एनटीपीसी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited

ISO 14001 DNV REGISTERED FIRM

रामगुण्डम
Ramagundam

सं/Ref: 09:EMG/पप्रस/A/ए-13/2017/1594

दिनांक Date: 25.09.2017

To :

The Member Secretary
T.S. Pollution Control Board,
Paryavaran Bhawan,
A-3, Industrial
Estate,Sanathnagar,
HYDERABHAD- 500 018

सेवा में :

सदस्य सचिव
ते स प्रदूषण नियंत्रण बोर्ड
पर्यावरण भवन
उद्योग संपदा
सनत नगर
हैदराबाद 500 018

Dear Sir,

प्रिय महोदय,

**Sub: Environmental Statement for the Financial year 2016 – 17 - Reg.**

**विषय :वित्तीय वर्ष 2016 – 17 के लिए पर्यावरण संबंधी विवरण के संबंध में**

Enclosed please find here-with the Environmental Statement for the financial year **2016 – 17** for NTPC-Ramagundam prepared in Form V as per the Government of India Gazette Notification dated 13th March 1992.

भारत सरकार के राजपत्र में प्रकाशित अधिसूचना 13 मार्च 1992 के अनुसार, वित्तीय वर्ष **2016 – 17** के लिये एन - ठी पी सी लिमि रामगंण्डम का पर्यावरण संबंधी विवरण फार्म-V में इसके साथ संलग्न पायें.

Thanking you,

सधन्यवाद

Yours faithfully/भवदीय,
कृते एन. ठी. पी. सी. लिमिठेड.

( Y S GUPTA ) / (वाइ. एस. गुप्ता )
(ADDL GENERAL MANAGER){EMG} / अपर महाप्रबंधक [पर्या.प्र.समूह]

O/C

The Environmental Engineer/पर्यावरण अभियंता
TS Pollution Control Board /ते स प्रदूषण नियंत्रण बोर्ड
Regional Office: Ramagundam - 505 215, District, PEDDAPALLI.

Office of the Environmental Engineer Telangana State Pollution Control Board Regional Office, Ramagundam, H. No. 5-Sector C-3, NTPC, TTS, Near Zilla Parishad High School NTPC (Township) - 505 215, Dist. Peddapalli (T.S.)

एनटीपीसी - रामगुण्डम, पो ज्योतिनगर - 505 215, जिला: करीमनगर, आं.प्र फैक्स / Fax: 08728-272962, तार: थर्मपावर
NTPC-Ramagundam, PO: Jyothinagar-505 215. Dist:Peddapalli. TS. Cable: THERMPOWER
REGD.OFFICE:NTPC Bhawan, SCOPE Complex, 7 Institutional Area, Lodhi Road, New Delhi -110 003

**RAMAGUNDAM SUPER THERMAL POWER STATION**
**NATIONAL THERMAL POWER CORPORATION LIMITED**
**P.O. JYOTHI NAGAR DIST: PEDDAPALLI**

## ENVIRONMENTAL STATEMENT FOR THE YEAR 2016-17

### Submission

The Environmental Statement of NTPC- Ramagundam for the financial year 2016-2017 has been prepared in-house by the available in-company professional after audit of the system/schedules of monitoring and the reports generated during the year. The methodology adopted involved a survey of the monitoring program and procedures and critical evaluation and analysis of the data.

The Environmental statement for the year 2016-17 highlights the major Environmental Conservation and operation measures adopted at NTPC- Ramagundam during the period under reference as well as the improvements or change in the performance in these areas compared to the previous years.

Furnished herewith please

**Date**

**EXECUTIVE DIRECTOR (R)**
**NTPC- RAMAGUNDAM**

## FORM-V

## ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING 31st MARCH 2017

## PART-A

| | | |
|---|---|---|
| I | Name and address of the Owner/Occupier of the industry operation or process | **DILIP KUMAR DUBEY**<br>**EXECUTIVE DIRECTOR (R)**<br>NTPC-RAMAGUNDAM,<br>P.O.:JYOTHINAGAR, RAMAGUNDAM,<br>DIST: PEDDAPALLI (TS)-505215 |
| II | Industry Category (STC/SIC Code) | N/A |
| III | Production Capacity | 2600 MW |
| IV | Year of Establishment | UNIT- I 200 MW - 1983 October<br>UNIT- II 200 MW - 1984 May<br>UNIT- III 200 MW - 1984 December<br>UNIT- IV 500 MW - 1988 June<br>UNIT- V 500 MW - 1989 March<br>UNIT- VI 500 MW - 1989 October<br>UNIT- VII 500 MW - 2004 September |
| V | Date of last Environmental Statement submitted | 28.09.2016 |

