



ADHUNK POWER & NATURAL RESOURCES LTD.

(Formerly Adhunik Thermal Energy Limited)

Office : Village Padampur, Behind PGCIL Substation, Adityapur, Kandra Road, P.O: Kandra Saraikela-Kharsawan, Jharkhand-832 402 ☎ PHONE : 0657 6628400 ☎ FAX : 0657 6628440
Website : www.adhunikgroup.com

Ref No APNRL/JSPCB/ES/2016-17/02

Date: 15th Sep 2017

The Member Secretary

Jharkhand Pollution Control Board
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 2016-17.

This is for your kind information & record please.

Thanking You

Your's faithfully

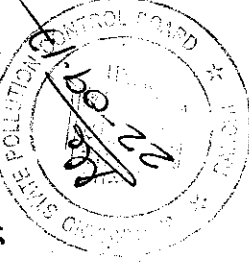
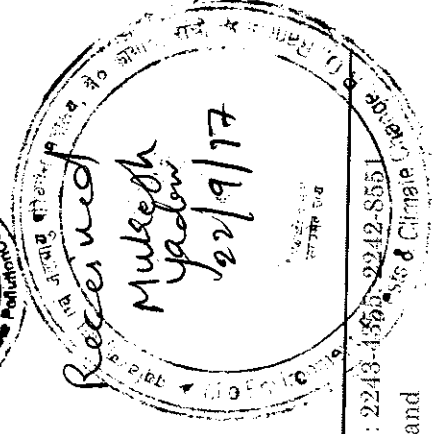
Bhalchandra Nellikwar
(Plant Head)

Encl: As mentioned above

CC: 1. The Regional Office (ECZ)

Ministry of Environment & Forest & Climate Change,
Bungalow No. A-2, Shyamali Colony, Ranchi-834002

2. The Regional Officer
Jharkhand Pollution Control Board
Jamshedpur



Regd. Office : 14, Netaji Subhas Road, II-Floor, Kolkata - 700 001, Phone : 2243-4555, 9942-8551

