

Government of India
Ministry of Environment, Forest and Climate Change (MoEF&CC)
Nungambakkam, Chennai – 600034.

MONITORING REPORT

PART I

DATA SHEET

F.No. EP/12.1/870, 896 & 938/TN

- 1 Project Type : Thermal & CRZ
River valley / Mining /
Industry / Thermal /
Nuclear / Other Specify
- 2 Name of the project : i. 2x500 MW thermal power project at Thiruvallur, Tamil Nadu by M/s. NTPC – Tamil Nadu Energy Company Limited.
ii. 500 MW Vallur Thermal Project, Stage – I, Phase II at Vallur, Tamil Nadu by M/s. NTPC Tamil Nadu Energy Company Limited.
iii. CRZ Clearance for the construction of facilities such as pipelines bridge, Conveyor & Development of greenbelt for the proposed 1000 MW Vallur Thermal Power Project at Vallur, Tamil Nadu by M/s. NTPC Tamil Nadu Energy Company Limited.
- 3 Clearance letter(s) / OM : i. J-13011/33/2006-IA.II(T)dated 18/04/2007
No. and dated ii. J-13011/62/2008-IA.II(T) dated 3/06/2009
iii. 11-22/2009-IA.III dated 14/07/2009
Consent To Operate : CTO renewal has been obtained from TNPCB
(CTO) no, date and validity vide order no. 180824461264 dated 21/02/2018 which was expired on 31/03/2018. PP informed that application for CTO renewal has been submitted to TNPCB and the same is yet to be obtained.
- 4 Locations :
a. Taluk(s) : Ponneri.
District : Thiruvallur
b. State (s) : Tamil Nadu
c. Latitudes / Longitudes : 13°13'45"N / 80°18'05"E
- 5 Address of
correspondence
a. Address of concerned project Chief Engineer (with Pin Code & telephone / telex / fax numbers) : The Chief Executive Officer,
Vallur Thermal Power Project,
Vellivoyal Chavadi PO,
Ponneri Taluk,
Tiruvallur,
Chennai – 600103.
Tel: 044- 27900129.

- b. Address of Executive : -do-
Project Engineer/
Manager (with Pin
Code/fax numbers)
- 6 Salient features:
- a. Salient features of the project : Project involves setting up of 3x500 MW coal based thermal power plant in two phases (Phase I & II) and CRZ facilities (Seawater intake/outfall pipelines, bridge, conveyor and green belt development) at Vallur, Thiruvallur District, Tamil Nadu.
- b. Environmental management plans : Covered in the EIA/EMPs submitted to the Ministry of Environment, Forest and Climate Change (MoEF&CC) for approval at the time of grant of Environmental and CRZ clearance.
- 7 Breakup of the project area:
- a. Project area : As per the environmental clearances accorded total area is 1324 acres. However, project proponent during the visit informed that total land available with them is 1139.97 acres.
- 8 Break up of project affected population with enumeration of those losing houses / dwelling units only, agricultural land only, both dwelling units and agricultural land and landless labourers / artisans
- a. SC,ST/Adivasis : Not Applicable.
- b. Others : Not Applicable.
- 9 Financial Details:
- a. Project cost as originally planned and subsequent revised estimates and the years of price reference : INR 8639.56 Crores
- b. Allocations made for environmental management plans, with item wise and year wise breakup : Ash Handling Plant: INR 192.72 Crores
Ash dyke: INR 406.63 Crores
FGD: INR 600 Crores
Denox burners: INR 60 Crores
Zero Liquid Discharge: INR 35 Crores
- c. Benefit cost ratio / internal rate of return and the years of assessment : Details not made available.
- d. Whether (c) includes the cost of environmental management as shown in (b) above : Details not made available.
- e. Total expenditure on the Project so far : INR 9455.31 Crores

- f Actual expenditure : Ash Handling Plant: INR 162.99 Crores
incurred on the Ash dyke: INR 154.77 Crores
environmental
management plans so far
- 10 Forest land requirement: : Nil
- a The status of approval for :
a diversion of forest land : Not Applicable.
for non-forestry use
- b The status of :
compensatory : Not Applicable
afforestation, if any
- c The status of clear felling :
: Not Applicable
- d Comments on the :
viability and sustainability :
of compensatory : Not Applicable
afforestation programme
in the light of actual field
experience so far
- 11 The status of clear felling :
in non-forest area (such :
as submergence area of :
reservoir, approach :
road), if any, with :
quantitative information :
: Not Applicable
- 12 Status of construction:
- a Date of commencement : Unit I = June 2008; Unit II = Nov 2008; Unit III =
May 2010
With respect to CRZ facilities, no details were
made available regarding date of
commencement and completion.
- b. Date of completion : Unit I = 29/11/2012; Unit II = 25/08/2013; Unit III
(actual and / or planned) = 26/02/2015.
- 13 Reasons for the delay if : Lagoon 1 ash dyke construction was delayed
the project is yet to start. due to mangroves issue.
- 14 Date of site visit:
- a The dates on which the :
project was monitored by :
the Regional Office on : 28/12/2012
previous occasions, if
any
- b Date of site visit for this :
monitoring report : 23/05/2018

PROJECT STATUS

MoEF&CC has accorded following Environmental and CRZ clearances to M/s. NTECL for setting up of 3x500 MW coal based thermal power plant in two phases (Phase I & II) and CRZ facilities (Seawater intake/outfall pipelines, bridge and conveyor) at Vallur, Thiruvallur District, Tamil Nadu.

Clearance letter no. with Date	Facilities envisaged	Present status	Consent To Operate renewal
J-13011/33/2006-IA.II(T) dated 18/04/2007	2x500 MW thermal power plant	Project has been implemented and the unit was under operation during the visit.	CTO renewal has been obtained from TNPCB vide order no. 180824461264 dated 21/02/2018 which was expired on 31/03/2018. PP informed that application for CTO renewal has been submitted to TNPCB and the same is yet to be obtained.
J-13011/62/2008-IA.II(T) dated 3/06/2009	1x500 MW thermal power plant		
11-22/2009-IA.III dated 14/07/2009	CRZ facilities (Seawater intake/outfall pipelines, bridge, conveyor and green belt development)		

The project cited above was monitored by the undersigned on 23/05/2018 along with the representatives of M/s. NTPC Tamil Nadu Energy Company Limited (NTECL) [herein after referred as **Project Proponent (PP)**]. The status of compliance on the stipulated conditions contained in the Environmental and CRZ clearance cited above is given in **Part II and III** as below.

This is approved by the Addl.PCCF (Central), RO-Chennai accorded vide diary no.789 dated 9/07/2018.



(Sundar Ramanathan)
Scientist 'D'

PART II & III**Subject:**

- i. 2x500 MW thermal power project at Thiruvallur, Tamil Nadu by M/s. NTPC – Tamil Nadu Energy Company Limited.
- ii. 1x500 MW Vallur Thermal Project, Stage – I, Phase II at Vallur, Tamil Nadu by M/s. NTPC Tamil Nadu Energy Company Limited.
- iii. CRZ Clearance for the construction of facilities such as pipelines bridge, Conveyor & Development of greenbelt for the proposed 1000 MW Vallur Thermal Power Project at Vallur, Tamil Nadu by M/s. NTPC Tamil Nadu Energy Company Limited.

