

NORTH CHENNAI THERMAL POWER PROJECT – STAGE III
(1 X 800 MW)

DESCRIPTIVE REPORT ON STATUS OF COMPLIANCE TO THE CONDITIONS OF THE ENVIRONMENTAL CLEARANCE AND ENVIRONMENTAL MANAGEMENT

Subject: 1x800 MW North Chennai TPP (Stage-III) at villages Ennore and Puzhuvivakkam, Ponneri Taluk, Tiruvallur District, Tamil Nadu by M/s. Tamil Nadu Generation & Distribution Corporation Ltd (TANGEDCO).

Reference: MoEF&CC letter no. J-13012/14/2012-IAI (T) dated 20/01/2016 and 13/04/2017.

A. Specific Conditions:

S.No	Conditions	Compliance Status for the month of Apr '19 to Sep '19
i.	Explore the feasibility of multiple distributing points for the discharge of cooling water into pre-cooling channel and also the widening of the pre-cooling channel.	Single discharge point is only possible. Widening of pre-cooling channel is also being explored. Moreover, Natural Draught Cooling Tower (NDCT) is provided for this project.
ii.	PP shall endeavor to enter into MoUs with NHAI, Associations of Cement Industries and Municipal Authorities for ensuring full ash utilization.	MoU signed with M/s Dalmia Cements Ltd., for utilization of fly ash generated in this plant.
iii.	As committed, FGD shall be installed to ensure emission below threshold limits.	Tender process for FGD is in progress.
iv.	Coal conveyance shall take place in closed conveyor and that there shall be no open stacking of the coal in the CRZ area.	Will be complied.
v	The intake water pipeline shall be laid as per provisions of CRZ Notification, 2011.	Will be complied.
vi	Disposal of hot water shall meet Tamil Nadu Pollution Control Board (TNPCB) norms.	Will be complied.
vii	Water temperature shall be monitored at outlets of each of the unit (3 phases) and also at pre-cooling channel joining Ennore creek.	Will be taken up after commissioning.
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.	These conditions are fully related with the operation phase of the power plant and will be complied.
ix.	Explore to develop Green belt along the	Possibility of development of green belt along

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	conveyor	the conveyor will be explored.
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.	Will be taken up after commissioning.
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.	Being complied.
xii.	Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within six months.	There is no expansion envisaged after this NCTPS Stage-III project within the NCTPS Complex.
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.	Provision for harnessing of solar power has been made in the project scope.
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.	"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning."
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 ten 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.	"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning."
xvi.	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 30 mg/Nm ³ , 100 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	ESP is under construction. "Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning."

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	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.	Included in the project profile, will be complied.
xviii.	The SO ₂ , NO _x and Hg emissions shall not exceed 100 mg/Nm ³ , 100 mg/Nm ³ and 0.03 mg/Nm ³ respectively.	"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning."
xix.	The specific water consumption shall not exceed 2.5m ³ /MWh and zero waste water discharge shall be achieved.	"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning." As per the draft notification issued on 16.10.2017 by MoEF&CC, the coastal power plants are exempted from the purview of MoEF notification dated 07.12.2015 in respect of zero discharge. Gazette notification and further amendment of EC from MoEF&CC is awaited.
xx.	COC of at least 1.3 shall be adopted.	"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning."
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.	Regular monitoring is related to effluent discharge. As there is no effluent discharge during construction, regular surface water monitoring has not been carried out.
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.	Rain water harvesting system as per the guidelines of state PWD is being arranged.
xxiii.	No water bodies including natural drainage system in the area shall be disturbed due to	Being complied.

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	activities association 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.	Will be complied.
xxv.	Explore the commercial utilization of brine instead of discharging into sea.	Not feasible.
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.	Will be taken up after commissioning. Neutralization Pit is being provided.
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.	"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning."
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.	Since intake provision is from existing forebay of NCTPS-II, this does not arise.
xxix.	Fish catch along the impacted zone of sea should be monitored periodically by the Department of Fisheries, Government of Tamil Nadu. The Project proponent shall accordingly take up the matter with the Fishery Dept., Govt. of Tamil Nadu from time to time.	"Condition pertains to the operation phase of power plant. Will be taken up after commissioning."
xxx.	The project proponent shall upload environmental quality monitored data on a regular basis on its website.	"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning."
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	Impact on the livelihoods can be assessed only during the operation phase of the plant. Hence, will be taken up after commissioning.

