**BEFORE THE NATIONAL GREEN TRIBUNAL (SZ) CHENNAI**

**MEMORANDUM OF APPLICATION**

**(Under Section 18(1) read with Sections 14, 15 of National Green Tribunal Act 2010)**

**Application No. 8 of 2016**

**Between:**

R.Ravimaran

S/o Ramachandran

No.42, Beach Road, Thazhankuppam

Ennore, Chennai - 600057 ….. Applicant

Vs.

Union of India,

Rep by its Secretary

The Ministry of Environment, Forests and Climate Change

Jorbagh, New Delhi & Ors ..... Respondents

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Through

Yogeshwaran. A

Counsel for the Applicant

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**MEMO FILED BY THE COUNSEL FOR THE APPLICANT**

1. The TNPCB has filed a report dated April, 2022, containing violations of consent conditions and stack emission monitoring results (Pg. 14, 15). It is also seen that a show cause notice dated 05.04.2022 was issued by the TNPCB to NCTPS Stage 1 (See Pg. 25). Also assessment of "environmental compensation" has also been provided.
2. The seriousness of air pollution, its impact on health and environment need no elaboration. While excess So2 and NoX emissions may be not be actionable in light of the Ministry's extension of time for compliance, the violation of stack emission parameters for particulate matter has to be taken

seriously. Both Stage 1 and Stage 2 power plants have consistently been emitted particulate matter far and excess of standards prescribed.

3. It is seen from the EIA reports, documents pertaining to the environmental clearance obtained by these Thermal Power plants that the clearance was obtained based on EIA Reports which were prepared based on emission levels of 150 $mn^3$ . In fact, the entire modelling exercise and JLC calculation appears to be based on this emission level. The project proponent has stipulated that if emission standards are exceeded these plants will be shut down. Relevant pages of these documents have been annexed with this memo.
4. NCTPS Stage 1 and 2 have no right to continue their operations whilst habitually violating emission parameters for particulate matter. It is unfair and unjust to subject the people of the area to increased pollution simply because this thermal power plant refuses to operate its plant efficiently and in compliance with the law.
5. Imposition of so called environmental compensation is not a substitute for compliance with emission standards. In the case of NCTPS such penalties are also paid by the tax payer. It is thus legally necessary that as undertaken by the project proponent, operations are stopped until emission standards are adhered to.
6. The NCTPS Stage 1 and 2 use the same ash pond which is unlined (issue identified and flagged repeatedly by Committees constituted by this Court). Likewise the toe drain is also unlined. Both of these ought to have been designed as impervious to avoid seepage. At least now immediate steps will have to be taken to ensure that further seepage and contamination on account of these installations. This issue was highlighted in the year 2017 by the previous Expert Committee constituted by this Tribunal itself. This use of the present non impervious ash pond is illegal. NCTPS has to construct a properly geomembrane lined ash pond if they wish to continue discharging ash into an ash pond. These issues need to be addressed by this Hon'ble Tribunal.
7. Show cause notice appears to have been issued only to Stage 1, giving the illusion that Stage 2 is in compliance with the law. Necessary action in this regard ought to be taken by TNPCB in this regard. Violation of emission parameters i.e emission of particulate matter far and excess of levels stipulated in EIA Reports falsifies the modelling exercise carried in the EIA report in order to access GLCs. It also renders the environmental clearances issued based on such clearances nugatory.

Dated this the 25th of April, 2022 at Chennai.

14/21/11

Counsel for the Applicant

# TAMIL NADU ELECTRICITY BOARD

## PRELIMINARY ENVIRONMENTAL IMPACT STATEMENT

## FOR

## NORTH MADRAS THERMAL POWER PROJECT

## 5 x 210 M.W.

## 2.3. AIR POLLUTION :

The air pollution due to the fly ash particulates carried away by flue gas will be greatly reduced by the installation of an electrostatic precipitator per unit having an efficiency as high as 99%. To dispose and disperse the ash particulates over a very wide area and thus to avoid high ambient/dust concentration of 2 Nos. multiflue chimneys of height 210 m each, one for 3 Unit- and the other for 2 Units, are proposed to be installed. As per the latest Air Pollution Act the permissible dust concentration at the stack outlet is 250 mg/$NM^3$. The ESP proposed to be installed will be able to achieve this even with one of its fields out of service. With all the fields in operation the dust concentration at the stack outlet will be only 150 mg/$NM^3$. The stack height has been chosen such that the ground concentration of dust at any point will not exceed 250 µg/$NM^3$. The flue gas characteristics will be as follows :