Reference:

- i. J-13011/33/2006-IA.II(T) dated 18/04/2007
- ii. J-13011/62/2008-IA.II(T) dated 3/06/2009
- iii. 11-22/2009-IA.III dated 14/07/2009

Present status of the project:

The undersigned monitored the project cited above on 23/05/2018 along with the representatives of M/s. NTPC Tamil Nadu Energy Company Limited (NTECL) [herein after referred as **Project Proponent (PP)**]. It is observed that the project has been implemented and the unit was under operation during the visit.


I. As per the MoEF&CC letter no.J-13011/33/2006-IA.II(T) dated 18/04/2007

S.No.	Conditions	Compliance status
i.	The total land requirement shall not exceed 1184 acres for all the activities/ facilities of the power project put together.	Refer below. PP informed during the visit that only 1139.97 acres of land is in their possession. Breakup of the land demarcation as provided during the visit is given below. Main plant = 470 acres. Ash dyke = 524.81 acres Creek islands = 80.71 acres Salt Office = 1.65 acres Township = 45.00 acres Conveyor & pipe corridor = 17.80 acres As per the environmental clearance accorded 114 acres of land falls within CRZ and this has to be left undisturbed. However, physical demarcation of 114 acres of land falls within CRZ has not been done by M/s. NTECL at the site. Hence, compliance status regarding disturbance to the CRZ area if any could not be ascertained. In view of this, M/s. NTECL may carry out the physical demarcation of 114 acres of land falls within CRZ in consultation with the Competent Authority/Agencies

S.No.	Conditions	Compliance status
		concerned.
ii.	The requisite CRZ clearance for the green belt area, which partially fall within CRZ, Shall be obtained before starting development of green belt work in that area.	Complied. CRZ clearance for the green belt area has been obtained from MoEF&CC, New Delhi vide letter no.11-22/2009-IA.III dated 14/07/2009.
iii.	The requisite CRZ clearance for the conveyor belt for transportation of coal passing through CRZ and any other CRZ area shall be obtained before starting work on these activities.	Complied. CRZ clearance for the conveyor belt for transportation of coal has been obtained from MoEF&CC, New Delhi vide letter no.11-22/2009-IA.III dated 14/07/2009.
iv.	Adequate maintenance for the drainage network shall be carried out for ensuring the storm water drainage efficiency in accordance with the study carried out by CWPRS.	Complied. PP informed that storm water drainage system has been designed as per the recommendations of CWPRS, Pune and the same is reportedly maintained for its maximum efficiency.
v.	The fill material require for leveling of the area shall be met from the pond ash of the Ennore Thermal Power Station and North Chennai Thermal Power Station to the extent possible.	Reportedly complied. The fill material for leveling of the plant area was reportedly obtained from pond ash of Ennore Thermal Power Station and North Chennai Thermal Power Station.
vi.	The intake water point shall be selected based on CWPRS study.	Complied. PP informed during the visit that their intake point is located on the seawater intake channel of North Chennai Thermal Power Station based on the CWPRS study.
vii.	A copy of the complete report on area drainage study reported to be under taken by CWPRS shall be submitted to the Ministry within one month of the issue of this letter.	Reportedly complied. Report on area drainage study carried out by the CWPRS was reportedly submitted to the Ministry vide letter dated 2/05/2007. However, copy of the letter dated 2/5/2007 has not been made available during the visit.
viii.	Ash and sulphur content in the coal to be used in the project shall not exceed 34% and 0.34% respectively.	Not complied. PP informed during the visit that ash and sulphur content of the blended coal (Mahanadi Coalfields, Eastern Coalfields and imported coal) are within stipulated percentage. However, PP could not provide the coal analysis report. Hence, the compliance status could not be ascertained.
ix.	A bi-flue stack of 275 m height shall be provided with continuous online monitoring equipments. Exit velocity of at least 22.2 m/sec shall be maintained.	Complied. A bi-flue stack of 275m height has been provided. Continuous online stack monitoring facility for measurement of PM, SO ₂ and NO _x has been provided. As per the stack emission report made

S.No.	Conditions	Compliance status						
		available during the visit, it is observed that exit velocity of flue gas is more than 22.2 m/s.						
x.	High efficiency Electrostatic Precipitators (ESPs) with an efficiency of not less than 99.9% shall be installed to ensure that particulate emission does not exceed 100 mg /Nm ³ .	Partly complied. PP informed during the visit that High efficiency Electrostatic Precipitators (ESPs) with a designed efficiency of 99.9% has been installed to limit the particulate emission does not exceed 100 mg/Nm ³ . However, it is observed from the stack emission report that particulate emission is exceeding the norm of 50 mg/Nm ³ as stipulated in the notification dated 7/12/2015.						
xi.	Space provision shall be made for Flue Gas De-sulphurisation (FGD) unit, if required at a later stage.	Complied. Space provision has been made available for installation of Flue Gas De-sulphurisation (FGD) unit.						
xii.	Adequate dust extraction system such as bag filters and water spray system in dusty areas such as coal and ash handling area, transfer areas and other vulnerable areas shall be provided.	Partly complied. Water spraying arrangement provided at coal conveyor belt, coal storage area and ash handling area. However, bag filters have not been provided at coal crusher unit. Dust control measures undertaken by the project proponent are found to be inadequate especially in the coal crusher and coal storage area.						
xiii.	Fly ash shall be collected in dry form and shall be used in a phased manner as per provisions of the notification on Fly Ash Utilization issued by the Ministry in September, 1999 and its amendment. By the end of 9 th year full fly ash utilization should be ensured. Unutilized ash shall be disposed off in the ash pond in the form of High concentration slurry.	Not complied. PP has commissioned ash silo 1, 2 and 3 during May, 2016, October, 2016 and May, 2017 as informed during the visit. Dry fly ash collection and its utilization are progressively increasing since 2015-16. As per the fly ash notification dated 14/09/1999 and its subsequent amendments, thermal power station is supposed to achieve 100% fly ash utilization, four years from the date of commissioning of the power plant. As per the records made available during the visit, the commissioning date of the three units are given as below: <table border="1"> <thead> <tr> <th>Details</th> <th>Date of commissioning</th> </tr> </thead> <tbody> <tr> <td>Unit I: 500 MW (Phase I)</td> <td>29/11/2012</td> </tr> <tr> <td>Unit II: 500 MW (Phase I)</td> <td>25/08/2013</td> </tr> </tbody> </table>	Details	Date of commissioning	Unit I: 500 MW (Phase I)	29/11/2012	Unit II: 500 MW (Phase I)	25/08/2013
Details	Date of commissioning							
Unit I: 500 MW (Phase I)	29/11/2012							
Unit II: 500 MW (Phase I)	25/08/2013							