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	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.	"Condition pertains to the operation phase of the project and will be complied." Construction of RODM plant with necessary lab is under execution.
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.	Additional soil for leveling of the proposed site is being met from within the NCTPS complex to the maximum extent possible.
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 localPanchayat.	"Condition pertains to the operation phase of the project". Hence will be taken up after commissioning."
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 coordination with the State Pollution Control Board.	"Condition pertains to the operation phase of the project and will be complied."
xxxvi.	Fly ash shall be collected in dry form and storage facility (silos) shall be provided.	Construction of silos is underway. Monitoring of Hg and other heavy metals will be

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	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.	complied during operation phase.
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%.	Will be complied.
xxxviii.	Green belt shall also be developed around the Ash Pond and above the Green Belt around the plant boundary.	Will be complied to the extent feasible
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	Environment Monitoring at site is being made, however arrangement will be made thro TANGEDCO HQ..
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.	Will be complied thro' SE/Projects & Environment/TANGEDCO, Chennai-2.
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	CSR activities will be taken up.

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	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.	Will be formed under the guidance of the District Collector and will be complied.

B. General Conditions:

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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.	"Condition pertains to the operation phase of the project and will be complied." (Effluent Treatment Plant is under construction).
ii.	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation	STP construction is under progress and treated sewage will 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	"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning."
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.	HSD and HFO tank constructed as per norms and obtaining necessary license is underway. Disaster Management Plan (DMP) is in place. Recommendations mentioned in the DMP are being followed.
v.	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction	Complied.

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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.	"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning." Required Personal Protective Equipment provided to the people working in the high noise area.
vii.	Regular monitoring of ambient air ground level concentration of SO ₂ , NO _x , 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	"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning."
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.	"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning."
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 healthcare, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	As both NCTPS Stage-I & II are operating plants, labourers are not allowed to stay inside the NCTPS complex. Labourers have been provided housing in the nearby villages in rented buildings by the EPC contractor with all facilities.
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	Necessary advertisement published (on 03.02.2016).

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	<p>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.</p>	
xi.	<p>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.</p>	<p>Complied. Copy of the clearance has been sent to District Collector / Tiruvallur, Revenue Divisional Officer/Ponneri, President/Athipattu Panchayat, Tahsildar / Ponneri taluk vide TANGEDCO's Lr.No.30 dated 04.02.2016.</p> <p>Copy of the Environmental Clearance was uploaded in the TNEB website.</p>
xii.	<p>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.</p> <p>The criteria pollutant levels namely; SPM, RSPM (PM_{2.5} & PM₁₀), SO₂, 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.</p>	<p>Being complied.</p> <p>Will be complied.</p>
xiii.	<p>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 email.</p>	<p>"Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning."</p>

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xiv.	<p>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.</p> <p>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.</p>	<p>Being complied.</p> <p>Being complied.</p>
xv.	<p>Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions.</p> <p>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.</p> <p>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.</p> <p>Criteria pollutants levels including NO_x (from stack & ambient air) shall be displayed at the main gate of the power plant.</p>	<p>Noted.</p> <p>Environmental Impact Assessment and Environment Management Plan already submitted and will be complied in respect to additional information.</p> <p>Being complied.</p> <p>“Condition pertains to the operation phase of the project. Hence, will be taken up after commissioning.”</p>
xvi.	<p>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</p>	<p>An amount of Rs.528 Crores is earmarked for environmental protection measures. (Capital cost: Rs.480 Crores and Recurring cost: Rs.48 Crores).</p>
xvii.	<p>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 date of start of land development work and commissioning of</p>	<p>Administrative approval accorded vide TANGEDCO Proceedings No.2, dt.21.01.2016. LOA issued to the BTG contractor on 29.01.2016.and BOP contractor 28.10.2016. Date of financial closure and commissioning of the plant will be informed later.</p>

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	plant.	
xviii.	Full cooperation shall be extended to the Scientists /Officers from the Ministry / Regional Office of the Ministry/ CPCS / SPCS who would be monitoring the Compliance of environmental status.	Full co-operation is being extended.
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.	Environment Management Plan already submitted. Information regarding the actual completed works and cost incurred will be furnished after completion of the project. Certificate/ completion certificate will also be submitted after completion of the project.
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	Noted.
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."	Noted.
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 Environmental Protection Act, 1986	Noted.
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.	Will be complied.

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12.	The above stipulations would be enforced among others under the Water (Protection 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.	Noted.
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.	Noted.

Sd./-13.01.20
 (N.NARAYANAN)
 Chief Engineer/Electrical
 NCTPP Stage- III