



एनटीपीसी लिमिटेड

(भारत सरकार का उद्यम)

NTPC Limited

(A Govt. of India Enterprise)

लारा/ LARA

Ref: Lara:EMG:Envt. Stmt. 22-23: 2023

September 27, 2023

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 2022-23.

Dear Sir,

The Environment Statement of NTPC Lara (2X800 MW) for the financial year 2022-23 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-रायगढ़ (छत्तीसगढ़), पिन-496440

Lara Super Thermal Power Project, Vill- Chhapora, Post- Pussore, Dist.- Raigarh (Chhattisgarh), Pin- 496440

दूरभाष / Telephone No. : 07762-242002, फैक्स / Fax : 011-66173761

पंजीकृत कार्यालय : एनटीपीसी भवन, स्कोप कॉम्प्लेक्स, 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



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NTPC Limited
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LARA

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

(Year 2022 – 2023)

Period Ended 31.03.2023

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



Form-V
(See Rule-14)

Environment Statement for the Financial Year
Ending 31st March 2023

Part-A

i	Name and address of the occupier of the industry	Shri Diwakar Kaushik, Executive Director, Lara STPS, NTPC Ltd Chhapora, Tehsil-Pussore, 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-I (800 MW): 07.11.2020
v	Date of the last environmental statement submitted	21.09.2022

Part-B

Water and Raw Material Consumption

1. Water Consumption M³/Day:

Sr No	Type of Activity	Consumption (M³/Day) During Previous financial year 2021-22	Consumption (M³/Day) During current financial year 2022-23
1	Process (Boiler)	702 M3/Day	664 M3/Day
2	Cooling	63155 M3/Day	71509 M3/Day
3	Domestic	481 M3/Day	636 M3/Day
4	Ash Water	6436 M3/Day	1687 M3/Day

*Annual Consumption average per day

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Name of the Product	Process(Boiler) Water Consumption Per Unit of Product Output	
	During the Previous Financial Year	During the Current Financial Year
	2021-2022 (Lit. /Kwh)	2022-2023 (Lit. /Kwh)
Electricity	0.023 Liter /KWH	0.021 Liter /KWH

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 2021-2022	During the Current Financial Year 2022-2023
1	Coal	Electricity	0.693 Kg/KWH	0.734 Kg/KWH
2	Fuel Oil	Electricity	0.66 ml/KWH	0.86 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	20.81 mg/lit	-79.19%
BOD	ZERO	6.95 mg/lit	-76.83%
COD	ZERO	22.29 mg/lit	-91.08%
O&G	ZERO	1.00 mg/lit	-90.00%
(b) Air: UNIT#1			
SPM	635.92 MT/Year (0.109 gm/kwh)	25.16 mg/Nm ³	-16.13%
SO ₂	28500.86 MT/Year (4.8998 gm/kwh)	1127.63 mg/Nm ³	*
NO _x	9290.59 MT/Year (1.597 gm/kwh)	367.58 mg/Nm ³	*

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(c) Air: UNIT#2			
SPM	635.46 MT/Year (0.108 gm/kwh)	24.93 mg/Nm ³	-16.90%
SO ₂	29693.75 MT/Year (5.060 gm/kwh)	1164.92 mg/Nm ³	*
NO _x	9435.614 MT/Year (1.608 gm/kwh)	370.17 mg/Nm ³	*

* Timeline for SO₂ limit compliance is 31.12.2026 and for NO_x 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 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 2022-23 is as below:-

Sr. No.	Type of hazardous waste with category	Permitted Quantity of Hazardous Waste	Actual Quantity Generated in 2022-23
1	Used or Spent oil (Schedule-I, Cat. No. 5.1)	100 T/Annum	46.41 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	76.34 T (3817 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 2021-22	During the current Financial Year 2022-23
(a)	From Process Mill Reject	28090 MT	20390 MT
(b)	From Pollution Control Facility : Ash	32,34,172 MT	3604127 MT
(c) (i)	Quantity recycled or re-utilized within the unit (Ash)	8,94,125 MT (Ash Dyke Raising / Buttressing)	Nil
		807 MT (NTPC Brick Mfg.)	3208 MT
		4203 MT (Outside Brick Mfg.)	Nil
(ii)	Land Filling	26,636 MT	255408MT
(iii)	Agriculture (Research)	Nil	Nil
(iv)	Cenospheres	1000 MT	639 MT
(v)	Clay brick kiln	Nil	Nil
(vi)	UG Mines filling	Nil	Nil
(vii)	OC Mines filling	Nil	Nil
(viii)	Roads/ Rail Embankment	8,96,379 MT	1111446 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	14,11,022 MT	2233426 MT
(xv)	Disposed Mill reject	28090 MT	20390 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 2022-23):

Sr. No.	Type of hazardous waste with category	Actual Quantity Generated in 2022-23	Remarks
1	Used or Spent oil (Schedule-I, Cat. No. 5.1)	46.41 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)	76.34 T (3817 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	0.17	0.82	26.57	60.60	0.45	0.07	1.62	1.09	1.55	0.03	7.00
2	FLY ASH	0.10	0.85	27.87	60.20	0.58	0.09	1.66	1.02	1.55	0.03	6.06

[Signature] 6

Part-G

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

Pollution control measures adopted has 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 generally increases 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	199
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	67.44
9.	Water Treatment Plant (Effluent Treatment Plant, DM Plant, DM Plant Waste Treatment System	49.0
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 2022-23	149.74
19.	Installation of Ash brick Plant	1.60
Total		1337.90



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 SO_x concentration in flue gas in compliance to the latest MOEF&CC emission norms dated 07.12.2015 for TPP.
- b) NTPC Lara has started making carry bags from used ash handling system bag filters as an initiative for waste management.
- c) NTPC Lara has completed 12000 nos Tree Sapling plantation by MIYAWAKI Method through Chhattisgarh Rajya Van Vikas Nigam Limited.
- d) Non-Biodegradable plastic waste being sent to Co-processor M/s/ Ambuja Cement Limited, Bhatapara, Chhattisgarh.