S.No.	Conditions	Compliance status															
		Unit III: 500 MW (Phase II)	26/02/2015														
		Further, the percentage of fly ash utilization by M/s.NTECL is given below:															
		<table border="1"> <thead> <tr> <th>Year</th> <th>Percentage of fly ash utilization</th> </tr> </thead> <tbody> <tr> <td>2012-13</td> <td>0</td> </tr> <tr> <td>2013-14</td> <td>7.95%</td> </tr> <tr> <td>2014-15</td> <td>8.80%</td> </tr> <tr> <td>2015-16</td> <td>16.17%</td> </tr> <tr> <td>2016-17</td> <td>42.76%</td> </tr> <tr> <td>2017-18</td> <td>64.97%</td> </tr> </tbody> </table>		Year	Percentage of fly ash utilization	2012-13	0	2013-14	7.95%	2014-15	8.80%	2015-16	16.17%	2016-17	42.76%	2017-18	64.97%
Year	Percentage of fly ash utilization																
2012-13	0																
2013-14	7.95%																
2014-15	8.80%																
2015-16	16.17%																
2016-17	42.76%																
2017-18	64.97%																
		<p><u>It is inferred from above that M/s. NTECL is not complying with the stipulations specified in the fly ash notification dated 14/09/1999 and its subsequent amendments. Further, unutilized fly ash is being disposed off in to the ash pond through lean slurry method in place of High Concentration Slurry disposal as stipulated. HDPE lining in the ash pond has not been provided.</u></p>															
xiv.	Adequate safety measures shall be implemented to protect the ash pond bund from getting breached.	Complied. PP informed during the visit that ash dyke is constructed by adopting latest civil construction guidelines to protect the ash pond from getting breached.															
xv.	Rain water harvesting shall be practiced. A detailed scheme for rain water harvesting to recharge the ground water aquifer shall be prepared in consultation with Central Ground Water Authority / State Ground Water Board and a copy of the same shall be submitted within three months to the Ministry.	Not complied. PP informed during the visit that initial rain water harvesting (RWH) scheme was prepared by Chennai Metro Water Supply and Sewerage Board (CMWSSB). Tamil Nadu Water and Drainage Board (TWAD) declined to carry out the work after the award of contract. Now the alternate scheme is prepared by WAPCOS and approved by CMWSSB as informed. It is observed during the visit that the construction work for RWH are in progress and likely to be completed by July, 2018 as informed.															
xvi.	The treated effluents conforming to the prescribed standards shall be discharged in the lagoons along with circulating water of existing North Chennai TPS.	Partly complied. The treated effluent after conforming to the TNPCB norms is discharged in to the sea through NCTPS lagoon. During the visit, it is observed that there is lot of leakages in the sea water intake pipeline and the pipelines connected to															

S.No.	Conditions	Compliance status
	<p>The temperature of the discharged effluents shall not exceed 5^oC over and above the ambient water temperature of lagoon/sea.</p>	<p>the Central Monitoring Basin (CMB) effluent which is being discharged outside the factory premises. PP has been advised to take immediate corrective action to stop the discharge of effluent outside the factory premises.</p> <p>Photograph taken during the visit is given below.</p>  <p>As per the records made available during the visit, the temperature of the effluent is not exceeding 5^oC above ambient water temperature of the receiving body.</p>
xvii.	<p>Regular monitoring of groundwater in and around the ash pond areas shall be carried out, records maintained and periodic reports shall be furnished to the Regional Office of this Ministry.</p>	<p>Complied.</p> <p>PP informed that monitoring of ground water quality is being undertaken by the third party (NABL recognized laboratory) in and around the ash pond area on yearly basis. Report provided during the visit indicates that the ground water quality is within the permissible limits. Periodic ground water quality analysis reports are being submitted to the Regional Office of the MoEF&CC along with the six monthly compliance reports.</p>
xviii.	<p>Greenbelt shall be developed all around the plant area, other utilities and ash pond covering at least 25% of the area.</p>	<p>Not complied.</p> <p>Total area is 1139.97 acres. PP informed that they have planted about 16,480 saplings around the plant and in township area. However, detail regarding area covered under the green belt development has not been provided.</p> <p>It is observed during the visit that plantation work carried out by PP is not at all satisfactory and needs lot of improvement. Action plan for the green belt development in a time bound</p>

S.No.	Conditions	Compliance status
		manner covering 25% of the project area shall be prepared and submitted to the Regional Office of the MoEF&CC at Chennai.
xix.	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Reportedly complied. First aid and sanitation arrangements have been reportedly made available for the drivers and other contract workers during construction phase.
xx.	Leq of Noise level should be limited to 75 dBA and regular maintenance of equipment be undertaken. For people working in high noise areas, personal protection devices should be provided.	Partly complied. Noise level is being monitored by a third party (NABL recognized laboratory) at 5 locations on yearly basis. Report provided during the visit indicates that the ambient noise levels are within the permissible limits. It is observed that only day time ambient noise level monitoring is being carried out. PP has been advised to monitor the ambient noise level during night time also as per the notification issued under E(P) Act, 1986.
xxi.	Regular monitoring of the ambient air quality shall be carried out in and around the power plant and records maintained. 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.	Complied. Three online real time Continuous Ambient Air Quality Monitoring (CAAQM) stations have been installed in upwind & downwind directions after consultation with TNPCB as informed. Online real time monitoring data is transmitted to TNPCB & CPCB server for the parameters PM ₁₀ , PM _{2.5} , SO ₂ and NO _x . In addition to this, Ambient Air Quality is monitored manually also at four locations by a third party on bi-annual basis for 12 parameters PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , Pb, CO, O ₃ , NH ₃ , C ₆ H ₆ , As, Ni and Benzene (α) pyrene. As per the report provided during the visit, it is observed that the AAQ parameters are within the limits. Monitored AAQ data are being submitted to the TNPCB and Regional Office of the MoEF&CC along with the six monthly compliance reports.
xxii.	The project proponent should advertise in at least two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of the locality concerned. Informing that the project has been	Complied. Advertisements regarding the accord of environmental clearance were given in the local newspaper namely Hindu and Dinakaran on 25/04/2007. Copy of the paper advertisement has been submitted to the Regional Office of the

S.No.	Conditions	Compliance status
	accorded environmental clearance and copies of clearance letter is available with the State Pollution Control Board / Committee and may also be seen at website of the Ministry of Environment and Forests at http://www.envfor.nic.in .	MoEF&CC.
xxiii.	A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.	Complied. Separate Environmental Management Cell (EMC) with the following composition has been established: i. Unit head; ii. General Manager; and iii. Addl. General Manager - Environment Environmental monitoring is also being carried out by a third party.
xxiv.	A half yearly report on the status of implementation of the stipulated conditions and environmental safeguards should be submitted to this Ministry, its Regional Office at Bangalore, CPCB and SPCB.	Complied. Six monthly compliance reports along with the environmental monitored data are being submitted to the Regional Office of the MoEF&CC, CPCB and APPCB.
xxv.	Regional Office of the Ministry of Environment & forests located at Bangalore 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 at Bangalore for their use during monitoring.	Reportedly complied. Documents including EIA copy have been reportedly submitted to the Regional Office of the MoEF&CC on 25/04/2007.
xxvi.	Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. This cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	Complied. Fund provision as shown in s.no.9 of Part – I has been made. An amount of Rs.317.76 Crores has been incurred towards the environment protection measures. It was informed that fund earmarked towards EMP has not been diverted for any other purpose.
xxvii.	Full cooperation should be extended to the Scientists/ Officers from the Ministry/ Regional Office of the Ministry at Bangalore/ the CPCB/ the SPCB who would be monitoring the compliance of environmental status.	Complied. Full co-operation extended during the visit.


