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

लारा/ LARA

Ref: Lara: EMG: Envt. Stmt. 23-24: 2024 **September 19, 2024**

To,
The Member Secretary,
Chhattisgarh Environment Conservation Board,
Paryavas Bhawan,
Atal Nagar Nava Raipur,
Chhattisgarh.

Subject: Environment Statement of NTPC Lara (2X800 MW) for the financial year 2023-24.

Dear Sir,

The Environment Statement of NTPC Lara (2X800 MW) for the financial year 2023-24 is being attached with the letter for your kind information please.

With warm Regards.

Sign of Authorized Signatory

(SUDHIR DAHIYA)
(AGM, NTPC Lara)

Copy To:

1. **Regional Officer,**
   Chhattisgarh Environment Conservation Board,
   Raigarh

लारा सुपर थर्मल पावर प्रोजेक्ट, ग्राम–छपोरा, पोस्ट–पुसौर, जिला–रायगढ (छत्तीसगढ), पिन–496440
Lara Super Thermal Power Project, Vill- Chhapora, Post- Pussore, Distt.- Raigarh (Chhattisgarh), Pin- 496440
दूरभाष / Telephone No. : 07762-242002, फैक्स / Fax : 011-66173761
पंजीकृत कार्यालय : एनटीपीसी भवन, स्कोप कॉम्पलेक्स, 7 इंस्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली–110 003
Registered Office : NTPC Bhawan, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi 110 003
दूरभाष / Telephone No. : 011-24360100, फैक्स / Fax No. 011-24361018
Corporate ID : L40101DL1975GOI007966 / Website- www ntpc.co.in

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

LARA

Environment Statement
For Lara Super Thermal Power Station
(NTPC Ltd)
Raigarh

(Year 2023 – 2024)

Period Ended 31.03.2024

By

Lara Super Thermal Power Station
(NTPC Ltd)
Raigarh (Chhattisgarh)

Form-V
(See Rule-14)

Environment Statement for the Financial Year Ending 31st March 2024

Part-A

i	Name and address of the occupier of the industry	Shri Anil Kumar, Executive Director, Lara STPS, NTPC Ltd Chhapora, Tehsil-Pussorre, Raigarh, Chhattisgarh PIN: 496440
ii	Industry category Primary ---------(STC code) Secondary. -----(SIC Code)	Thermal Power Plant (Primary)
iii	Production capacity	2x800 MW Unit
iv	Year of establishment	Unit-I (800 MW): 01.10.2019 Unit-II (800 MW): 07.11.2020
v	Date of the last environmental statement submitted	27.09.2023

Part-B

Water and Raw Material Consumption

1. **Water Consumption m^3/Day:**

Sr No	Type of Activity	Consumption (m^3/Day) During Previous financial year 2022-23	Consumption (m^3/Day) During current financial year 2023-24
1	Process (Boiler)	664 m3/Day	536 m3/Day
2	Cooling	71509 m3/Day	73783 m3/Day
3	Domestic	636 m3/Day	712.50 m3/Day
4	Ash Water	1687 m3/Day	2450 m3/Day

***Annual Consumption average per day**

Name of the Product	Process(Only Boiler) Water Consumption Per Unit of Product Output	
	During the Previous Financial Year 2022-2023 (Lit. /kWh)	During the Current Financial Year 2023-2024 (Lit. /kWh)
Electricity	0.021 Liter /kWh	0.017 Liter /kWh

* Annual specific Water consumption in the financial year 2022-23 & 2023-24 was 2.426 m3/MWh & 2.478 m3/MWh respectively.

2. **Raw Material Consumption**

S No	Name of the Raw Material	Name of the Product	Consumption of Raw Material per unit output	
			During the Previous Financial Year 2022-2023	During the Current Financial Year 2023-2024
1	Coal	Electricity	0.734 Kg/kWh	0.72 Kg/kWh
2	Fuel Oil	Electricity	0.86 ml/kWh	0.65 ml/kWh

Part-C

Pollution Discharge to Environment /Unit of Output
(Parameter as Specified in the Consent Issue)

