

SE/E/T & H	SE/M
SE/C/P & E	SE/PD
SE/C/TP	SE/C/NP

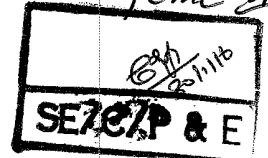
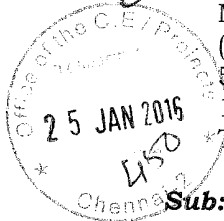
20/01/16  
22/01

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),  
5<sup>th</sup> Floor Western Wing, NPKRR Maaligai,  
144, Anna Salai, Chennai-2,  
Telefax: - 044-28520878; E.mail: - [cepr@tnebnet.org](mailto:cepr@tnebnet.org)



*Asale*  
*12/1/16*  
*elebme*

**005157 Sub: Environmental Clearance for Expansion by addition of 1x800 MW (Stage-III), North Chennai TPP and CRZ Clearance for foreshore facilities at Villages Ennore & Puzhuvakkam, Taluk Ponneri, District Thiruvallur, Tamil Nadu by M/s Tamil Nadu Generation & Distribution Corporation Ltd. (TANGEDCO).**

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)

17  
1/2/16

*Handwritten signature*

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 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 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 38<sup>th</sup> & 46<sup>th</sup> Meetings held during 25<sup>th</sup>-26<sup>th</sup> June, 2015 & 26<sup>th</sup>-27<sup>th</sup> November, 2015, respectively and *EAC (CRZ)* in its 150<sup>th</sup> Meeting held during 29<sup>th</sup>-31<sup>st</sup> 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.
- (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<sup>3</sup>. 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<sub>2</sub>, NO<sub>x</sub> and Hg emissions shall not exceed 100 mg/Nm<sup>3</sup>, 100 mg/Nm<sup>3</sup> and 0.03 mg/Nm<sup>3</sup> respectively.
- (xix) The specific water consumption shall not exceed 2.5 m<sup>3</sup>/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.

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<sub>2</sub>, NO<sub>x</sub>, PM<sub>2.5</sub> & PM<sub>10</sub> 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 4<sup>th</sup> 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<sub>2.5</sub> & PM<sub>10</sub>), SO<sub>2</sub>, NO<sub>x</sub> (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 31<sup>st</sup> 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<sub>x</sub> (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.

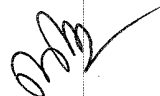
10. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

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 110001.



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), 1<sup>st</sup> and II<sup>nd</sup> 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'