S.No.	Conditions	Compliance status
4.	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.	Agreed upon. It was submitted that this condition is noted and assured to abide by this condition.
5.	The environmental clearance accorded shall be valid for a period of 5 years to the start of production operations by the power plant.	Agreed upon. It was submitted that this condition is noted and assured to abide by this condition.
6.	In case of any deviation or alteration in the proposed project from that submitted to this ministry of clearance, a fresh reference should be made to the Ministry to assess the adequacy of the conditions (s) imposed and to incorporate additional environmental protection measures required, if any.	Agreed upon. It was submitted that this condition is noted and assured to abide by this condition.
7.	The above stipulations shall 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, The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989, the Public Liability Insurance Act, 1991 and rules there under and the EIA Notification, 2006 and the amendments made therein from time to time.	Partly complied. CTO renewal under the provisions of Air & Water Act has been obtained from TNPCB vide order no. 180824461264 dated 21/02/2018 which was expired on 31/03/2018. PP informed that application for CTO renewal has been submitted to TNPCB and the same is yet to be obtained. Authorization under the provisions of Hazardous Waste (MH & TM) Rules, 2008 has been obtained from TNPCB which is valid up to 14/04/2019. Insurance under the provisions of Public Liability Insurance Act, 1991 has been obtained.

II. As per the MoEF&CC letter no. J-13011/62/2008-IA.II(T) dated 3/06/2009

S.No.	Conditions	Compliance status
i.	Boundary of the proposed power project shall be outside the CRZ boundary. No activity shall be taken up except permissible activity with due clearance in the CRZ area.	Refer below. PP informed during the visit that power plant is outside the CRZ boundary. However, physical demarcation of 114 acres of land falls within CRZ has not been done by M/s. NTECL at the site. For the facilities in CRZ area, clearance has been obtained from MoEF&CC, New Delhi vide letter no.11-22/2009-IA.III dated 14/07/2009.
ii.	Prior CRZ clearance for the activities/facilities to be located in the CRZ area shall be obtained before start of the work on the project.	Complied. For the facilities in CRZ area, clearance has been obtained from MoEF&CC, New Delhi vide letter no.11-22/2009-IA.III dated 14/07/2009.
iii.	Sulphur and ash contents in the coal to be used in the project shall not	Not complied. PP informed during the visit that ash

S.No.	Conditions	Compliance status
	exceed 0.34% & 34% respectively at any given time. In case of variation of coal quality at the time of issue of LOA, a fresh reference shall be made to MOEF for suitable amendments to environmental clearance conditions wherever necessary.	and sulphur content of the blended coal (Mahanadi Coalfields, Eastern Coalfields and imported coal) are within stipulated percentage. However, PP could not provide the blended coal analysis report. Hence, the compliance status could not be ascertained.
iv.	A single stack of 275 m height shall be provided with continuous online monitoring equipments for SO _x , NO _x and particulate & Hg emissions. Exit velocity of flue gases shall not be less than 22.2 m/sec.	Partly complied. A single stack of 275m height has been provided. Continuous online stack monitoring facility for measurement of PM, SO ₂ and NO _x has been provided except Hg emission. As per the stack emission report made available during the visit, it is observed that exit velocity of flue gas is more than 22.2 m/s.
v.	High efficiency Electrostatic precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/ Nm ³ .	Partly complied. PP informed during the visit that High efficiency Electrostatic Precipitators (ESPs) with a designed efficiency of 99.9% has been installed to limit the particulate emission. However, it is observed from the stack emission report that particulate emission is exceeding the norm of 50 mg/Nm ³ as stipulated in the MoEF&CC notification dated 7/12/2015.
vi.	Space for FGD installation should be provided whenever the need arises for its installation, i.e. if emissions level exceeds the AAQ standards.	Complied. Space provision has been made available for installation of Flue Gas De-sulphurization (FGD) unit.
vii.	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.	Partly complied. Water spraying arrangement provided at coal conveyor belt, coal storage area and ash handling area. However, bag filters have not been provided at coal crusher unit. Dust control measures undertaken by the project proponent are found to be inadequate especially in the coal crusher and coal storage area.
viii.	Fly ash shall be collected in dry form and storage facility (Silo) shall be provided. Fly ash shall be used in phased manner as per provisions of the notification on Fly Ash utilization issued by the Ministry in September, 1999 and its amendment. By the end of 9 th year full fly ash utilization should be ensured, unutilized ash shall be disposed off in the ash pond.	Not complied. PP has commissioned ash silo 1, 2 and 3 during May, 2016, October, 2016 and May, 2017 as informed during the visit. Dry fly ash collection and its utilization are progressively increasing since 2015-16. As per the fly ash notification dated 14/09/1999 and its subsequent amendments, thermal power station is

S.No.	Conditions	Compliance status																						
	<p>Mercury and other heavy metals (As, Hg, Cr, Pb etc.,) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond.</p>	<p>supposed to achieve 100% fly ash utilization, four years from the date of commissioning of the power plant.</p> <p>As per the records made available during the visit, the commissioning date of the three units are given as below:</p> <table border="1"> <thead> <tr> <th>Details</th> <th>Date of commissioning</th> </tr> </thead> <tbody> <tr> <td>Unit I: 500 MW (Phase I)</td> <td>29/11/2012</td> </tr> <tr> <td>Unit II: 500 MW (Phase I)</td> <td>25/08/2013</td> </tr> <tr> <td>Unit III: 500 MW (Phase II)</td> <td>26/02/2015</td> </tr> </tbody> </table> <p>Further, the percentage of fly ash utilization by M/s. NTECL is given below:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Percentage of fly ash utilization</th> </tr> </thead> <tbody> <tr> <td>2012-13</td> <td>0</td> </tr> <tr> <td>2013-14</td> <td>7.95%</td> </tr> <tr> <td>2014-15</td> <td>8.80%</td> </tr> <tr> <td>2015-16</td> <td>16.17%</td> </tr> <tr> <td>2016-17</td> <td>42.76%</td> </tr> <tr> <td>2017-18</td> <td>64.97%</td> </tr> </tbody> </table> <p><u>It is inferred from above that M/s. NTECL is not complying with the stipulations specified in the fly ash notification dated 14/09/1999 and its subsequent amendments.</u></p> <p>PP informed that monitoring of heavy metals in the bottom ash and ash pond effluent is being undertaken by the third party (NABL recognized laboratory) on yearly basis.</p>	Details	Date of commissioning	Unit I: 500 MW (Phase I)	29/11/2012	Unit II: 500 MW (Phase I)	25/08/2013	Unit III: 500 MW (Phase II)	26/02/2015	Year	Percentage of fly ash utilization	2012-13	0	2013-14	7.95%	2014-15	8.80%	2015-16	16.17%	2016-17	42.76%	2017-18	64.97%
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ix.	Ash pond shall be lined with impervious lining, Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	<p>Not complied.</p> <p>As per the Phase II EC dated 3/6/2009, 140 acres land is demarcated for the ash pond. PP informed that this ash pond area was given up considering the cost implication and non-usability of available land in the vicinity. Further informed that Phase I ash pond is being used for the disposal of ash from Phase II.</p> <p>In view of the above, ash pond is common to all the three units. Ash pond is not lined with impervious lining.</p>																						