i) Volume of flue gas flow
   I Stack .. 1050 $m^3$/sec.
   II Stack .. 700 $m^3$/sec.
ii) Temperature (each stack) 150°C
iii) Density at 150°C (each stack) 0.81 kg/$m^3$
iv) Ash concentration at Chimney outlet is 250 mg/$NM^3$
v) Particulate emission rate
   I Stack 144 g/sec.
   II Stack 96 g/sec.

vi) Gas composition :

| | |
|---|---|
| $CO_2$ | 17.77% |
| $SO_2$ | 0.11% |
| $N_2$ | 72.31% |
| $O_2$ | 7.29% |
| $H_2O$ | 2.52% |

The wind speed data taken both at Madras Nungambakkam and Madras Harbour for the years 1979 and 1980 are as follows :

STATION : MADRAS NUNGAMBAKKAM PERIOD : JAN. 1979 - APRIL 1981

| Year | Months | Mean Average Wind Speed for 9, 15 and 24 hrs. (Kmph) Mean average wind speed 9 hrs. | 15 hrs. | 24 hrs. |
|---|---|---|---|---|
| 1979 | January | 7.1 | 3.3 | 4.6 |
| | February | 7.7 | 4.1 | 5.5 |
| | March | 9.3 | 4.8 | 6.3 |
| | April | 10.4 | 5.7 | 7.3 |
| | May | 9.8 | 9.7 | 9.8 |
| | June | 11.7 | 9.3 | 10.3 |
| | July | 11.7 | 8.2 | 9.5 |
| | August | 12.3 | 7.5 | 9.2 |
| | September | 8.1 | 4.6 | 5.5 |
| | October | 7.0 | 3.6 | 5.2 |
| | November | 6.5 | 4.2 | 5.3 |
| | December | 8.0 | 3.8 | 5.4 |
| 1980 | January | 6.4 | 2.8 | 4.9 |
| | February | 7.2 | 2.9 | 4.8 |
| | March | 9.7 | 5.0 | 6.8 |
| | April | 9.8 | 5.9 | 7.4 |

The stack emissions shall be monitored continously with smoke emission monitoring system. The coal is having low sulphur content of about 0.5% and the sulphur dioxide emission does not require any special extraction system. The emission will consist of mostly particulates and $SO_2$ and this will be dispersed by tall chimneys.

The personnel and equipment facilities for the maintenance of the electrostatic precipitators shall be as per the requirements furnished by the ESP suppliers. Prime importance will be given to the proper maintenance of ESP. As already pointed out, even if one field of the ESP goes out of service it will be possible to maintain the dust emission within the prescribed limits. If the emission still exceeds prescribed limits, the load on the unit will be reduced to bring down emission within the limits and when the ESP is not functioning the unit will be shut down.

When the units are running at full load, the estimated maximum sulphur dioxide emissions from the chimneys are,

Chimney I .. 0.99 Kg/Sec.

Chimney II .. 0.66 Kg/Sec.

The $SO_2$ emitted per Joule of energy is 555 ng. This is within limits VIZ., 600 ng/J as prescribed by the Indian Standards.

TAMIL NADU ELECTRICITY BOARD

1

From
The Superintending Engineer/Electrical,
Consultancy Cell,
III Floor, Multi-Storeyed Building,
Electricity Avenue,
781, Anna Salai,
Madras-600 002.

To
The Director,
Department of Environment,
(Government of India),
Technology Bhavan,
New Mehrauli Road,
New Delhi-110 016.

Lr.No. SE(E)/CC/03-N.M.T.P./ 18 dt. 24.3.1982.

Dear Sir,

Sub: NORTH MADRAS THERMAL POWER PROJECT
5 x 210 M.W. - Environmental Clearance - Reg.

