एनटीपीसी NTPC

एनटीपीसी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Govt. of India Enterprise)
ऊँचाहार
UNCHAHAR

ऊँचाहार/ईएमजी/ई 7/2025-26/ **दिनांक: 11.09.2025**

सेवा में,
मुख्य पर्यावरण अधिकारी, वृत-5,
उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड (यूपीपीसीबी)
इमारत संख्या टीसी -12 वी, विभूति खंड
गोमती नगर लखनऊ-226 010

विषय: वित्तीय वर्ष 2024-25 के लिए एनटीपीसी ऊंचाहार परियोजना का पर्यावरण विवरण के संदर्भ में।

आदरणीय महोदय/महोदया,

कृपया, वर्ष 2024-2025 के लिए एनटीपीसी ऊंचाहार विद्युत परियोजना का पर्यावरण विवरण (Form-V) पत्र आपकी जानकारी हेतु संलग्न किया गया है।

यह आपकी जानकारी एवं अवलोकन हेतु प्रेषित है।

धन्यवाद।

भवदीय

Psinha

(प्रीति सिन्हा)
अपर महाप्रबंधक (तकनीकी सेवाएं)

प्रीति सिन्हा (तकनीकी सेवाएं) अपर महाप्रबंधक PREETI SINHA Addl. G.M.(T.S) एनटीपीसी लिमिटेड ऊँचाहार, रायबरेली NTPC Limited Unchahar, Raebareli-229406

संलग्नक:- पर्यावरण विवरण (Environment Statement-Form-V)

प्रतिलिपि:

1. सदस्य सचिव यूपीपीसीबी, इमारत संख्या टीसी 12, विभूति खंड, गोमती नगर, लखनऊ -226010
2. क्षेत्रीय अधिकारी, उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड, सी0- ब्लाक, आवास विकास कालोनी, इन्दिरा नगर, रायबरेली-229001 (उत्तर प्रदेश) ईमेल:roraebareli@uppcb.in
3. निदेशक, पर्यावरण और वन और जलवायु परिवर्तन मंत्रालय, एकीकृत क्षेत्रीय कार्यालय (मध्य क्षेत्र), क्षेत्रीय कार्यालय (सीजेड), केन्द्रीय भवन, 5वीं मंजिल, सेक्टर "एच" अलीगंज, लखनऊ – 226020 उतार प्रदेश।
4. आंचलिक अधिकारी, सीपीसीबी, पिकअप भवन, भूतल, गोमती नगर, - 226010 लखनऊ।

NTPC LIMITED
Feroze Gandhi Unchahar Thermal Power Station
Unchahar, Raebareli (U.P) 229406

ENVIRONMENT STATEMENT FOR FINANCIAL YEAR ENDING 31ST MARCH- 2025

FORM V (SEE RULES OF E (P) RULES

Part- A

1. Name and address of the owner / occupier:		Head of Project, Feroze Gandhi Unchahar Thermal Power Project, NTPC LIMITED (A Govt. of India Enterprises) Unchahar, RAEBARELI (U.P.) Pin: 229406.
2. Industry Category	:	Thermal Power Plant
3. Production Capacity	:	Stage–I 210 MW x 2 Units Stage-II 210 MW x 2 Units Stage-III 210 MW x 1 Unit Stage-IV 500 MW x 1 Unit
4. Year of Establishment (Date of synchronization	:	**Stage-I** Unit-1 - 21.11.1988 Unit-2 - 22.03.1989
	:	**Stage-II** Unit-3 - 27.01.1999 Unit-4 - 22.10.1999
		Stage-III Unit-5 - 28.9.2006
		Stage-IV Unit-6 - 31.03.2017
5. Date of Last Environment Statement Submitted	:	28.09.2024

PART – B

(Water & Raw Materials Consumption)

1.0 Water Consumption m^3/day

Sr No.	Type of Activity	Water Consumption F.Y 2023-24	Water Consumption F.Y 2024-25
1	Gross Energy Generated (MU)	8463.1727	9817.883
2	Industrial Cooling, Spraying in mine pits or boiler feed (m^3/d)	91541.46	103930
3	Domestic Purpose (m^3/d)	1130.0	1220
4	Process whereby water gets polluted & pollutants are easily biodegradable (m^3/d)	NIL	NIL
5	Process whereby water gets polluted & pollutants are easily biodegradable and are toxic (m^3/d)	NIL	NIL