S.No.	Conditions	Compliance status
x.	Closed cycle cooling system with Natural Draft Cooling Tower shall be provided and the effluents shall be treated as per the prescribed norms.	<p>Safety measures are implemented.</p> <p>Partly complied.</p> <p>Changes in the implementation have been made. Instead of natural draft, induced draft cooling towers has been provided without the prior approval of MoEF&CC.</p> <p>The treated effluent after conforming to the TNPCB norms is discharged in to the sea through NCTPS lagoon.</p>
xi.	The treated effluents conforming to the prescribed standards only shall be discharged. The temperature of the discharged effluents shall not exceed 5 ^o C over and above the ambient water temperature of Creek water / receiving water body. The temperature of the discharged water shall be monitored continuously and records maintained.	<p>Partly complied.</p> <p>The treated effluent after conforming to the TNPCB norms is discharged in to the sea through NCTPS lagoon. During the visit, it is observed that there is lot of leakages in the sea water intake pipeline and the pipelines connected to the Central Monitoring Basin (CMB) effluent which is being discharged outside the factory premises. PP has been advised to take immediate corrective action to stop the discharge of effluent outside the factory premises.</p> <p>Photograph taken during the visit is given below.</p>  <p>As per the records made available during the visit, the temperature of the effluent is not exceeding 5^oC above ambient water temperature of the receiving body.</p>
xii.	A sewage treatment plant shall be provided and the treated sewage shall be used for raising green belt/ plantation.	<p>Complied.</p> <p>Domestic wastewater generated from the plant and colony is being treated two STP's of 80 KLD and 1.2 MLD capacity. The treated waste water from the STPs is being utilized for green belt development in the colony and main plant.</p>
xiii.	Rain water harvesting should be adopted. Central Groundwater	<p>Not complied.</p> <p>PP informed during the visit that initial</p>

S.No.	Conditions	Compliance status
	<p>Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished.</p>	<p>rain water harvesting (RWH) scheme was prepared by Chennai Metro Water Supply and Sewerage Board (CMWSSB). Tamil Nadu Water and Drainage Board (TWAD) declined to carry out the work after the award of contract. Now the alternate scheme is prepared by WAPCOS and approved by CMWSSB as informed. It is observed during the visit that the construction work for RWH are in progress and likely to be completed by July, 2018 as informed.</p>
xiv.	<p>Adequate safety measures shall be provided in the plant area to check/ minimize spontaneous fires in coal yard, especially during summer season. Copy of the 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 Bangalore.</p>	<p>Complied. PP has installed adequate safety measures such as installation of fire hydrant system and water sprinkler systems to minimize spontaneous fires in the coal yard. It was informed that the details of these measures along with the plant lay out have been reportedly submitted to the Ministry and the Regional Office of the MoEF&CC. However, document in this regard has not been made available during the visit.</p>
xv.	<p>Storage facilities for auxiliary liquid fuel such as LDO and / HFO/LSHS shall be made in the plant area where risk is minimum to the storage facilities. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place. Mock drills shall be conducted regularly and based on the same, modifications required, if any shall be incorporated in the DMP, Sulphur content in the liquid fuel will not exceed 0.5%.</p>	<p>Complied. PP informed that a storage facility for the liquid fuels is provided in the plant area where the risk is reported as minimum in the Risk analysis report. On-site Emergency Response Plan is in place to meet any eventuality in case of an accident taking place. Mock drills are being reportedly conducted at regular intervals and records are maintained. Sulphur content in the fuel oil is less than 0.5%.</p>
xvi.	<p>Regular monitoring of groundwater in and around the ash pond area including heavy metals (Hg, Cr, As, Pb) shall be carried out, records maintained and six monthly reports shall be furnished to the Regional Office of this Ministry.</p>	<p>Complied. PP informed that monitoring of ground water quality is being undertaken by the third party (NABL recognized laboratory) in and around the ash pond area on yearly basis. Report provided during the visit indicates that the ground water quality is within the permissible limits. Periodic ground water quality analysis reports are being submitted to the Regional Office of the MoEF&CC along with the six monthly compliance reports.</p>

S.No.	Conditions	Compliance status
xvii.	A green belt of adequate width and density shall be developed around the plant periphery covering at least 25% area preferably with local species.	<p>Not complied.</p> <p>Total area is 1139.97 acres. PP informed that they have planted about 16,480 saplings around the plant and in township area. However, detail regarding area covered under the green belt development has not been provided.</p> <p>It is observed during the visit that plantation work carried out by PP is not at all satisfactory and needs lot of improvement. Action plan for the green belt development in a time bound manner covering 25% of the project area shall be prepared and submitted to the Regional Office of the MoEF&CC at Chennai.</p>
xviii.	Budgetary allocation for taking up activities under CSR should be at least Rs.3.0 crores under capital expenditure and Rs. 50.0 lakhs/annum under recurring expenditure.	<p>Reportedly complied.</p> <p>PP informed during the visit that several CSR activities such as construction of 8 class room building and village roads and de-silting of ponds and canals etc. have been undertaken by them. An amount of INR 9.69/- crores has been incurred towards the implementation of CSR activities for the period till 31/03/2018 as informed during the visit.</p>
xix.	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	<p>Reportedly complied.</p> <p>First aid and sanitation arrangements have been reportedly made available for the drivers and other contract workers during construction phase.</p>
xx.	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in 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.	<p>Partly complied.</p> <p>Noise level is being monitored by a third party (NABL recognized laboratory) at 5 locations on yearly basis. Report provided during the visit indicates that the ambient noise levels are within the permissible limits. Workers are provided with personal protective equipment such as helmet, safety shoes and earplugs etc. to reduce the exposure to noise generated due to the power plant. It was informed that periodic audiometric test is being carried out and records are maintained. So far, no abnormalities have been reported as informed.</p> <p>It is observed that only day time</p>