Ref: 1. Our Lr.No.SE(E)/CC/03-NMTP/1 dt. 27.4.81.
2. No. SE(E)/CC/03-NMTP/10 dt. 20.10.81.

---

A proposal for clearance of North Madras Thermal Power Project against environmental angle was sent in our letter cited (1) above.

Subsequently the capacity of the project has been revised from 3 x 210 M.W. to 5 x 210 M.W. and a revised project report has been submitted to the Central Electricity Authority for the 5 x 210 M.W. Units.

On advice from the Central Electricity Authority we are enclosing herewith 15 copies of the 'Basic Information for Environmental Appraisal' in standard forms.

I would request you to clear the project against environmental angle and communicate the same early.

Yours faithfully,

SUPERINTENDING ENGINEER/ELECTRICAL,
CONSULTANCY CELL.

Encl.: 15 copies.

Copy to the Director, TPIA Directorate, Central Electricity Authority, Sewa Bhavan, New Delhi-110 066 with reference to his Lr.No.141/WS/81/TPIA/CEA/461, dt. 9.3.82.

Encl.: 1

# ENVIRONMENTAL APPRAISAL OF THERMAL POWER PROJECTS.

## BASIC INFORMATION FOR ENVIRONMENTAL APPRAISAL

| | | |
|---|---|---|
| 1. | NAME AND LOCATION | |
| 1.1. | Name/Title of proposed thermal power plant | NORTH MADRAS THERMAL POWER PROJECT |
| 1.2. | Name of project authority and contact address. | Chief Engineer/Consultancy Cell, Electricity Avenue, Anna Salai, MADRAS - 600 002. |
| 1.3. | Site where proposed plant is to be located. | North of Ennore, Madras along the coastal region. |
| 1.4. | Capacity of project under consideration. | 5 x 210 M.W. |
| 1.5. | Is this an extension? If so indicate capacity of existing plant. | New Plant. |
| 1.6. | What is the ultimate capacity envisaged? | 5 x 210 M.W. |
| 2: | GENERAL ENVIRONMENTAL INFORMATION | |
| 2.1. | What major pollution generating establishments exist within a radius of ten Kilometres of your plant? Give details. | 1. Ennore Foundries<br>2. Parry & Company (Fertilizer plant - The fertiliser produced is Ammonium phosphate of grade 16 x 20 containing 16 parts of Nitrogen and 20 parts of phosphate, called paramphos.) |
| 2.2. | What is the total human population within a radius of 10 Km. of the plant site? | About 3 lakhs |
| 2.3. | Give a broad description of the site including plan, physiography, tophography and nature of soil. | The site is bounded by Bay of Bengal on east, Buckingham Canal on west, Ennore backwaters on south and Kattupalli Village on North. The soil is sandy upto a depth of about 9 m and below that the soil is hard stiff clay.<br><br>The location plan of the plant is enclosed. |

5.2. Please specify the following :

| | |
|---|---|
| a) Number and type of stacks. | 2 Nos. |
| b) Inter-stack distance. | 69.5 M |
| c) Height of each stack. | 210 M |
| d) Diameter of each stack. | Not yet decided. |
| e) Exist. gas velocity. | Particulate emission density at the chimney 250 $mg/m^3$ |
| f) Fine gas characteristics: | |
| i) Volume : | I Chimney : 420 $m^3/sec.$<br>II Chimney : 280 $m^3/sec.$ |
| ii) Temperature : | 150°C |
| iii) Density : | 0.868 $Kg/m^2$ |
| iv) Size distribution particulars. : | -- |
| v) Gas composition. : | Not known at this stage. |

| | |
|---|---|
| 5.3. a) What kind of stack emission monitoring is proposed?<br>b) What equipment is proposed to be acquired for this purpose? | Stack emission will be analysed with instruments to be procured newly. |
| 5.4. Give details of air pollution control equipment you propose to instal. | Electrostatic precipitator. |
| 5.5. Give details of the organisational set-up for maintenance of pollution control equipment and level of expertise and authority of person incharge. | Engineers will be posted for maintenance of E.S.P. |
| 5.6. What quantities of particulates and sulphur dioxide are expected to be released when control equipment is | |
| a) Functioning normally | The E.S.P. will have a particulate collection efficiency of 98.5% |
| b) Not functioning | Plant will be shutdown. |

| | | |
|---|---|---|
| 5.7. | What special procedures do you propose to lay down for air pollution control during periods when emission exceeds prescribed limits for any reason including malfunctioning of equipment. | Plant will be shutdown. |