2.0 PROCESS (PLANT) WATER DRAWN PER PRODUCT OUTPUT (Liter/Kilo Watt Hour)

a. Water Consumption

S. No.	Name of Products	Process water consumption per unit of product output.	
		During the financial year 2023-24 (L/Kwh)	During the financial year 2024-25 (L/Kwh)
1	Electric Power generation	3.95	3.86

1.0 Raw material consumption

Sr No	Name of Raw Material	Name of the product	Consumption of Raw Material unit of output			
			2023-24		2024-25	
1	Coal	Electricity	Total Consumption (MT)	56,14,975.0	Total Consumption (MT)	69,84,037.0
			Specific Consumption per KW	0.663 Kg/Kwh	Specific Consumption per KW	0.711 Kg/Kwh
2	Fuel Oil		Total Consumption (KL)	6678.0	Total Consumption (KL)	6456.3
			Specific Consumption per KW	0.789 ml/Kwh	Specific Consumption per KW	0.658 ml/Kwh

PART – C

(Pollution Discharge to environment)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage variation from prescribed standards with reasons
A) Average of Stack Emission from Stage-1			
SO_2 (Limit 600 mg/Nm^3)	31075.37 (Kg/Day)	1075.2 (mg/Nm3)	79.20%
NO_x (Limit 600mg/Nm^3)	13485.13 (Kg/Day)	528.43 (mg/Nm3)	-11.93%
PM (Limit 100 mg/Nm^3)	2195.41 (Kg/Day)	74.57 (mg/Nm3)	-25.43%
Average of Stack Emission from Stage-2			
SO_2 (Limit 600 mg/Nm^3)	40694.25 (Kg/Day)	1099.86 (mg/Nm3)	83.31%
NO_x (Limit 600mg/Nm^3)	20037.49 (Kg/Day)	542.13 (mg/Nm3)	-9.65%
PM (Limit 100 mg/Nm^3)	2657.17 (Kg/Day)	71.77 (mg/Nm3)	-28.23%
Average of Stack Emission from Stage-3			
SO_2 (Limit 600 mg/Nm^3)	30698.61 (Kg/Day)	1064.9 (mg/Nm3)	77.48%
NO_x (Limit 450mg/Nm^3)	12987.05 (Kg/Day)	443.05 (mg/Nm3)	-1.54%
PM (Limit 50 mg/Nm^3)	857.23 (Kg/Day)	29.53 (mg/Nm3)	-40.94%
Average of Stack Emission from Stage-4			
SO_2 (Limit 100 mg/Nm^3)	5924.81 (Kg/Day)	162.42 (mg/Nm3)	62.42%
NO_x (Limit 100mg/Nm^3)	12388.40(Kg/Day)	360.31 (mg/Nm3)	260.31%
PM (Limit 50 mg/Nm^3)	501.86 (Kg/Day)	14.48 (mg/Nm3)	-71.04%
B) Water	**Domestic Sewage:**		
TSS (Limit 100mg/lit)	0.0 (Kg/Day)	44.7 mg/lit	-53.3%
BOD (Limit 30 mg/lit)	0.0 (Kg/Day)	2.12 mg/lit	-92.95%
COD (Limit 250 mg/lit)	0.0 (Kg/Day)	12.85 mg/lit	-94.86%

1) FGD for all Stages-1, 2,3 and 4 is under operation.
2) At Stage-3 & 4, Low NOx burner system with Overfired damper is installed.

