9/c

ADHUNIK POWER & NATURAL RESOURCES LIMITED

WORKS : Village - Padampur, Behind P.G.C.I.L. Substation,
Adityapur - Kandra Road, Saraikela - Kharsawan, PIN - 832402 Jharkhand
Phone : +91 - 657 - 6628400, Fax : +91 - 657 - 6628440
CIN - U40101WB2005PLC102935

Ref No APNRL/JSPCB/ES/2021-22/02 Date: 20th Sep 2022

Member Secretary
Jharkhand State Pollution Control Board,
HEC Campus, Dhurva,
Ranchi , Jharkhand.

Sub- Submission of Environmental Statement (Form V) for Unit II (1 x 270 MW) of M/s Adhunik Power & Natural Resources Limited, Village- Padampur, Dist- Saraikela-Kharswan,Jharkhand.

Ref: Environmental Clearance letter No J-13012/8/2009-IA.II(T), Dated 09th May 2011.

Dear Sir,

In line with compliance of above referred EC letter point No XIII of general condition, Please find attached herewith Environmental statement (Form V) for the financial year 2021-22.

This is for your kind information & record please.

Thanking You

Your's faithfully

ADHUNIK POWER & NATURAL RESOURCES LTD. Padampur

22/9/2022

Kamlesh Kumar
Manager (Environment)
Encl: As mentioned above
CC: 1. Regional Office (ECZ),
Ministry of Environment, Forest and Climate Change,
Bungalow No. A-2, Shyamali Colony,Ranchi – 834002
2. Regional Officer
Jharkhand Pollution Control Board
Jamshedpur, Jharkhand

21-9-2022

Received
Pyader
22/9/22

CORPORATE OFFICE : "LANSDOWNE TOWER", 2/1A, Sarat Bose Road, Kolkata - 700 020
Ph : +91 - 33 - 30517100 / 7200 / 7300 • Fax : +91 - 33 - 22890285
REGD. OFFICE : 14, N. S. Road, 2nd Floor, Kolkata - 700 001, Phone No. +91 - 33 - 22428551, 22428553
Website : www.adhunikpower.com

ENVIRONMENTAL STATEMENT

For

1 X 270 MW COAL BASED THERMAL POWER PLANT

(UNIT II)

FINANCIAL YEAR 2021-22

September 2022

Adhunik Power & Natural Resources Ltd
Village-Padampur, District-Saraikela-Kharsawan
Jharkhand-832402

FORM-V

From:
Adhunik Power & Natural Resources Limited
Village: Padampur
Dist: Saraikela-Kharsawan – 832 402
Jharkhand.

To,
Member Secretary
Jharkhand State Pollution Control Board,
HEC Campus, Dhurva,
Ranchi , Jharkhand.

Environmental Audit Statement for the financial year ending on the 31st March-2022 for Unit-II (1 x 270 MW)

PART – A

(i)	Name & Address of the owner/occupier of the Industry operation or process	:	Sh. G.D. Agarwal Adhunik Power & Natural Resources Ltd, Vill- Padampur, Adityapur-Kandra Road, Dist- Sariekela-Kharswan, Jharkhand
(ii)	Industry Category	:	Red Category
(iii)	Production Capacity – (Units-MW)	:	Power 270 MW Per Hour
(iv)	Year of Establishment (COMMERCIAL PRODUCTION DECLARED)	:	19th May 2013
(v)	Date of Last Environmental Statement Submitted	:	21st September 2021

PART-B

Water and Raw Material Consumption

(i) **Water Consumption KL/Day**

Process	:	1252.81
Cooling	:	11238.67
Domestic	:	98.03

Name of product	Process water consumption per unit of product output	
	During the previous financial year 2020-21	During the current financial year 2021-22
Electricity 270 MW Per Hour	0.350 Kl	0.210 Kl

(ii) **Raw Material Consumption**

Name of Raw Materials	Name of product	Consumption of raw material per unit of output (Total Production)	
		During the previous financial year 2020-21	During the current financial year 2021-22
Coal	Power	0.667 MT	0.693 MT
LDO		0.00019 KL	0.00018 KL

PART – C

Pollution Discharged to environment / unit of output.