5. COAL AND ASH HANDLING

| | | |
|---|---|---|
| 5.1. | a) What is the procedure for coal handling at the plant site?<br><br>b) Give details of procedures, if any, for reducing pollution from coal fines and other "fugitive emission" from the plant. | Belt conveyors, wagon tipplers, crushers, Mills, etc., will be provided. Dust suppressor equipments will be provided in wagon tipplers and crusher house. Conveyors will be fully covered. |
| 5.2. | What quantities of fly ash and bottom ash will be produced per day? | 4800 t/day |
| 5.3. | Indicate the method of collection transport and disposal of the ash and point of final disposal. | Ash will be mixed with water and the slurry will be pumped into Sea. |
| 5.4. | Have you considered the re-use of ash?<br><br>If so, give details. | NIL |
| 5.5. | What precautions are to be taken to prevent pollutio of water courses from solid waste disposal, especially with regard to ash slurry? | Does not arise as the ash slurry is to be pumped into sea. |
| 5.6. | What land area is available for fly ash disposal? Include site plan. | Does not arise. |

# NORTH MADRAS TPP
# VIDEOCON POWER LIMITED

## ENVIRONMENTAL IMPACT ASSESSMENT REPORT
## STAGE - II (2 X 525 MW)

CONSULTANT
NATIONAL THERMAL POWER CORPORATION LTD.
(A GOVT. OF INDIA ENTERPRISE)
NEW DELHI

OCTOBER 1995

structures like administrative building and industrial complex. Besides, it will bring positive benefits in the form of land levelling and tree plantations in the plant vicinity.

### 4.5.2 **Climate**

Impact on the climatic conditions from the proposed plant will not be significant as the maximum temperatures of the exit gas from the stacks will be in the order of 150°C. Normally, this will not cause any thermal imbalance. The huge sea will always has cooling effect on the region to offset any increase in temperature. Besides plant authorities will implement extensive plantation programmes in the plant premises. Moreover, there will be natural dispersion of heat due to unstable conditions during day and as such there would be no significant micro/macro climatological changes of any consequence.

## 4.6 **AIR QUALITY:**

### 4.6.1 **Construction Impact**

During the construction phase no significant impact on air quality is expected as roads etc have been already completed during NMTPS stage I. However, fugitive dust emissions and NOX levels may temporarily increase in the immediate vicinity of construction and will be restricted to the construction phase. These will be minimised by sprinkling water and proper maintenance of vehicles.

4.6.2 **Operation Impact**

The impact on ambient air quality during operation of the proposed 1050 MW units of Stage-II of North Madras Thermal Power Plant is understood by estimating incremental impact and superimposing the same on existing levels in ambient air for comparison with National Ambient Air Quality Standards.

Incremental ground level concentration on 24 hrly basis as per requirement of National Ambient Air Quality Standards have been estimated through a computer based mathematical model. The air quality model used for predictions is based on Steady state Gaussian Plume Equation. An averaging factor of 0.3 has been assumed to arrive at 24 hourly averages of the pollutants. The predictions are for the worst case scenario of full load operation i.e. 100% PLF,GCV of coal of 4150 Kcal/kg with a coal consumption of 3.6 MT/Y has been considered for computation. The SO2 emissions are estimated based on Sulphur content of 0.55% with all sulphur converting to sulphurdioxide. The SO2 emissions are estimated to be 6531.25 kg/hr. for 1050 MW . The emission data considered for predictions is enclosed as Table - 4.6.1.

It has been further assumed that the impact of existing NMTPS stage I on the ambient air quality is being reflected in the base line data and incremental impact of NMTPS stage II is superimposed to arrive at ultimate impact on ambient air quality.