## PART – B

## WATER AND RAW MATERIAL CONSUMPTION

### (i). Water Consumption ($m^3$/day)

| | | | | |
|---|---|---|---|---|
| a | **For Process** | i) DM Water for boiler feed = 2651<br>ii)Ash water + DM water used for regeneration 7346 + 398 = 7744 | Total 10395 | Total Water treated in Ash Water Recirculation System (AWRS)<br><br>**=1,13,892 $m^3$/day** |
| b | **For Cooling** | i) Condenser cooling water = 88559<br>ii)Clarified water for auxiliary cooling = 74698 | Total 163257 | |
| c | **For Domestic** | | 11520 | |
| | **Total** | | **185172** | |

**Process (Plant) Water Drawn Per Product Output (Liter/Kilo Watt Hour):**

| Name of Products | Process water consumption per unit of product output | |
|---|---|---|
| | 2015-16 | 2016-17 |
| Electricity generation 19597.497MU | 0.10 Lit/KWh | 0.19 Lit/KWh |

**ii. Raw material consumption**

| Name of raw materials | Name of products | Consumption of raw material per unit of output | |
|---|---|---|---|
| | | 2015-16 | 2016-17 |
| a. Coal (kg/kwh) | Electricity generation | 0.671 | 0.642 |
| b. Fuel Oil (ml/kwh) | | 0.181 | 0.257 |

## PART – C

## POLLUTION DISCHARGE TO ENVIRONMENT/UNIT OF OUTPUT

**I. Wastewater Discharged (2016-2017)**

Plant Effluent: 9,500 $m^3$/day, Sewage Effluent: 9,000 $m^3$/day

| Pollutants | Quantity of Pollutant (kg/day) | Concentration of Pollutant (mg/l) | % of variation from prescribed standard with reasons |
|---|---|---|---|
| **i. Process Effluent** | | | |
| TSS | 508.3 | 53.5 | Nil |
| **ii. Domestic Effluent** | | | |
| BOD | 252.9 | 28.1 | Nil |
| TSS | 315.0 | 35.0 | Nil |

**II. Stack Emissions:**

| **Flue Gas Flow Rate** | |
|---|---|
| Stage – I (3 units of 200 MW) | 927743 $Nm^3$/Hr/Unit |
| Stage – II (3 units of 500 MW) | 2838796 $Nm^3$/Hr/Unit |
| Stage – III (1 unit of 500 MW) | 2426728 $Nm^3$/Hr/Unit |

| Pollutant | Quantity of Pollutant Discharged (kg/day) | Concentration of Pollutant Discharged (mg/$Nm^3$) | % of Variation from Prescribed Standard with Reasons. |
|---|---|---|---|
| Stage – I : SPM | 5814 | 87 | Nil |
| Stage – II : SPM | 21848 | 106 | Nil |
| Stage – III : SPM | 4421 | 76 | Nil |

## PART – D

**HAZARDOUS WASTES**
(as specified under Hazardous waste/Management and handling Rules)

| Hazardous Wastes | Total Quantity | |
|---|---|---|
| | During the previous financial year | During the current financial year |
| a. From Process | No hazardous waste is generated in the process of electricity generation. However, hazardous waste generated during maintenance activities are given as per the following statement | |
| b. From Pollution Control facilities | | |

**STATEMENT OF HAZARDOUS WASTE INVENTORY**

| S. No | Physical Form with Description | Total Quantity stock (Approx. Volume/ Weight ) | |
|---|---|---|---|
| | | as on 31.03.2016 | as on 31.03.2017 |
| 1 | Used oil | 42.41 (103.97 MT disposed during 2015-16) | 28.4 MT (44.97 MT disposed during 2016-17) |
| 2 | Used oil & grease drums | 997 nos | 631 nos |
| 3 | Used lead acid batteries | 881 nos (800 Nos disposed During 2015-16) | 296 Nos (630 Nos disposed During 2016-17) |
| 4 | Detoxified containers and container liners of Hazardous waste and chemicals | Nil (700 Nos disposed During 2015-16) | Nil (1200 No disposed during 2016-17) |
| 5 | Used resins | Approx. 800 lit | 790 lit (subsequently disposed in April 2017) |
| 6 | Used torch cells | Nil | Nil |
| 7 | Oil soaked cotton | Approx.1445 kg | 1140 kg (subsequently disposed in April 2017) |
| 8 | Fuller earth | 10.63 MT | 1.63 MT (11.17MT disposed During 2016-17) |
| 9 | E waste | 10.52 MT (14 MT disposed during 2015-16) | 2.68 MT (9.8 MT disposed during 2016-17) |