S.No.	Conditions	Compliance status
		ambient noise level monitoring is being carried out. PP has been advised to monitor the ambient noise level during night time also as per the notification issued under E(P) Act, 1986.
xxi.	Regular monitoring of ground level concentration of SO ₂ , NO _x , Hg, SPM and RSPM 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.	Complied. Three online real time Continuous Ambient Air Quality Monitoring (CAAQM) stations have been installed in upwind & downwind directions after consultation with TNPCB as informed. Online real time monitoring data is transmitted to TNPCB & CPCB server for the parameters PM ₁₀ , PM _{2.5} , SO ₂ and NO _x . In addition to this, Ambient Air Quality is monitored manually also at four locations by a third party on bi-annual basis for 12 parameters PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , Pb, CO, O ₃ , NH ₃ , C ₆ H ₆ , As, Ni and Benzene (α) pyrene. As per the report provided during the visit, it is observed that the AAQ parameters are within the limits. Monitored AAQ data are being submitted to the TNPCB and Regional Office of the MoEF&CC along with the six monthly compliance reports.
xxii.	Provision shall be made for the housing of construction labour 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.	Reportedly complied. First aid, housing and sanitation arrangements have been reportedly made available at the site for the labor through their contractors during the construction phase.
xxiii.	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://www.envfor.nic.in .	Partly complied. Advertisements regarding the accord of environmental clearance were given in the local newspaper namely Hindu and Dinakaran on 15/06/2009. Copy of the paper advertisement has been submitted to the Regional Office of the MoEF&CC.

S.No.	Conditions	Compliance status
xxiv.	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, is any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied. Copy of the clearance letter has been reportedly sent to all the concerned local authorities as informed by the PP. The clearance letter has also been uploaded on the company's website.
xxv.	A separate environment monitoring cell with qualified staff shall be set up for Implementation of the stipulated environmental safeguards.	Complied. Separate Environmental Management Cell (EMC) with the following composition has been established: i. Unit head; ii. General Manager; and iii. Addl. General Manager - Environment Environmental monitoring is also being carried out by a third party.
xxvi.	The proponent shall upload the status of compliance of the stipulated EC 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, SO ₂ , NO _x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Not complied. Six monthly compliance reports (hard and soft copy) are not being regularly submitted to the Regional Office of the MoEF&CC/zonal office of the CPCB/SPCB. Further, six monthly compliance report has not been uploaded on the company's website. Criteria pollutants levels from the ambient air and the stack for the parameters PM, NO _x and SO ₂ has not been displayed at the main gate of the power plant.
xxvii.	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well by e-mail) to the respective Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB.	Not complied. Six monthly compliance reports (hard and soft copy) are not being regularly submitted to the Regional Office of the MoEF&CC/zonal office of the CPCB/SPCB. Further, six monthly compliance report has not been uploaded on the company's website.
xxviii.	Regional Office of the Ministry of Environment & Forests located at Bangalore will monitor the implementation of the stipulated conditions.	Agreed upon. PP submitted that the condition is "Noted" and assured to abide by this condition.

S.No.	Conditions	Compliance status
	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 upload the compliance status in their website and update the same from time to time at least six monthly basis. Criteria pollutants levels (Stack & ambient levels of NO _x) will be displayed at the main gate of the power plant.	Not complied. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time to the Ministry has not been submitted to the Regional Office. Further, six monthly compliance report has not been uploaded on the company's website. Criteria pollutants levels from the ambient air and the stack for the parameters PM, NO _x and SO ₂ has not been displayed at the main gate of the power plant.
xxix.	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.	Partly complied. Fund provision as shown in s.no.9 of Part – I has been made. An amount of Rs.317.76 Crores has been incurred towards the environment protection measures. It was informed that fund earmarked towards EMP has not been diverted for any other purpose. However year wise EMP expenditure has not been reported to the Regional Office of the MoEF&CC.
xxx.	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.	
xxxi.	Full cooperation shall be extended to the Scientists / Officers from the Ministry/ Regional Office of the Ministry at Bangalore / the CPCB / the SPCB who would be monitoring the compliance of environmental status.	Complied. Full co-operation extended during the visit.
4.	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. MOEF may impose additional environmental conditions or modify the existing ones, if necessary.	Agreed upon. It was submitted that this condition is noted and assured to abide by this condition.
5.	The environmental clearance accorded shall be valid for a period of 5 years to the start of production operations by the power plant.	Agreed upon. It was submitted that this condition is noted and assured to abide by this condition.

S.No.	Conditions	Compliance status
6.	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.	Not complied. PP has made alteration in their project by giving up 140 acres of land demarcated for the ash pond and established induced draft cooling towers in place of natural draft cooling towers without the prior approval of the Ministry.
7.	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 and Handling) Rules, 1989, and its amendments, the Public Liability Insurance Act, 1991 and its amendments.	Partly complied. CTO renewal under the provisions of Air & Water Act has been obtained from TNPCB vide order no. 180824461264 dated 21/02/2018 which was expired on 31/03/2018. PP informed that application for CTO renewal has been submitted to TNPCB and the same is yet to be obtained. Authorization under the provisions of Hazardous Waste (MH & TM) Rules, 2008 has been obtained from TNPCB which is valid up to 14/04/2019. Insurance under the provisions of Public Liability Insurance Act, 1991 has been obtained.
8.	Any appeal against this environmental clearance shall lie with the National environment Appellate Authority, if preferred, within 30 days as prescribed under section 11 of the National Environment Appellate Act, 1997.	Agreed upon. It was informed that no appeal has been made within 30 days and submitted that the condition is "Noted" and assured to abide by the condition.

III. As per the MoEF&CC letter no. 11-22/2009-IA.III dated 14/07/2009

S.No.	Conditions	Compliance status
Specific conditions:		
i.	Sufficient passage distance shall be maintained below the proposed bridge across the creek on the basis of navigational norms.	Complied. Sufficient passage with adequate width (30m) as per navigational norms is maintained below the bridge constructed across the creek.
ii.	Necessary measures shall be taken in the ash storage pond to prevent the leachate / overflows during rainy season.	Complied. Ash slurry is pumped to lagoon from which decanted water flows into the overflow lagoon through water escape structure. From overflow lagoon, water is being pumped to ash water recirculation system and subsequently to ash water pump house. Safety measures have been taken to prevent leachate/overflow in the ash pond. PP informed that ash dyke has been

S.No.	Conditions	Compliance status
		designed as per state of the art engineering practices to prevent overflow during rainy season. However, lining of ash pond with impervious lining has not been done as stipulated in the EC dated 3/06/2009.
iii.	The proposal shall have an impervious tank for treatment of Leachate from Coal yard.	Complied. Coal slurry settling pit is commissioned and treatment of leachate from coal yard is being done.
iv.	All the conditions as stipulated by the Principal Secretary, Environment and Forests (EC.3) Department, Government of Tamil Nadu vide their letter No. 1154/EC.3/2009-1, dated 21.02.2009 shall be strictly complied.	Not complied. Conditions stipulated by the State Coastal Management Authority and its compliance status were not made available during the visit. Hence, compliance status could not be ascertained.
v.	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone Area.	Complied. Only the permitted construction work has been taken up in the CRZ area.
vi.	Washing from paved area/ Sewage shall be treated and the Treatment Facility shall be provided in accordance with the Coastal Regulation Zone Notification, 1991. The disposal of treated water shall confirm the regulation of Tamil Nadu State Pollution Control Board.	Refer below. No ETP/STP systems are envisaged in the identified CRZ zone.
vii.	Oil spills if any shall be properly collected and disposed as per the Rules.	Compliance is agreed upon.
viii.	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	Complied. Separate Environmental Management Cell (EMC) with the following composition has been established: i. Unit head; ii. General Manager; and iii. Addl. General Manager - Environment Environmental monitoring is also being carried out by a third party.
ix.	The project proponent shall take up mangrove plantation/green belt in the project area, wherever possible. Adequate budget shall be provided in the Environment Management Plan for such mangrove development.	Not complied. No mangrove plantation has been undertaken so far. Total area is 1139.97 acres. PP informed that they have planted about 16,480 saplings around the plant and in township area. However, detail regarding area covered under the green belt development has not been provided.