The incremental impact is predicted in all the stability classes in all possible wind speeds at an interval of 0.5 km. upto a distance of 20 km for SO2 . The pollutants NOx and SPM are also being emitted by coal based power plants, however these are being taken care in the design by limiting NOx to 400 ppm and SPM to 150 mg/Nm3, respectively.

The short term impact in stability class 'A' under wind speed 1-3 m/s has been considered for computing the worst scenario of SO2 with respect to ambient air quality.

Table 4.6.3 brings out the predicted maximum concetraction in different wind speeds under different stability classes. The maximum increment due to operation of NMTPS stage-II for SO2 is 58.38 ug/m3 at distance of about 3.0 kms. in the down wind direction. The level of SO2 in ambient air along with the estimated incremental ground level concentration at the monitoring locations is presented in Table 4.6.2.

The influence of wind speed on spatial distribution of incremental ground level concentration (GLC) are better understood from the Figure 4.6.1 which shows Concentration versus Wind speed in stability class B.

Figure 4.6.2 shows the influence of atmospheric stability on GLC at constant wind speed . The graph has been drawn at wind speed of 3.0 m/s in stability classes A,B & C .

It can be inferred that the GLC decreases as one moves down the stability class and concentration reaches a maximum at critical wind speed and decreases after wards.

tared. Therefore, the dust emission from Stage-II will be only from the area of construction which is rather small. The fugitive dust particles generated due to soil erosion and other constructional activities get deposited on nearby plants having pubescent leaves. Physiological processes in such affected plants may get retarded to some extent. However, such impacts will be marginal and restricted to the immediate vicinity of the construction area.

The natural fauna in the construction area normally get disturbed due to various construction activities coupled with increases in population, traffic and noise in the area. The physical structures and fences obstruct the natural movement of animal population. However, most of the natural fauna of the area might have already migrated to neighbouring areas. Therefore, it is expected that there will be minimal impact on the fauna due to the expansion of the project.

Operation Impact:

Air pollutants of concern from the station will be particulate matter and SO2. The pollutants through wet and dry deposition pollute water and soil which ultimately affect plant life, their distribution, density and diversity. The influence depends upon ground level concentrations of air pollutants, exposure duration, climatic conditions and sensitivity of species involved.

The chronic exposure of SO2 causes chlorosis in plants. The plant species show a considerable range of sensitivity to

SO2. The range for injury or possible damage for the most sensitive species is 1.0 ppm for one hour to 0.05 ppm for 8 hours. Taking a seasonal and annual average the threshold for SO2 for chronic plant injury has been estimated at approx. 130 ug/m3.

The stack emissions from the proposed 525 MW units with pollution control devices will, be within the prescribed standards. The maximum annual average ground level concentration of SO2 is predicted to be 61.49 ug/m3. The influence of this concentration on the vegetation would be insignificant.

The fall out of fly ash on the surrounding terrestrial ecosystem bring about changes through its direct impact on plants and indirectly through modifying edaphic conditions. Fly ash particles get settled on soil and plant surfaces at varying distances from the stack depending upon the particle size, meteorological conditions, stack height, etc. Deposition of fly ash on foliar surfaces hampers plant growth through interference in gaseous exchange due to stomatal clogging leading to disturbed physiological processes and reduced availability of solar energy. In the proposed expansion project, adoption of high efficiency electrostatic precipitator (ESP) will keep the particulate emission within the stipulated limits of 150 mg/Nm3. A tall stack of 275 m will furthur facilitate wider dispersion of pollutants. Therefore, no impact on surrounding vegetation is expected due to particulate matter.

ANNEXURE-I

# TAMIL NADU POLLUTION CONTROL BOARD

From

Thiru P. Shankar, I.A.S.,
Chairman,
Tamil Nadu Pollution Control Bd.,
100, Anna Salai,
Guindy, Madras - 600 032.

To

The President,
Videocon Power Limited,
159-A, C.S.T. Road,
Vinay Bhavya Complex,
'A' Wing, Ist Floor,
Kalina, Santacruz (E),
Bombay - 400 098.

Letter No.T11/TNPCB/TNSEC/242/CMN/95. Dated : 16-8-1995.

Sir,

Sub: TNPC Board - Industries - M/s. Videocon Power Limited - Thermal Power Project of 2 x 525 mw at Ennore Puludivakkam Village, Ponneri Taluk, Chengalpattu-MGR District Issue of No Objection Certificate - Reg.