(Parameter as specified in the consent issued)

Pollutants	Qty. Of pollutants discharged (Mass / Day)	Concentration of Pollutants in discharges (Mass / Day)	Percentage of variation from prescribed standards with reasons
(i) Water **Unit Limit** pH 5.5. to 9.0 SS < 100 mg/l Oil & Grease < 10 mg/l BOD_5 < 30 mg/l COD < 250 mg/l	1) Effluent generated from Cooling tower, DM plant, IBD tank, CPI separator is being utilized in HCDC system. 2) Effluent generated from CBD is being reutilized in quenching & dust suppression system. 3) Effluent generated from STP is being utilized for gardening		Concentration are below the prescribed limits. ETP & STP analysis report are enclosed as **Annexure I**
(ii) Air(Stack) PM SO2 NOx	 1269.33 Kg/Day 41164.99 Kg/Day 22213.9 Kg/Day	 40.37 mg/Nm3 1284.8 mg/Nm3 696.8 mg/Nm3	Concentration are below the prescribed limits. Stack monitoring report are enclosed as **Annexure II**

Refer to MoEF notification dated 07.12.2015 and amendementto, FGD and DeNOx system installation are in progress to reduce the concentration of SO2 & NOx in Flue gases.

*The Effluent Treatment facility for Unit I and Unit II is common.

PART - D

HAZARDOUS WASTES

(As specified under Hazardous Wastes Management and Handling & Transboundary Movement Rules, 2008)

Hazardous Wastes	Total Quantity (KL).	
	During the previous financial Year 2020-2021	During the current financial Year 2021-2022
1 From Process	Used Oil- 3.5428 Kl Waste Oil- 1.1704 Kl	Used Oil- 3.135 Kl Waste Oil- 1.672 Kl
2 From Pollution Control Facilities	0 KL	0 KL

- **The APNRL has obtained Hazardous Waste Authorization from JSPCB for Collection & Storage of Hazardous waste.**
- **Waste / Spent Oil is collected at centrally located point in isolated stores area meant for them in sealed M.S. Drums which is further sent to authorized recycler for disposal as per norms of MoEF.**

PART -E

Solid Wastes

	Total Quantity (MT)	
	During the previous financial Year 2020-2021	**During the current financial Year 2021-2022**
(a) From Process • Bottom Ash	73043 MT	95261 MT
(b) From Pollution Control Facility • Fly ash	413913 MT	539810 MT
(c) (1) Quantity recycled or re-utilized within the unit		
(2) Sold		
(3) Disposed		539810 MT
• Fly Ash	413913 MT	50182.8 MT
• Bottom Ash	73043 MT	

PART – F

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

Hazardous Waste:

1) **Solid Hazardous Waste**:
   - Bio medical Waste is generated from OHC is being disposed as per CPCB Guidelines.
   - Waste generated from Canteen is used from preparing bio-compost & it is used for plantation.
   - For the collection of dry fly ash, silos have been provided with pneumatic system & Bottom ash is led to the Ash dyke through pipeline in wet slurry mode.
   - 1.865 Ton E Waste has been disposed through CPCB/JSPCB authorized recyclers.
2) **Liquid Hazardous waste**:
   - In this financial year, 3.135 KL (Used Oil) & 1.672 KL Waste Oil have been generated from process and disposed to authorized recycler as per norms of MoEF.

PART - G

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

The following practices are adopted for the pollution control & conservation of natural resources:

- We are using effluent water generated from Cooling tower, DM plant, IBD tank for Ash handling system instead of fresh water from River Subarnarekha.
- Extensive tree plantation is under progress as a part of green belt development, which will control the impact of Air pollution and optimize the ambient temperature of surrounding areas.
- Twin flue stack with height of 275 m are provided as per the CPCB guidelines for better dispersion of emissions and keep the concentrations within JSPCB/CPCB specified standards.
- High efficiency Electrostatic precipitators (ESPs) are provided for control of dust emissions into flue gases.
- Dust suppression system is installed at Truck tippling area.
- Dust Extraction system along with bag Filters have been installed at Coal Silo, Coal bunker, Intermediate Silo & Ash Silo to arrest the fugitive emissions.
- Roof sheeting and side cladding in conveyor galleries and TPs are installed to control fugitive dust