Part – D

Hazardous Wastes

UP pollution Control Board, Lucknow, vide their letter No. 26301/UPPCB/Raebareli(UPPCBRO)/HWM/RAEBARELI/2024 Dated 02/12/2024, has AUTHORISED Feroze Gandhi Unchahar Thermal Power Project, NTPC, Unchahar, Raebareli for storage of Waste Oil, Empty barrels, Resin, Mineral/ Glass wool insulation, Oil/Grease soaked cotton, Asbestos Packing for 02 years i.e., up to 31.12.2026.

a) Waste oil in sealed MS Drums and waste batteries from various departments are collected at centrally located point in designated area in store & disposed of as per guidelines issued by UPPCB/MoEF-CC to its authorized agencies.
b) The following Hazardous Waste (recyclable & non-recyclable) were disposed of in 2024-25 through the authorized agencies as per latest guidelines of MOEF.

Sl. No.	Items	Unit	Disposed Qty.
1.	Used Lube Oil	KL	78.708
2	Glass Wool	MT	102.83
3.	Lamps & Tubes	MT	0.00
4.	Resin	MT	0.00
5.	Oil Soaked Cotton	MT	0.00
6.	Empty Drums (20l)	No.	11259

c) From pollution control facilities: N.A.
d) **Bio Medical waste:**

Grant of Authorisation of Bio Medical waste under Bio Medical Waste (Management & Handling) Rules 1998. Ref Bo: 29396639 Dated 20.01.2025 is valid till 09.12.2028. In the year 2024, 0.719 MT of biomedical waste was disposed through authorized vendor of UPPCB.

PART-E

SOLID WASTE

Solid Wastes	Total Quantity (MT)	
	During the financial year (2023-24)	During the financial year (2024-25)
a) From process-Mill Reject (Ton/Day)		
Mill Reject (Ton/Day)	70.0	82
b) From pollution control facility		
Fly Ash + Bottom Ash (MT)	2093304.0	2752738.0
c) Quantity recycled or utlised		
Ash Utilised	2893627.0	2785220.0
Mill Reject	25522.0	--
d) Sold		
Dry Fly Ash	908914.0	1136662.0

PART-F

1) Solid Wastes:

a) COAL ASH : Characteristics of Ash:
Ash Characteristics

Composition(%)

i. SiO_2 60.87
ii. Al_2O_3 28.14
iii. Fe_2O_3 3.79
iv. TiO_2 2.01
v. P_2O_5 0.37
vi. CaO 0.99
vii. MgO 0.69
viii. Na_2O 0.109
ix. K_2O 1.5

2) DISPOSAL PRACTICE:

a) Coal Ash: As per MoEF guidelines, ash is being issued to various Cement/ Asbestos Industries for using ash as ingredients in their cement/asbestos manufacturing units, from our silo in Bulkers, closed trucks. Also pond ash is being utilized in construction of roads/ highways through NHAI/UPEIDA.

b) Used Batteries: Used batteries being stored at Central Store at identified place for disposal to authorized agencies as per MOEF Guidelines.

c) Hazardous Wastes: Waste oil is being collected in Central Store for disposal to authorized agencies as per latest guidelines of MOEF.

d) Municipal Solid Waste: Biodegradable waste are being decomposed in Bio-methanation plant and in vermicomposting, manure are used for plantation/gardening. Plastic waste, paper, glass, iron is being collected separately and stored in our yard for final disposal to recycler.

PART-G

Cost of pollution Control Measures

A-Cost Incurred for Environmental Protection Measures		
Sr. No	Description	Cost in Rs. Lakh
1	Ash Handelling and disposal system	13182
2	ESP STG-4	6864
3	CHIMNIEY	3210
4	Ash water Recirculation including pipe conveyance	2183.1
5	ETP Stg-4	410
6	DM plant waste treatment systems	150
7	Sewerage collection, treatment disposal system	50
8	Establishment of environmental laboratory	50
9	Green belt development	1030.93
10	Online AAQMS/CEMS/EQMS Monitoring station	30
11	Environment awareness programme	6
12	Flue gas De-Sulpherisation System Stage-IV (completed)	35949
13	FGD Stage-I II & III	69000
14	Stage-III De-Nox System (Completed)	455
15	Bio methanation Plant (Completed)	19.41
16	ESP Stage-I R&M (Completed)	7000
17	ESP Stage-II R&M (Completed)	5689
18	Sewage Treatment Plant 2 MLD	393.96
19	Umran awsh water recirculation pipe coneyance system	316.58
20	Plantation 22-23	67.38
21	Stage-IV De- Nox System (Under Progress)	1147
22	Plantation 23-24	71
23	Construction of Coal slurry settaling pit (1,2&3)	226.37
24	Miyawaki Plantation 23-24	15.61
25	Plantation 24-25	80.89
	Total A	**147597.23**
B-Project under progress		
1	Ash Dyke sprinker system	140
2	Dust curtain along the boundary of Bikai village	120