Works: Padampur, Saraikela. Kharswan, Jharkhand

CIN U40101WB2005PLC102935

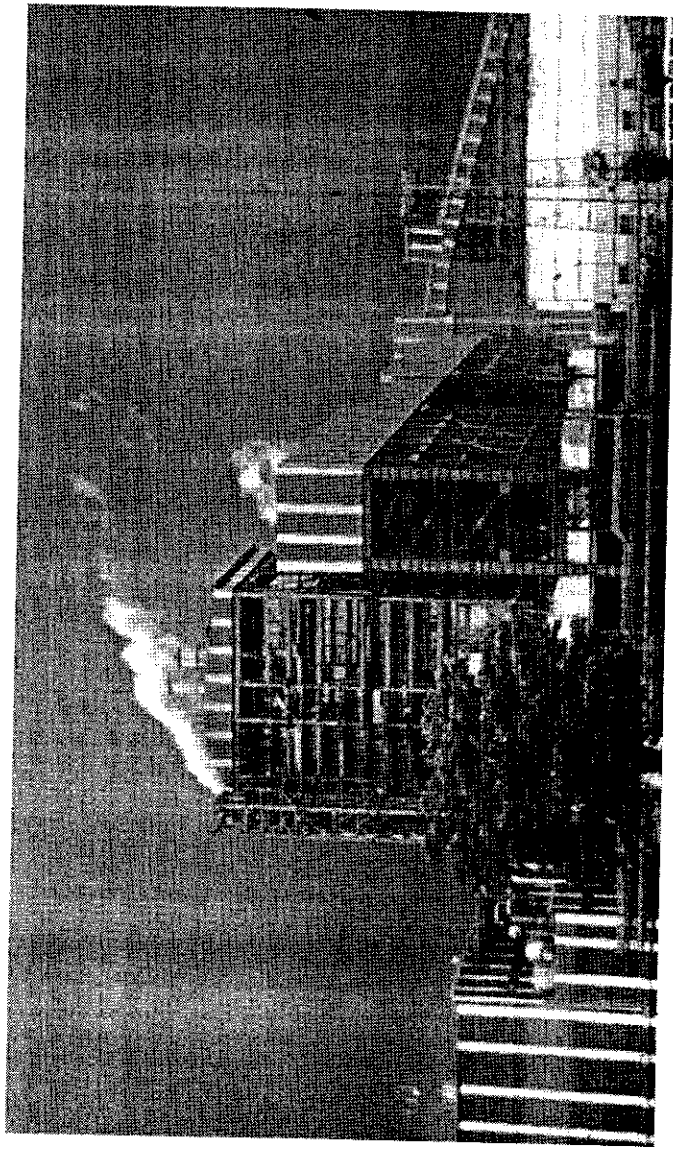
ENVIRONMENTAL STATEMENT

For

1 X 270 MW COAL BASED THERMAL POWER PLANT

(UNIT II)

FINANCIAL YEAR 2016-17



September 2017



Adhunik Power & Natural Resources Ltd
Village-Padampur, District-Saraikela-Kharsawan
Jharkhand-832105

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-2017 for Unit-II (1 x 270 MW)

PART – A

- (i) Name & Address of the owner/occupier of the Industry operation or process : Sh. Nirmal Agarwal
BA.209,Salt Lake city
Kolkata -64
- (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 : 15th September 2016

PART-B

Water and Raw Material Consumption

(i) Water Consumption KL/Day

Process : 422.1
Cooling : 13646.9
Domestic : 53.2

Name of product	Process water consumption per unit of product output	
	During the previous financial year	During the current financial year
Electricity 270 MW Per Hour	2015-16 0.075 KL	2016-17 0.086 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	During the current financial year
Coal	Power	2015-2016 0.66025 MT	2016-17 0.81070 MT
LDO		0.00039 KL	0.00056 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. Water Analysis report of ETP outlet enclosed
(ii) Air SPM SO ₂ NO _x CO		37.73 mg/Nm ³ 286 mg/Nm ³ 162 mg/Nm ³ 19 mg/Nm ³	Concentration are below the prescribed limits. Stack Monitoring report are enclosed

***Please refer Env Statement of Unit I for Environment Monitoring report**

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 2015-2016	During the current financial Year 2016-2017
1 From Process	Nil	1.1536 KL
2 From Pollution Control Facilities	Nil	0.245 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 2014-2015	During the current financial Year 2015-2016
(a) From Process <ul style="list-style-type: none"> • Bottom Ash 	60952.11	79137.5 MT
(b) From Pollution Control Facility <ul style="list-style-type: none"> • Fly ash 	243808.45	735668 MT
(c) (1) Quantity recycled or re-utilized within the unit		
(2) Sold		
(3) Disposed <ul style="list-style-type: none"> • Fly Ash • Bottom Ash 	243808.45 60952.11	655695 MT 79137.5 MT

*Fly Ash generation & Utilization facility for Unit I and Unit II is common.

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 through JSPCB authorized agencies i.e. Bio-Genetic pvt Limited. 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 theash dyke through pipeline in wet slurry mode.
- 2) **Liquid Hazardous waste:** In this financial year, 1.3986 (Used Oil) have been generated from process.
- 3) **Used Batteries:** Collected centrally at store in isolated place for disposal to authorized agencies as per MoEF guidelines.

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:

- Fly ash bricks has been used for construction of buildings, Drains, rain water harvesting pit, Bachelor Hostel, Residential Colony for employees.
- We are using effluent water generated from Cooling tower, DM plant, IBD tank for HCDS system for bottom ash disposal instead of fresh water from River Subernrekha.
- 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 coal transfer points.
- 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
- Rain-gun type water sprinklers are installed in the Coal Stockyards for the control of fugitive emissions.
- Mist canyons are installed at coal transfer houses 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.
- Low NOx burners are installed in fuel combustion system for controlling NOx emissions
- 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.
- Green belt has been developed in & around the plant periphery to control the dispersal of dust particles and attenuate the noise generated during the process. 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. Details of recurring cost for the implementation of Environmental Management Plan are as follows:

Recurring expenditure for the year 2016-17 is as follows:

Sl No	Description of Environment Measures	April 2016- March 2017 (in Lacs)		
		Energy	Other cost	Total Cost
1	ESP operation & Maintenance	241.63	7.30	248.93
2	ETP & STP operation & Maintenance	24.82	15.80	40.62
3	Plant Housekeeping	0.00	65.15	65.15
4	DE System Operation & Maintenance	47.76	3.98	51.74
5	DS operation & Maintenance	0.50	3.07	3.57
6	Green Belt development	0.20	14.89	15.09
7	Environment Management system(Monitoring, Equipment Calibration, Clebration of Environment Programmes & Preparation of Environment Audit, ESMS report)	1.24	7.08	8.32
8	Ash disposal system	0.00	706.32	706.32
9	Rain water harvesting system	0.00	0.41	0.41
10	CAAQMS & CEMS Operation & Maintenance	0.00	1.50	1.50
		316.15	825.50	1141.65


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 Bureau Veritas.
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 , solid waste (Hazardous & non-hazardous) 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 site team to improve Environmental Management system (EMS).
11. Celebration of Environmental promotional activities (Environment day, Earth Day, Water day, Ozone day).
12. Installation of online weather monitoring system to monitor site specific micro-meteorological data such as Rainfall, Wind Direction, Wind Speed, Temperature, Humidity and Atmospheric pressure.

Date: 14/09/2017

Signature : 
Name : Bhalchandra Nellikwar
Designation : Plant Head
Address : Adhunik Power & Natural
Resources Limited, Village :
Padampur
Dist: Saraikele-Kharsawan -
832 105
Jharkhand.

* Please refer Env Statement of Unit I for Environment Monitoring report of the month of Dec 2016 .



YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited By National Accreditation Board for Testing & Calibration Laboratory (NABL) (T 2982, T-29 (B-1874))
 Jharkhand State Pollution Control Board (JSPCB)

STACK MONITORING TEST REPORT

Report Release Date	14-Dec-2016	Protocol	IS 11255	Part III	Part I
Report ID	YBAEEL/SR/16-12-6/Stack/01	Sample Description	Stack Emission		
Sampling Date	07th Dec 2016	Type of Industry	Power Plant		
Name of Industry		Sampling Location	Port hole		
M/s Adhunik Power & Natural Resources Limited		Pollution Control System	Electro Static Precipitator		
Unit II		Ladder	Parmanent		
Vill: - Padampur, Behind P.G.C.I.L substation,		Platform	Parmanent		
Jamshedpur - 832105, Jharkhand		Weather Condition	Cloudy		
Customer Ref.	Mr. Kamlesh Jha	Sample drawn by	OwN/ Mukesh Singh & Team		

Fuel Characteristic Report & Oven Description

Type of Fuel	Coal
Fuel Consumption	167 T/Hr.
Production Capacity	270 MW
Ovens were in running	

Result of Analysis

Atmospheric temperature	in ° K	299
Stack gas temperature	in ° K	385
Stack gas velocity	in m/s	23.65
Volumetric flow rate	in Nm ³ /hr	3649955.10
Concentration of Particulate Matter	in mg/Nm ³	37.73
Concentration of Sulphur dioxide	in mg/Nm ³	286
Concentration of Oxides of Nitrogen	in mg/Nm ³	162
Concentration of CO	in mg/Nm ³	19
Concentration of Mercury	in mg/Nm ³	0.001

***** END OF REPORT *****

Remarks All values are observed well within the limit

Note The results listed refer only to the tested sample and applicable parameter.

This report, in full or in part, shall not be used for advertising or as evidence in any court of law

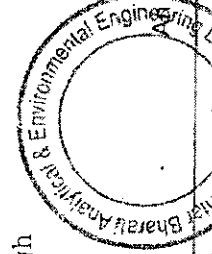
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The samples collected shall be destroyed after two month from the date of issue of the certificate unless specified otherwise

Tested by
 Issued by

Mukesh Kr. Singh
 Field Analyst

Section In-charge



Umesh Das
 Technical Manager
 Technical Manager
 Yugantar Bharati Analytical &
 Environmental Engineering Laboratory

SO 9001: 2008 Certified Laboratory

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