Ref: 1. Your letter No.VPL/MLS/TNPCB/555/95, dt. 22-6-95.

2. Your letter No.VPL/SNK/TNPCB/588/95, dt. 27-7-95.

- - -

I am to invite your kind attention to the reference second cited, wherein you have requested to issue 'No Objection Certificate' for the proposed Thermal Power Plant Project (North Madras Thermal Power Plant, Stage-II) at Ennore - Puludivakkam Village, Ponneri Taluk, Chengalpattu-MGR District for setting up of 2 x 525 mw Thermal Power Plant. The matter of issue of 'No Objection Certificate' to your proposal was placed before the Board at its meeting held on 7-8-95 and the Board vide its resolution No.145-13 (Part-I) (Red), dated 7-8-95, decided to issue 'No Objection Certificate' for setting up of Thermal Power Plant of 2 x 525 mw capacity (North Madras Thermal Power Plant - Stage-II) at Ennore - Puludivakkam Village, Ponneri Taluk,

..2..

100, ANNA SALAI, GUINDY, MADRAS-600 032.
Tel.: 2353134, 2353135, 2353136, 2353137, 2353138, 2353139, 2353140, 2353141
Telex: 041-8918 TPOL-IN Telegram: 'CONPOL' Fax: 044-2353088

# TAMIL NADU POLLUTION CONTROL BOARD



15. Stack of 275 m. height shall be provided for the boilers and it has to be ensured that the gaseous emission from the unit shall satisfy the emission/Ambient Air Quality standards prescribed by the Board.

16. It has to be ensured that the Electro Static Precipitators of 99.9% efficiency shall be installed to control the fly ash emission so as to satisfy the emission and Ambient Air Quality standards prescribed by the Board.

17. The unit shall incorporate in the design to provide low $NO_x$ type burners and low furnace temperature for the control of $NO_x$ emission as proposed so as to satisfy the standards prescribed by the Board.

18. The unit shall provide suitable space to accommodate flue gas desulphurising plant for the control of $SO_2$ emission in future by retrofitting if necessary as proposed.

19. The unit shall provide dust suppression and extraction system at suitable location for the control of Suspended Particulate Matter emission generated from transportation of coal from jetty to site in the conveyor belt system and dumpers in coal storage and handling area.

20. The unit shall collect the fly ash in dry form to utilise maximum extent possible for various beneficial use such as cement industry, brick industry, concrete/building industry, road/paving, industry and aggregate industry as proposed by extending concessions like making available the required land and fly ash free of cost.

..6..

100, ANNA SALAI GUINDY, MADRAS - 600 032.
Tel.: 2353134, 2353135, 2353136, 2353137, 2353138, 2353139, 2353140, 2353141.
Telex : 041 - 8916 TPOL-IN Telegram : 'CONPOL' Fax : 044 - 2353086

# TAMIL NADU POLLUTION CONTROL BOARD



## APPENDIX - III

EMISSION STANDARD FOR THERMAL PLANT

a. Standard for Particulate Matter Emission.

| BOILER SIZE | SPM STANDARD |
|---|---|
| 2 x 525 MW | 150 mg/Nm$^3$ |

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## APPENDIX - IV

AMBIENT NOISE LEVEL STANDARDS FOR INDUSTRIAL AREA.

| Unit | During Day time (6 A.M. to 9 P.M.) | During Night time (9 P.M. to 6 A.M.) |
|---|---|---|
| dB (A) | 75 | 70 |

---

For CHAIRMAN.

