, amendment letter dated 14th August, 2018 and CRZ Clearance dated 1.01.2014 shall remain same.

6. This issues with the approval of the Competent Authority.

Yours faithfully,

9.4.2021

(Yogendra Pal Singh)
Scientist E
Email Id: yogendra78@nic.in
Telefax: 01124695365

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi – 110 001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R. K. Puram, New Delhi – 110 066.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi – 110 032
4. The Additional Director General of Forests, Regional Office (SEZ), first and second floor, Handloom Export Promotion Council, 84, Cathedral Garden Road, Nungambakkam, Chennai – 600 034
5. The Principal Secretary, Environment and Forest Department, Government of Tamil Nadu, Fort Saint George, Secretariat, Chennai – 600 009
6. The Chairman, Tamil Nadu Pollution Control Board, No. 76, Mount Road, Mount Salai, Guindy, Chennai – 600 032
7. The District Collector, Tiruvallur District, First Floor, Collectorate, Tiruvallur – 602 001
8. Guard file/ Monitoring file
9. Website of MoEF&CC

9.4.2021

(Yogendra Pal Singh)
Scientist 'E'

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE, CHENNAI.

Original Application No.162 of 2021 (SZ)

Tribunal on its own motion under the Caption "Another Pipeline Leak at Ennore Power Plant"

...Applicant

Vs

Union of India, Rep. by its Secretary, Ministry of Environment, Forests and Climate Change, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi and Ors

...Respondents

REPORT OF THE JOINT COMMITTEE FILED ON BEHALF OF THE RESPONDENT - TAMIL NADU POLLUTION CONTROL BOARD.

Advocate for the Respondent: TNPCB
Tr. S. Sai Sathya Jith,
Advocate, Chennai

Date: 23.09.2021

Date of Hearing: 24.09.2021