Pollutants	Quantity of Pollutants Discharged (Mass /day)	Concentrations of Pollutants Discharged/ Recycled (Mass/Volume)	Percentage of Variation from Prescribed Standard with Reasons
(a) Water			
pH	---	7.6	
TSS	ZERO	26.25 mg/lit	-73.75%
BOD	ZERO	6.74 mg/lit	-77.53%
COD	ZERO	21.75 mg/lit	-91.30%
O&G	ZERO	1.00 mg/lit	-90.00%
(b) Air: UNIT#1			
SPM	649.52 MT/Year (0.142 gm/kWh)	25.18 mg/Nm3	-16.06%
SO2	29477.84 MT/Year (6.4437 gm/kWh)	1142.78 mg/Nm3	*
NOx	8662.25 MT/Year (1.8935 gm/kWh)	335.81 mg/Nm3	*
(c) Air: UNIT#2			
SPM	542.568 MT/Year	24.55 mg/Nm3	-18.13%

SO2	25433.30 MT/Year (6.657 gm/kwh)	1150.81 mg/Nm3	*
NOx	7662.479 MT/Year (2.006 gm/kwh)	346.71 mg/Nm3	*

* Timeline for SO2 limit compliance is 31.12.2026 and for NOx limit compliance is 31.12.2024. NTPC Lara has awarded contract for installation of FGD to M/s L&T on 31.07.2018 for controlling SO2 concentration in flue gas in compliance to the latest MOEF&CC emission norms dated 07.12.2015 for TPP. The installation of FGD is in progress and shall be completed within the timeline.

Part-D

Hazardous Waste

(As Specified Under Hazardous Waste (Management, Handling and Transboundary Movement Rules, 2016)

Authorization under the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 was granted by CECB, Raipur vide letter No.: 1433/HSMD/HO/CECB/2020 Raipur, dated 08.06.2020 valid upto : 03.06.2025. (Number of authorization 434 HO/HSMD/CECB/RAIPUR). Amendment was granted in the above existing authorization under the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 by letter number 7363 /HSMD/HO/CECB/2022 Raipur, Dated 18/01/2022 valid upto : 03.06.2025 (Number of authorization 434/HO/HSMD/CECB/NAVA RAIPUR ATAL NAGAR, RAIPUR).

The Authorization is granted for the following wastes and quantity generated during year 2023-24 is as below:-

Sr. No.	Type of hazardous waste with category	Permitted Quantity of Hazardous Waste	Actual Quantity Generated in 2023-24
1	Used or Spent oil (Schedule-I, Cat. No. 5.1)	100 T/Annum	21.50 T
2	Waste or residue containing oil (Schedule-I, Cat. No. 5.2)	10 T/Annum	NIL
3	Empty barrels/containers/liners contaminated with hazardous chemicals /wastes (Schedule-I, Cat. No. 33.1)	10,000 T/Annum	7.22 T (2889 Nos.)
4	Spent Ion exchange resin containing toxic metals (Schedule-I, Cat. No.35.2)	2 T/Annum	NIL
5	Asbestos(Schedule - II, Class - B)	0.1 T/Annum	NIL

Part-E

Solid Waste

Sr. No.	Solid Waste	Total Quantity (MT)	
		During the previous Financial Year 2022-23	During the current Financial Year 2023-24
(a)	From Process Mill Reject	20390 MT	17150 MT
(b)	From Pollution Control Facility : Ash	36,04,127 MT	32,83,211 MT
(c) (i)	Quantity recycled or re-utilized within the unit (Ash)	Nil (Ash Dyke Raising / Buttressing)	Nil (Ash Dyke Raising / Buttressing)
		3,208 MT (NTPC Brick Mfg.)	2520 MT (NTPC Brick Mfg.)
		Nil (Outside Brick Mfg.)	6285 MT (Outside Brick Mfg.)
(ii)	Land Filling	2,55,408 MT	4,94,721 MT
(iii)	Agriculture (Research)	Nil	Nil
(iv)	Cenospheres	639 MT	1529 MT
(v)	Clay brick kiln	Nil	Nil
(vi)	UG Mines filling	Nil	Nil
(vii)	OC Mines filling	Nil	Nil
(viii)	Roads/ Rail Embankment	11,11,446 MT	27,79,685 MT
(ix)	CLSM	Nil	Nil
(x)	Ash Concrete	Nil	Nil
(xi)	Bottom Ash Cover	Nil	Nil
(xii)	Cement industries	Nil	Nil
(xiii)	Sold Mill Reject	Nil	Nil
(xiv)	Disposed Ash	22,33,426 MT	Nil
(xv)	Disposed Mill reject	20,390 MT	17150 MT

Part-F

Please specify the characterization (in term of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Hazardous waste generation & Method of disposal data (During financial Year 2023-24):