100, ANNA SALAI, GUINDY, MADRAS-600 032.
Tel.: 2353134, 2353135, 2353136, 2353137, 2353138, 2353139, 2353140, 2353141
Telex: 041 - 8916 TPOL-IN Telegram: 'CONPOL' Fax: 044 - 2353068

ENVIRONMENTAL QUESTIONNAIRE

ENVIRONMENTAL APPRAISAL OF THERMAL POWER PROJECTS
BASIC INFORMATION ON ENVIRONMENTAL APPRAISAL
FOR NORTH MADRAS THERMAL POWER PROJECT
STAGE-II (2 x 525 MW)

1.0 GENERAL INFORMATION ABOUT THE PROJECT

| | | | |
|---|---|---|---|
| 1.1 | Name/Title of the Project | : | North Madras Thermal Power Project Stage-II |
| 1.2 | Name and address of the project proponent | : | Videocon Power Limited<br>Village: Puluthivakkan<br>Dist.: Chingleput (Tamil Nadu) |
| 1.3 | Site where proposed plant is to be located (Site Map, Land Layout Plan to include a 30 km radius zone around the site, to be enclosed) | : | Please refer Fig. 2.1 of EIA report for layout plan and Fig. 3.0 for study area. |
| | Name of the Place<br>District, Tehsil<br>Latitude/Longitude | | Puluthivakkan<br>Chingleput<br>Latitude 10 13' to 13 18'N<br>Longitude 80 19' to 80 21'E |
| | Nearest Airport/Railway Station | | Madras Airport/Attippattu |
| 1.4 | Capacity of the project | : | 2 X 525 MW |
| 1.4.1 | Whether alternative sites were explored? If so, give following details for each site (Maps to be enclosed) | : | The site for the North Madras Power Project was selected by the Tamil Nadu State Electricity Board and Stage-I of the project comprising 3 X 210 MW units is already under implementation by them. The second stage consisting of 2 X 525 MW unit is being implemented by M/s VPL and the main plant and ash disposal area would be accommodated in the existing premises of the project. Some additional land which would be required for township has been identified. |
| 1.4.2 | Land use pattern of the land | : | The site is a flat stretch of barren dry land. |

| | | |
|---|---|---|
| 5.2.7 | Flue gas characteristics | : |
| | 1. Volume | : 897.63 m3/sec per flue |
| | 2. Temperature | : 140 deg C |
| | 3. Density | : 0.84 kg/m3 |
| | 4. Size distribution | : N.A. |
| | 5. Gas Composition | : Particulate, SO2, NOx, CO2 |
| 5.2.8 | Heat emission rate of gases (Kcal/hr) from each stack | : ) $15.8 \times 10^6$ K.cal/hr. |
| 5.2.9 | Emission rate of SO2, NOx and particulates from each stack in kg/hr. | ) SO2 - 6531.25 kg/hr.<br>) NOx - 400 ppm<br>) SPM - 150 mg/Nm3 |
| 5.2.10 | Background pollution levels of SO2, NOx and particulates | : Please refer Table 3.6.1 and 3.6.2 of the EIA report. |
| 5.3 | a) What kind of stack emission monitoring is proposed? | : Continuous monitoring for particulate. |
| | b) What equipment is proposed to be acquired or used for this purpose | : Suitable online monitoring instrument for measurement of particulate will be procured. |
| 5.4 | Give details of the air pollution control equipment proposed to be installed. | : a) High efficiency 99.8% ESP will be installed.<br>b) Dust suppression and extraction system to control fugitive dust emission.<br>c) Tall stack of 275 m.<br>d) Space provision for FGD retrofitting.<br>e) Extensive afforestation. |
| 5.5 | Give details of the organisational set-up for maintenance of pollution control equipment and level of expertise and authority of person incharge. | : An Environmental Management Group comprising of experienced engineers and scientists will be set up who will be responsible for operation and maintenance of pollution control equipments and monitoring the pollution levels. |
| 5.6 | Emission rate of particulates and sulphur dioxide to be released when control equipment is: | : |
| 5.6.1 | Functioning normally | : Particulate: 150 mg/NM3<br>SO2 : 6531.25 kg/hr. |
| 5.6.2 | Not functioning | : The unit will not be operated if ESP is not functioning. |

(19) (A)

J-13011/11/1995-IA.II (T)
**Government of India**
**Ministry of Environment & Forests**

Ph: 011-2436 4067
e-mail: sarojmoef@yahoo.com
Paryavaran Bhawan
CGO Complex, Lodi Road
New Delhi-110 003

Office of the Principal Resident Commissioner
27 NOV 2012
Tamil Nadu House, New Delhi