S.No.	Conditions	Compliance status
		It is observed during the visit that plantation work carried out by PP is not at all satisfactory and needs lot of improvement. Action plan for the green belt development in a time bound manner covering 25% of the project area shall be prepared and submitted to the Regional Office of the MoEF&CC at Chennai.
x.	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purpose.	Complied. Fund provision as shown in s.no.9 of Part – I has been made. An amount of Rs.317.76 Crores has been incurred towards the environment protection measures. It was informed that fund earmarked towards EMP has not been diverted for any other purpose.
General conditions:		
i.	The construction of the structures should be undertaken as per the plans approved by the concerned local authorities/ local administration, meticulously conforming to the existing local and Central rules and regulations including the provisions of Coastal Regulation Zone Notification dated 19.02.1991 and the approved Coastal Zone Management Plan of Tamil Nadu.	Complied. The construction of the structures have been undertaken as per approved plans confirming to existing local, central rules and regulations including provisions of the CRZ Notification.
ii.	Provision shall be made for the housing of construction labour 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.	Reportedly complied. All the construction works have been completed and facilities commissioned. Condition was reportedly complied with.
iii.	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	Reportedly complied. All the construction works have been completed and facilities commissioned. PP informed that appropriate measures were taken to avoid degradation of water quality due to the digging activities.
iv.	Borrow sites for each quarry sites for road construction material and dump sites must be identified keeping in view the following: (a) No excavation or dumping on	Refer below. All the construction works have been completed and facilities commissioned. PP informed that no excavation or

S.No.	Conditions	Compliance status
	<p>private property is carried out without written consent of the owner.</p> <p>(b) No excavation or dumping shall be allowed on wetlands, forest areas or other ecologically valuable or sensitive locations.</p> <p>(c) Excavation work shall be done in close consultation with the Soil Conservation and Watershed Development Agencies working in the area, and</p> <p>(d) Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such materials must be secured so that they shall not leach the ground water.</p>	<p>dumping activities were undertaken in the private property without the written consent of the owner. However, no documentary proof in this regard has been submitted during the visit.</p> <p>PP informed that this condition is not applicable as their projects site is not located in the wetlands forest areas or other sensitive areas.</p> <p>All the construction works have been completed and facilities commissioned. From the discussion, it is inferred from PP that no consultation with the soil conservation and water shed development agencies has been done.</p> <p>Reportedly complied.</p>
v.	The construction material shall be obtained only from approved quarries. In case new quarries are to be opened, specific approvals from the competent authority shall be obtained in this regard.	Reportedly complied. All the construction works have been completed and facilities commissioned. Condition was reportedly complied with. However, no documentary proof was submitted regarding the approvals obtained.
vi.	Adequate precautions shall be taken during transportation of the construction material so that it does not affect the environment adversely.	Reportedly complied. All the construction works have been completed and facilities commissioned. Condition was reportedly complied with.
vii.	Full support shall be extended to the officers of this Ministry/ Regional Office at Bangalore by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Complied. Full co-operation extended during the visit.
viii.	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the	Agreed upon. It was submitted that this condition is noted and assured to abide by this condition.

S.No.	Conditions	Compliance status
	same shall be complied with.	
ix.	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Agreed upon. It was submitted that this condition is noted and assured to abide by this condition.
x.	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.	Agreed upon. It was submitted that this condition is noted and assured to abide by this condition.
xi.	Tamil Nadu Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District industries Center and Collector's Office / Tehsildar's office for 30 days.	Reportedly complied.
7.	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollutions) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	Partly complied. CTO renewal under the provisions of Air & Water Act has been obtained from TNPCB vide order no. 180824461264 dated 21/02/2018 which was expired on 31/03/2018. PP informed that application for CTO renewal has been submitted to TNPCB and the same is yet to be obtained. Authorization under the provisions of Hazardous Waste (MH & TM) Rules, 2008 has been obtained from TNPCB which is valid up to 14/04/2019. Insurance under the provisions of Public Liability Insurance Act, 1991 has been obtained.
8.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.	Reportedly complied. PP informed that all other statutory clearances have been reportedly obtained.
9.	The Project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental clearance and copies of clearance letters are available with the Tamil Nadu State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in . The advertisement should be made	Complied. Advertisements regarding the accord of environmental clearance were given in the local newspaper namely Hindu and Dinakaran on 3/06/2009. Copy of the paper advertisement has been submitted to the Regional Office of the MoEF&CC.

S.No.	Conditions	Compliance status
	within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bangalore.	
10.	Environmental clearance is subject to final order of the Hon'ble Supreme court of India in the matter of Goa Foundation Vs Union of India in Writ Petition (Civil) No. 460 of 2004 as may be applicable to this project.	Agreed upon. It was submitted that the condition is "Noted" and assured to abide by the condition.
11.	Any appeal against this Environmental Clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.	Agreed upon. It was informed that no appeal has been made within 30 days and submitted that the condition is "Noted" and assured to abide by the condition.
12.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/ 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.	Complied. Copy of the clearance letter has been reportedly sent to all the concerned local authorities as informed by the PP. The clearance letter has also been uploaded on the company's website.
13.	The Proponent shall upload the status of compliance of the stipulated EC 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, SO ₂ , NO _x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Not complied. Six monthly compliance reports (hard and soft copy) are not being regularly submitted to the Regional Office of the MoEF&CC/zonal office of the CPCB/SPCB. Further, six monthly compliance report has not been uploaded on the company's website.
14.	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the	Not complied. Six monthly compliance reports (hard and soft copy) are not being regularly submitted to the Regional Office of the MoEF&CC/zonal office of the CPCB/SPCB. Further, six monthly compliance report has not been

S.No.	Conditions	Compliance status
	respective Zonal Office of CPCB and the SPCB.	uploaded on the company's website.
15.	The Environmental 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 EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	Not complied. Environmental statement has not been submitted to the Regional Office of the MoEF&CC and APPCB. Further, environmental statement has not been uploaded on the company's website as stipulated in the EC condition.