Sr. No.	Type of hazardous waste with category	Actual Quantity Generated in 2023-24	Remarks
1	Used or Spent oil (Schedule-I, Cat. No. 5.1)	21.50 T	Sent to Authorized Recycler
2	Waste or residue containing oil (Schedule-I, Cat. No. 5.2)	NIL	
3	Empty barrels/containers/liners contaminated with hazardous chemicals /wastes (Schedule-I, Cat. No. 33.1)	7.22 T (2889 Nos.)	Sent to Authorized Recycler
4	Spent Ion exchange resin containing toxic metals (Schedule-I, Cat. No.35.2)	NIL	
5	Asbestos(Schedule - II, Class - B)	NIL	

The proposed method for disposal of items from Sr. No. 1 to 3 is through authorized recyclers and for item number 4 to 5 is through co-processing in cement plant or disposal into CTSDF.

The solid waste generated is Ash, which is majorly used for (i) Road construction, (ii) Private Ash Brick Plants (iii) Low lying area filling. Balance quantity of ash is stored presently in Ash Dykes.

Ash Generated at NTPC, Lara have following chemical composition:-

CHEMICAL ANALYSIS OF ASH (in %)												
S. N	COAL SOURCE	Na2O	MgO	Al2O3	SiO2	P2O5	SO3	K2O	CaO	TiO2	MnO	Fe2O3
1	BOTTOM ASH	0.129	0.83	25.61	58.83	0.27	0.06	1.45	1.05	2.21	0.036	8.43
2	FLY ASH	0.123	0.71	28.03	60.93	0.46	0.11	1.59	0.95	1.99	0.032	4.87

Part-G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

Pollution control measures adopted have resulted in economization in consumption of natural resources and general improvement in the quality of environment has been achieved in and around the plant. In turn the cost of production increases in gerenal but improves the quality of environment in the way of better health of neighborhood people and employees, which are incomparable.

Part-H

Additional measures/ investment proposal for environmental protection including abatement of pollution, prevention of pollution.

Sr. No	Description of Item	Investment Cost (Rs in crores)
1.	FGD	485
2.	ZLD	9.08
3.	Electrostatic Precipitators	202.5
4.	Stacks	69.75
5.	Cooling Towers incl. Civil Works	124
6.	Ash Handling including AWRS Mechanical Work	139.33
7.	AWRS Building Works	1.29
8.	Ash pond dyke	73
9.	Water Treatment Plant (Effluent Treatment Plant, DM Plant, DM Plant Waste Treatment System	52.0
10.	Dust Extraction & Suppression System	2.27
11.	Sewage Collection, Treatment & Disposal (STP)	3.5
12.	Green Belt & Afforestation	8.27
13.	Hariyar Chhattisgarh Scheme for Tree Plantation	9.29
14.	Compensatory Afforestation	3.91
15.	NPV for forest land diversion	9.50
16.	Deepening, re-excavation and renovation of nearly 15 ponds in nearby villages for water conservation	1.59
17.	Roof top solar power panels in main plant area of capacity 1.1648 MW	4.34
18.	Ash Utilization expenses in 2023-24	447.74
19.	Installation of Ash brick Plant	1.60
Total		**1647.96**

Part-I

Any other particulars for improving the quality of the environment.

a) NTPC Lara has awarded contract for installation of FGD to M/s L&T on 31.07.2018 for controlling SOx concentration in flue gas in compliance to the latest MOEF&CC emission norms dated 07.12.2015 for TPP. FGD in Unit-1 of Stage-I has already been commissioned & gas in through FGD of Unit-2, Stage-I has been done.

b) NTPC Lara has started making carry bags from used ash handling system bag filters as an initiative for waste management. Till now, NTPC Lara has made more than 4,500 carry bags.

c) NTPC Lara has completed 12,000 nos Tree Sapling plantation by MIYAWAKI Method through Chhattisgarh Rajya Van Vikas Nigam Limited.

d) NTPC Lara has completed 20,000 nos Tree Sapling plantation in Pusalda & Kensera Village, District Raigarh, Chhattisgarh through Chhattisgarh Rajya Van Vikas Nigam Limited.

e) NTPC Lara has also completed 30,000 nos Tree sapling plantation in the village of Ghughuwa, Semibhawar, Jhilgitar & Basanpali school in the month of July 2024 by Chhattisgarh Rajya Van Vikas Nigam Limited.

f) Non-Biodegradable plastic waste being sent to Co-processor M/s/ Ambuja Cement Limited, Bhatapara, Chhattisgarh.

(Dr Sudhir Dahiya)