## PART-E

## SOLID WASTES

| Sl. No. | Description | Total Quantity | |
|---|---|---|---|
| | | During the Current financial year (2015-16) | During the Current financial year (2016-17) |
| A | **Quantity generated from Process** | | |
| | i. Mill Rejects | 43,477.14 MT | 36,114.56 MT |
| | ii. Clarifier sludge | Negligible | Negligible |
| B. | **Quantity generated From Pollution Control Facility** | | |
| | i. Ash collected from ESP & Boiler furnace bottom | 50,24, 270 MT | 47,11,031 MT |
| | ii. Sewage sludge | Nil | Nil |
| C. | **(1) Quantity recycled or re-utilized within the unit** | | |
| | i. Ash (For Dyke raising, low lying area fill, Own Brick manufacturing units, etc) | 5,30,826 MT | 4,08,781 MT |
| | Ii. Mill Rejects (for ash dyke raising and temporary approach works) | Nil | Nil |
| | **(2) Sold** | | |
| | i. Fly ash sold to Cement/RMC Manufacturing industries | 10,00,248 MT | 8,11,827 MT |
| | ii. Mill Rejects | 82,031.43 MT | 34942.03 MT |
| | **(3) Disposed** | | |
| | i. Ash (disposed to ash pond) | 5,42,134 MT | 3,22,440 MT |
| | ii. Ash (issued to brick & cement, Brick kilns, road and mines backfilling at free of cost) | 29,51,435MT | 31,67,983 MT |
| | iii. Sewage Sludge (Taken by near-by villagers for manure at free of cost) | Nil | Nil |
| | iv.Mill Rejects | Nil | Nil |

## PART – F

### CHARACTERISATION OF HAZARDOUS AS WELL AS SOLID WASTES

| S. No. | Component | Composition (%) | Quantum (MT) | Disposal Practice |
|---|---|---|---|---|
| I | **ASH** | | | |
| 1 | Sodium oxide | 1.05 | 49466 | Dry ash issue to Cement, RMC and other industries; use in own unit for ash dyke raising, Mine stowing, agriculture and balance to ash pond by wet disposal. |
| 2 | Magnesium oxide | 0.96 | 45226 | |
| 3 | Alumina | 26.44 | 1245597 | |
| 4 | Silica | 58.5 | 2755953 | |
| 5 | Phosphorous Pentoxide | 0.52 | 24497 | |
| 6 | Sulphur trioxide | 0.76 | 35804 | |
| 7 | Potassium oxide | 1.27 | 59830 | |
| 8 | Calcium oxide | 4.1 | 193152 | |
| 9 | Titanium dioxide | 1.2 | 56532 | |
| 10 | Manganese oxide | 0.06 | 2827 | |
| 11 | Iron oxide | 5.14 | 242147 | |

## PART-G

### IMPACT OF POLLUTION CONTROL MEASURES ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION

**ASH:** Providing of dry fly ash to Cement, Ready Mix Concrete (RMC) and Fly Ash Brick Manufacturing industries and Pond Ash is being issued to Clay Brick Manufacturing industries, ash dyke rising helped in conservation of natural top soil.

Also Pond ash is being issued to SCCL for ash stowing in their operating underground mines and also supplied to farmers for use of ash in agriculture.

**WATER:** Through various modifications and conservation programmes, about 58.5Million KL of water conserved during the year.

## PART – H

## ADDITIONAL MEASURES/INVESTMENT PROPOSAL FOR ENVIRONMENT PROTECTION INCLUDING ABATEMENT OF POLLUTION PREVENTION OF POLLUTION DURING 2016-17

- Dry ash extraction system has been installed and commissioned. For facilitating the fly ash takers located at distant places, Rail cum Road loading system for Unit- 4 & 5 of Stage-II is constructed.

- In 2015-16, **Rs.20 lakhs** deposited to Divisional Forest Department, Karimnagar under State Govt's Telanganak ku Haritha Haram Program for two lakhs saplings.

- Planation of 60,000 nos done and also **Rs.57 lakhs** deposited to Divisional Forest Department, Karimnagar under State Govt's Telanganak ku Haritha Haram Program for 5 lakhs saplings during 2016-17.

## PART – I

## ANY OTHER MEASURES FOR IMPROVING THE QUALITY OF THE ENVIRONMENT

- All the Stage-I, II and III units are provided with high efficient Electro-static Precipitators (ESPs) of more than 99.5% efficiency and are in operation.

- The ash pond water generated is brought back to the Ash Water Recirculation System (AWRS), treated, mixed with other plant effluents and is reused for ash handling.

- Liquid Waste Treatment Plant (LWTP) to conserve water by increasing Cycle of Concentration (COC) of cooling water has been in operation.

- Dry Ash Extraction and Transportation Plant (DAETP) are in operation enabling issue of Ash to Cement, RMC and brick manufacturing industries.

**Date:**

**Signature**

**Name** डी.के .दुबे D.K. DUBEY

**Design** कार्यकारी निदेशक Executive Director

**Address** एनटीपीसी लिमिटेड NTPC Limited, Ramagundam
ज्योतिनगर JYOTHINAGAR - 505 215