Comments and End note:-

Status of implementation of stipulated conditions:- It is inferred from above that following are the non-compliances observed against the stipulated conditions of the aforesaid environmental and CRZ clearances:-

I. As per the MoEF&CC letter no.J-13011/33/2006-IA.II(T) dated 18/04/2007

- i. As per the environmental clearance accorded 114 acres of land falls within CRZ and this has to be left undisturbed. However, physical demarcation of 114 acres of land falls within CRZ has not been done by M/s. NTECL at the site. Hence, compliance status regarding disturbance to the CRZ area if any could not be ascertained. In view of this, M/s. NTECL may carry out the physical demarcation of 114 acres of land falls within CRZ in consultation with the Coastal Zone Management Authority/Competent Agencies concerned (**Condition no.i**).
- ii. Coal analysis report indicating the ash and sulphur content of the blended coal has not been made available during the visit (**Condition no. viii**).
- iii. Particulate emission level from Unit I & II is exceeding the norm of 50 mg/Nm³ as stipulated in the MoEF&CC notification dated 7/12/2015 (**Condition no. ix**).
- iv. Bag filters have not been provided at coal crusher unit. Dust control measures undertaken by the project proponent are found to be inadequate especially in the coal crusher and coal storage area (**Condition no. ix**).
- v. M/s. NTECL is not complying with the stipulations specified in the fly ash notification dated 14/09/1999 and its subsequent amendments. Further, unutilized fly ash is being disposed of in to the ash pond through lean slurry method in place of High Concentration Slurry disposal as stipulated. HDPE lining in the ash pond has not been provided (**Condition no. xiii**).
- vi. Rain water harvesting (RWH) scheme is yet to be implemented by M/s. NTECL even after one decade of grant of environmental clearance (**Condition no. xv**).
- vii. During the visit, it is observed that there is lot of leakages in the sea water intake pipeline and the pipelines connected to the Central Monitoring Basin (CMB) effluent which is being discharged outside the factory premises. PP has been

- advised to take immediate corrective action to stop the discharge of effluent outside the factory premises **(Condition no. xvi)**.
- viii. Plantation work carried out by M/s. NTECL is not satisfactory and needs lot of improvement. Action plan for the green belt development including mangroves plantation covering 25% of the project area shall be prepared and submitted to the Regional Office of the MoEF&CC at the earliest **(Condition no. xviii)**.
- ix. Only day time ambient noise level monitoring is being carried out. PP has been advised to monitor the ambient noise level during night time also as per the notification issued under E(P) Act, 1986 **(Condition no. xx)**.
- x. M/s. NTECL is continuing operation without obtaining valid CTO from TNPCB, since 1/04/2018 **(Para no.7)**.

II. As per the MoEF&CC letter no. J-13011/62/2008-IA.II(T) dated 3/06/2009

- i. Coal analysis report indicating the ash and sulphur content of the blended coal has not been provided during the visit **(Condition no. iii)**.
- ii. Continuous online stack monitoring facility for measurement of Hg emission has not been provided **(Condition no. iv)**.
- iii. Particulate emission level from Unit III is exceeding the norm of 50 mg/Nm³ as stipulated in the MoEF&CC notification dated 7/12/2015 **(Condition no. v)**.
- iv. Bag filters have not been provided at coal crusher unit. Dust control measures undertaken by the project proponent are found to be inadequate especially in the coal crusher and coal storage area **(Condition no. vii)**.
- v. M/s. NTECL is not complying with the stipulations specified in the fly ash notification dated 14/09/1999 and its subsequent amendments **(Condition no. viii)**.
- vi. M/s. NTECL has given up 140 acres of land demarcated for the Unit III ash disposal and using phase I ash pond without prior intimation and approval of MoEF&CC. The existing phase I ash pond is not lined with impervious lining **(Condition no. ix)**.
- vii. M/s. NTECL has installed and operating induced draft cooling towers in place of natural draft cooling towers without the prior approval of MoEF&CC **(Condition no. x)**.
- viii. During the visit, it is observed that there is lot of leakages in the sea water intake pipeline and the pipelines connected to the Central Monitoring Basin (CMB) effluent which is being discharged outside the factory premises. PP has been advised to take immediate corrective action to stop the discharge of effluent outside the factory premises **(Condition no. xi)**.
- ix. Rain water harvesting (RWH) scheme is yet to be implemented by M/s. NTECL **(Condition no. xiii)**.
- x. Plantation work carried out by M/s. NTECL is not satisfactory and needs lot of improvement. Action plan for the green belt development including mangroves plantation covering 25% of the project area shall be prepared and submitted to the Regional Office of the MoEF&CC at the earliest **(Condition no. xvii)**.
- xi. Only day time ambient noise level monitoring is being carried out. PP has been advised to monitor the ambient noise level during night time also as per the notification issued under E(P) Act, 1986 **(Condition no. xx)**.

- xii. Six monthly compliance reports (hard and soft copy) are not being regularly submitted to the Regional Office of the MoEF&CC/zonal office of the CPCB/SPCB. Further, six monthly compliance report has not been uploaded on the company's website. Criteria pollutants levels from the ambient air and the stack for the parameters PM, NO_x and SO₂ has not been displayed at the main gate of the power plant **(Condition no. xxvi & xxvii)**.
- xiii. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time to the Ministry has not been submitted to the Regional Office **(Condition no. xxviii)**.
- xiv. Year wise EMP expenditure has not been reported to the Regional Office of the MoEF&CC **(Condition no. xxviii)**.
- xv. M/s. NTECL is continuing operation without obtaining valid CTO from TNPCB, since 1/04/2018 **(Para no.7)**.

III. As per the MoEF&CC letter no. 11-22/2009-IA.III dated 14/07/2009

- i. Conditions stipulated by the State Coastal Management Authority and its compliance status were not made available during the visit. Hence, compliance status could not be ascertained **(Specific condition no. iv)**.
- ii. No mangrove plantation has been undertaken so far. Plantation work carried out by M/s. NTECL is not satisfactory and needs lot of improvement. Action plan for the green belt development including mangroves plantation covering 25% of the project area shall be prepared and submitted to the Regional Office of the MoEF&CC at the earliest **(Specific condition no. ix)**.
- iii. Borrow site management is not done as per the stipulated condition **(General condition no. iv)**.
- iv. M/s. NTECL is continuing operation without obtaining valid CTO from TNPCB, since 1/04/2018 **(Para no.7)**.
- v. Six monthly compliance reports (hard and soft copy) are not being regularly submitted to the Regional Office of the MoEF&CC/zonal office of the CPCB/SPCB. Further, six monthly compliance report has not been uploaded on the company's website **(Para no.13 & 14)**.
- vi. Environmental statement has not been submitted to the Regional Office of the MoEF&CC and TNPCB. Further, environmental statement has not been uploaded on the company's website as stipulated in the EC condition **(Para no.15)**.

This is approved by the Addl.PCCF (Central), RO-Chennai accorded vide diary no.789 dated 9/07/2018.



(Sundar Ramanathan)
Scientist 'D'