Dated: November 27, 2012

To

M/s Tamil Nadu Generation & Distribution Corpn. Ltd.
N.P.K.R.R Maaligai,
Electricity Avenue
144, Anna Salai
**Chennai – 600 002.**

***Sub:*** ***North Chennai Thermal Power Project (Stage-II) at villages Ennore & Pazhudivakkam, in Ponneri Taluk, in Salem Thiruvallur Distt., in Tamil Nadu - reg.***

Sir,

This has reference to your letter nos. SE/C/P&E/EE/EMC/AEE/C/F.NCTPS-II/D.1567/10, dated 30.07.2010; SE/C/P&E/EE/EMC/AEE/C/F.NCTPS-II/D.628/11, dated 23.03.2011; D.O Letters dated 22.11.2011, 30.12.2011, 07.06.2012, 30.07.2012 and 13.08.2012 from the Chief Secretary, Govt. of Tamil Nadu; and Letter from Minister for Electricity & Prohibition and Excise, dated 10.10.2012 requesting for revalidation, enhancement of capacity from 2x525 MW to 2x600 MW at North Chennai Thermal Power Project (Stage-II) and change in name. As per the letter no. 8588/B2/12, dated 13.08.2012 from the Chief Secretary, Govt. of Tamil Nadu addressed to the Secretary, Ministry of Environment & Forests, it is certified that M/s TANGEDCO is the sole owner of the North Chennai Thermal Power Project Stage-II (2x600 MW) site and the same is under the possession and enjoyment of M/s TANGEDCO. That there is no dispute litigation on ownership of the project.

2. The request has been examined and as a special case, it is informed that the validity of environmental clearance issued vide Office Memorandum of even no., dated 10.05.1996 and amendments issued from time to time is extended till 07.05.2016 for operation of the plant. In addition the following amendments shall also be made in this Ministry's Office Memorandum of even no. dated 10.05.1996, as under:

a) The environmental clearance letter issued in the name of M/s Videocon Power Ltd. shall be now substituted by the name of M/s Tamil Nadu Generation & Distribution Corpn. Ltd.

b) The configuration viz. 2x525 MW mentioned in the subject matter and at para no. 2 shall be now substituted by 2x600 MW.

c) After clause no. (xviii), under para no.2, of this Ministry's letter of even no. dated 10.05.1996, the following shall be added:

(xix) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission from the proposed plant does not exceed 50 mg/Nm$^3$.

(106)

(3)

(xx) 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.

(xxi) The project proponent shall upload the status of compliance of the conditions stipulated in the environmental clearance issued vide this Ministry's letter of even no. dated 10.05.1996, in its website and updated periodically and also simultaneously send the same by e-mail to the Regional Office of the Ministry of Environment and Forests.

(xxii) Criteria pollutants levels including $NO_x$, RSPM ($PM_{10}$ & $PM_{2.5}$), $SO_x$ (from stack & ambient air) shall be regularly monitored and results displayed in your website and also at the main gate of the power plant.

(xxiii) Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg,Cr,As,Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.

(xxiv) A long term study on radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. 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.

(xxv) Rehabilitation of abandoned Ash Pond shall ensured such that ecological restoration is physically manifested within a period of three years and accordingly action plan formulated and details submitted to the Regional Office of the Ministry and the State Pollution Control Board.

3. The exercise of revalidation, change in name and configuration made herein is made without prejudice to any litigation in any court of law, earlier to this order.

4. All other conditions mentioned in this Ministry's aforesaid Office Memorandum of even no. 10.05.1996 shall remain the same.

This issues with the approval of the Competent Authority.

Yours faithfully,

(Dr. Saroj)
Director

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary (Environment), Environment Department, Government of Tamil Nadu.

3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Tamil Nadu State Pollution Control Board, No. 76, Mount Road, Mount Salai, Guindy, Chennai - 600 032
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi- 110032.
6. The Chief Conservator of Forests, Regional Office (SZ), Kendriya Sadan, 4th Floor E&F Wings 17th Main Road, 1 Block , Koranmangala, Bangalore -560 034.
7. The District Collector, Thiruvullar District, Govt. of Tamil Nadu.
8. Guard file.

(Dr. Saroj)
Director