- The plant is designed on COC of more than 5 which is helpful in water conservation which further lead to reduction in overall fresh water intake.
- Garland drain connected with coal settling pit are installed in the Coal Stockyards for the reutilize of coal containing water.
- Mist canyons are installed around the coal stock yard for the control of fugitive dust.
- Belt washing system, coal settling pits and waste water recovery system are installed at transfer house for the dust suppression and water recovery.
- Water spraying system is installed in ash pond area for controlling the ash fugitive emissions, if any.
- Effluent Treatment Plant (ETP) and Sewage Treatment Plants (STP) are installed to control water pollution.
- Rain Water harvesting is being practiced in the plant premises, which helps in ground water recharging.
- Good housekeeping is maintained within the plant premises.
  Because of the adaptation of aforementioned methods, the quality of emissions and discharges are maintained below the permissible limits prescribed by the MoEF&CC / CPCB / JSPCB.

PART - H

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

- APNRL is regularly monitoring ambient air, stack, noise level, water quality and soil quality in and around the plant premises. All the emissions and discharges are meeting the permissible limits prescribed by MoEF / CPCB / JSPCB. It is proposed to further strengthen the monitoring and reporting process.
- Ash Water Recovery System is installed for further reuse of ash water. Green belt development within plant premises is proposed to be accelerated.
- As per New Environment Norms, we are in process to install FGD system & DeNOx system for reducing level of SO2 and Oxide of Nitrogen in Flue gases.

PART – I

Any other particulars for improving the quality of the environment:

The part – I of any Environmental Statement report is perhaps the best scale to measure various parameters of the plans, target, achievements and ultimate impact. APNRL has made sincere efforts to visualize the general environmental scenario and implemented plan for the associated improvements. Some highlights are mentioned below:

1. Received certification for ISO 9001:2008, ISO 14001: 2004 & ISO 18001:2007 from BSI.
2. Training on EMS to all employees and contract labors to create Environment awareness.

3. Green Belt development is under progress.
4. Only PUC certified vehicles are engaged.
5. Monitoring of Ambient air quality, Surface and ground water quality, stack monitoring, soil, Noise level is being done through MoEF & NABL accredited laboratory.
6. Full-fledged Environmental laboratory has been installed.
7. Installation of Online Effluent monitoring system has been completed.
8. Webhosting of online environment data on CPCB/SPCB website have been completed.
9. Electronics Display board is provided at the main gate for public data display.
10. Audit by recognized organization i.e. ERM has been conducted to improve Environmental & Social Management system (EMS).
11. Celebration of Environmental promotional activities (Environment day, Earth Day, Water day, Ozone day).
12. Remote calibration facility of CEMS has been completed.
13. 200 no Solar light system has been installed in plant premises.

Date: 19/09/2022

ADHUNIK POWER & NATURAL RESOURCES LTD. Padampur

Signature :
Name : **Kamlesh Kumar**
Designation : **Sr. Manager- Environment**
Address : **Adhunik Power & Natural Resources Limited, Village : Padampur Dist: Saraikela-Kharsawan – 832 402. Jharkhand**

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by :- NABL accredited testing laboratory vide certificate Number TC-4032
Certified by :- Jharkhand State Pollution Control Board (JSPCB)
ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.				T	C	4	0	3	2	2	2	0	0	0	0	0	4	8	5	F

Discipline	Chemical	Group	Pollution & Environment	Sample Description	Waste Water / Effluent Water
Report Release Date		31st March, 2022		Report ID	YBAEEL-220322-183133– WW01
W. Order/ JSPCB App. No.		3030005781		Work Order Date	18.12.2021
Type of Industry(If any)		Thermal Power Plant		Job code/ Ref. no.	YBAEEL/WA/L/W/Mar-22/18
Report Issue to		M/s Adhunik Power & Natural Resources Ltd. Vill.-Padampur, PGCILS, Kandra-832402, Seraikela-Kharsawan, Jharkhand			
Sampling Date		24/03/2022		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS : 3025 (Part-1) 1987, R-2003		Sample Code	220324-WW-A01
Sampling Location		Effluent Treatment Plant Outlet		Sampling Source	Effluent Water
Sample pkg. Condition		Sealed Pack in PP Bottle		Sample Quantity	3000 ml
Meteorological Cond. of Field		W.C.– Clear		RH % - 45	Temp. - 31°C
Sample receipt Date		24/03/2022	Analysis Started on	24/03/2022	Analysis completed on 30/03/2022