3	Third party Environmental parameter Monitoring	12
4	Mill Reject area development	60
	Total B	**332.0**
	Total A+B	**147929.2**

PART-H

Following measures has been undertaken for Environment protection:-

i) To arrest fugitive dust emission in Arkha Ash Dyke, green grass developed & covered with water on almost the surface area of Arkha.

ii) Bio-medical waste disposal is done through vendor having valid authorization from State Pollution Control Board.

iii) Hazardous waste disposal is done through authorised vendors of UPPCB.

iv) Online Continuous Stack Emission Monitoring System at NTPC, Unchahar has been installed, working & data is hooked up with CPCB.

v) Online Continuous effluent quality monitoring system at NTPC, Unchahar has been installed, working & is hooked up with CPCB.

vi) Mass scale plantation activities undertaken during FY 2024-25, 40000 number of plant saplings have been planted in & nearby villages of NTPC Unchahar through Divisional Director, Social Forestry, Raebareli.

vii) Ash is gainfully utilized in cement, ash brick manufacturing, road work, agriculture & other areas. Around 27.85 lac tons (101.18% of total ash produced) ash was thus utilized in the year 2024-25.

viii) ESP, DE/DS System etc. On-line real time Data Base Management such as AAQMS, CEMS & EQMS is hooked up with CPCB/SPPCB.

ix) Flue Gas Desulphurisation (FGD) is commissioned in Unit-1,2,3,4,5 and 6 to achieve SO_x level of 100 mg/Nm^3

x) Green Belts, Afforestation- Till date approx. 14.67 Lakhs Plantations done.

xi) 10 MW Solar Power Plant is under operation and has been registered with UNFCCC for obtaining Carbon Credit. Certified Emission Reduction (CERs), Credits was awarded till 2020 by UNFCCC. For period 2019 and 2020 carbon credit awarded 27,828 tCO2e.

xii) For better assessment of local environment following studies has been taken at NTPC, Unchahar.

a) **Ground water Hydrology Study:-** Outcome of study is as follows

Available groundwater information for the pre-construction period/previous years and current groundwater observations are analyzed to assess the impact of post-construction and operation of the thermal power plant on groundwater resources

of the study area. The impact of post-construction activity and operation of the thermal power plant on groundwater was reviewed based on past studies (WRDM, IIT Roorkee 2016; M/s Vimta Labs, 2011). It is to be noted that part of the study area, especially around the plant, has groundwater and surface water very close to it. A pollutant in the surface water or on the surface can easily reach the groundwater and cause serious contamination problems. Therefore, regular monitoring of the surface soil water resources is recommended in the near future.

b) Radioactivity Survey study: Outcome of study conducted in June 2025 is as follows

- No significant rise from the background radiation level was observed at the coal and fly ash storage yards.
- The maximum permissible effective whole-body dose for occupational exposure is 30 mSv/year (20 mSv/year averaged over 5 consecutive years) and the general public exposure limit is 1 mSv/year as per the AERB directive No. 01/2011.
- It may be noted that the readings in table-1 are the maximum readings observed over the entire area. The maximum readings were found at very few and isolated spaces and do not represent the average field observed in those areas. Still to be on conservative side, the maximum readings are considered for calculation. Considering the maximum recorded dose rate of 29 µR/hr (Ash Dyke Area Umran including AWRS system), A person may receive 0.72 mSv/year of radiation dose (working 8 hours per day and 6 days in a week) which is very less than the general public exposure limit.
- The activity concentration (Bq/kg) of the radioactive elements in the coal / ash samples were very less than the limit for material exemption as prescribed by IAEA SSR-6 Rev.1/2018