******Test Results ******

Sl	Parameter	Test Method	Units	MU %	Results	Limits
1.	pH value	IS 3025 (P-11):2002	pH	2.53	8.25	5.5 – 9.0
2.	Temperature	IS 3025 (P-09)	°C	1.55	29.6	--
3.	Total suspended solids	IS 3025 (P-17):2012	mg/l	8.26	16.0	100
4.	Chloride (as Cl^-)	IS 3025 (P-32):2003	mg/l	3.44	13.4	--
5.	BOD	IS 3025 (P-44):2009	mg/l	6.85	16.0	30
6.	COD	IS 3025 (P-58):2006	mg/l	4.02	120.0	250
7.	Chromium (as Cr)	APHA 3111 B 23rd edition 2017	mg/l	7.14	BDL (MDL 0.02)	2
8.	Copper (as Cu)	APHA 3111 B 23rd edition 2017	mg/l	16.09	BDL (MDL 0.01)	3
9.	Lead (as Pb)	APHA 3111 B 23rd edition 2017	mg/l	6.26	BDL (MDL 0.02)	0.1
10.	Zinc (as Zn)	APHA 3111 B 23rd edition 2017	mg/l	6.57	0.08	5
11.	Sulphate (as SO_4^{2-})	IS 3025 (P-24):2003	mg/l	4.37	14.8	--

******End of Report******

Limit is specified as	Environmental (Protection) Rule – 1986.
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit.
Env. Condition of Lab	Laboratory is maintaining. Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
	This report cannot be reproduced, except when in full, without the written permission of the CEO.
	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	**Sample complies with prescribed limits.**

Sample Drawn By - **Angad Munda**
Tested By - **Shivani Kumari Singh (Lab Analyst)**

31/03/2022	31/3/22
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by :- NABL accredited testing laboratory vide certificate Number TC-4032
Certified by :- Jharkhand State Pollution Control Board (JSPCB)
ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.			T	C	4	0	3	2	2	2	0	0	0	0	0	4	8	6	F

Discipline	Chemical	Group	Pollution & Environment	Sample Description	Waste Water / Effluent Water
Report Release Date		31st March, 2022		Report ID	YBAEEL-220322-183133– WW02
W. Order/ JSPCB App. No.		3030005781		Work Order Date	18.12.2021
Type of Industry(If any)		Thermal Power Plant		Job code/ Ref. no.	YBAEEL/WA/L/W/Mar-22/19
Report Issue to		M/s Adhunik Power & Natural Resources Ltd. Vill.-Padampur, PGCILS, Kandra-832402, Seraikela-Kharsawan, Jharkhand			
Sampling Date		24/03/2022		Mode of sample collection	By YBAEEL Team
Sampling Protocol		IS : 3025 (Part-1) 1987, R-2003		Sample Code	220324-WW-A02
Sampling Location		Sewage Treatment Plant Outlet		Sampling Source	Sewage Water
Sample pkg. Condition		Sealed Pack in PP Bottle		Sample Quantity	3000 ml
Meteorological Cond. of Field		W.C.– Clear		RH % - 43	Temp. - 31°C
Sample receipt Date		24/03/2022	Analysis Started on	24/03/2022	Analysis completed on 30/03/2022

******Test Results ******

Sl	Parameter	Test Method	Units	MU %	Results	Limits
1.	pH value	IS 3025 (P-11):2002	pH	2.53	7.20	6.5-9.0
2.	Temperature	IS 3025 (P-09)	°C	1.55	29.4	--
3.	Total suspended solids	IS 3025 (P-17):2012	mg/l	8.26	62.0	100
4.	BOD	IS 3025 (P-44):2009	mg/l	6.85	20.0	30
5.	Oil and grease	IS 3025 (P-39):2003	mg/l	14.6	BDL (MDL 4.0)	--
6.	Chloride (as Cl-)	IS 3025 (P-32):2003	mg/l	3.44	12.49	--

******End of Report******

Limit is specified as	Environmental (Protection) Rule – 1986.
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	**Sample compiles with prescribed limits.**

Sample Drawn By - **Angad Munda**
Tested By - **Shivani Kumari Singh (Lab Analyst)**

31/03/2022	31/3/22
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical & Environmental Engineering Laboratory

YUGANTAR BHARATI
ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: - NABL accredited testing laboratory vide certificate Number TC-4032
Certified by: - Jharkhand State Pollution Control Board (JSPCB)
ISO 9001:2015 & ISO 45001:2018

TC-4032

Test Certificate

ULR (Unique Lab Report) No.	T C 4 0 3 2 2 2 0 0 0 0 4 8 2 F				
Discipline	Chemical	Group	Atmospheric Pollution	Sample Description	Stationary Source Emission
Report Release Date	31st March, 2022			Report ID	YBAEEL-220322-183133- S2
W. Order/ JSPCB App. No.	3030005781			Work Order Date	18.12.2021
Type of Industry(if any)	Thermal Power Plant			Job code/ Ref. no.	YBAEEL/WA/L/A/Mar-22/38
Report issue to	M/s Adhunik Power & Natural Resources Ltd. Vill.-Padampur, PGCILS, Kandra-832402, Seraikela-Kharsawan, Jharkhand				
Sampling Period	21/03/2022			Mode of sample collection	By YBAEEL Team
Sampling Protocol	IS: 11255 & CPCB Guideline (Lats/80/2013-14)				
Meteorological Cond. of Field	W.C.– Clear		RH % - 45		Temp.–34°C
Sample receipt Date	23/03/2022	Analysis Started on	23/03/2022	Analysis completed on	26/03/2022

General Information

As observed while sampling		As reported by customer	
Location	Sampling port hole	Type of fuel Used	Coal
Platform	Permanent	Quantity of Fuel Used (During Sampling)	163 Ton/Hr.
Stack Description (Shape & Material)	Circular / RCC	Total production Capacity	263 MW
Sampling port	Available	Height of Stack from ground level	275 mtr.
Stack Identification	Unit - II	Inner Diameter of Stack	4.2 mtr.
Height of port hole from Ground level	90 mtr.	Pollution Controlling Device (if any)	ESP
Running Oven during sampling (if any)	N/A	Total No. of Oven (if any)	N/A

******Test Results ******

Sl	Parameters	Test Method	Units	MU %	Results	Limits
1.	Stack gas Temperature	IS 11255 (Part 3)2008	k	--	401.0	-
2.	Stack gas Velocity	IS 11255 (Part 3)2008	m/s	--	25.4	-
3.	Volumetric Flow Rate	IS 11255 (Part 3)2008	Nm^3/hr	--	908186.4	-
3.	Particulate Matter (PM)	IS 11255 (Part 1)2009	mg/Nm^3	2.12	40.37	50
4.	Sulphure Dioxide (SO_2)	IS 11255 (Part 2)2009	mg/Nm^3	3.06	1284.8	600
5.	Oxide of Nitrogen (as NO_x)	IS 11255 (Part 7)2005 RA 2012	mg/Nm^3	2.70	696.8	450
6.	Carbon Monoxide (CO)	IS 13270:1992 (RA 2009)	%	--	BDL (MDL 0.2)	-

Emission Rate

1.	Particulate Matter (PM)	IS 11255 (Part 1)2009	kg/hr.	36.66	--
2.	Sulphure Dioxide (SO_2)	IS 11255 (Part 2)2009	kg/hr.	1166.85	--
3.	Oxide of Nitrogen (as NO_x)	IS 11255 (Part 7)2005 RA 2012	kg/hr.	632.8	--

******End of Report******

Limit is specified as	Environmental (Protection) Rule – 1986.
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	This report cannot be reproduced, except when in full, without the written permission of the CEO.
	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	**Sample complies with prescribed limits, except parameter Sulphure Dioxide & Oxide of Nitrogen Serial No. 4 & 5.**

Sample Drawn By – Angad Munda
Tested By – Amit Kumar Sinha (Lab Analyst)

31/03/2022	31/3/22
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Atmospheric Pollution
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical & Environmental Engineering Laboratory

State Pollution Control Board

ISO 9001:2015
ISO 45001:2018