



ADHUNIK POWER AND NATURAL RESOURCES LIMITED

WORKS : Village – Padampur, Behind P.G.C.I.L Substation,
Adityapur Kandra Road, Saraikela – Kharswan : 832402, Jharkhand
Phone: + 91-657-6628400, Fax: + 91-657-6688440

Ref: MOE&F, RNC/HYC/BN/25618/01

Dated: 25.06.2018

To,

Regional Office (ECZ),
Ministry of Environment, Forest and Climate Change,
Bungalow No. A-2, Shyamali Colony,
Ranchi – 834002

Sub:- Submission of Half yearly compliance status report (Unit I) for the period –
October 2017 to March 2018,-Reg.

Ref:- MoEF letter No.J-13011/8/2009-IA.II(T), dated 29th Aug 2009.

Sir,

With reference to the above referred Environmental Clearance, we are pleased to submit
herewith the half yearly compliance status report (Unit I) for the period of **October 2017 to
March 2018**.

This is for your reference and record, please.

Thanking you,

For Adhunik Power & Natural resources Limited

Atulika

(Authorized Signatory)

Encl: As Above

Copy to:

- Central Pollution Control Board, Kolkatta
- Member Secretary, Jharkhand State Pollution Control Board, Jharkhand
- Regional Officer, JSPCB, Jamshedpur

CORPORATE OFFICE : "CRESCENT TOWER", 3rd Floor, 229 A.J.C. Bose Road, Kolkata-700020
Phone : +91-33-30915300 *Fax : +91-33-30915344



REPORT

**ENVIRONMENTAL COMPLIANCE STATUS REPORT
FOR
1X270 MW COAL BASED POWER PLANT
(Unit I)**



OCTOBER 2017 - MARCH 2018

**Adhunik Power & Natural Resources Limited
Village: Padampur, Behind PGCIL Substation
Kandra Chouka Road, Saraikela-Kharsawan
Jharkhand**

<p style="text-align: center;">Adhunik Power & Natural Resources Limited Vill: Padampur, Behind PGCIL Substation, Kandra Chouka Road, Saraikela-Kharsawan, Jharkhand Environmental Clearance Letter No: J-13011/8/2009-IA.II(T), dated 29th Aug 2009.</p>		
<p style="text-align: center;">Period Of Compliances: October 2017 to March 2018</p>		
No	EC Conditions	Status as on 31 st March 2018
1	No additional land in excess of 119 ha shall be acquired for any activity/facility of this project.	Complied
2	EC is subject to obtaining clearance under the Wildlife Protection Act, 1972 from the competent authority	WLMP Prepared and approval has been obtained from PCCF. Complied
3	EC is subject to final order of the Hon'ble Supreme court of India in the matter of Goa foundation Vs Union of India in Writ. Petition (Civil) no. 460 of 2004 as may be applicable to this project.	Not applicable.
4	Project proponent should contribute @ Rs. 20000/ha for project area as proportionate cost to the regional Wildlife Conservation plan and a copy of the plan should be submitted to the ministry.	As in Sl. No. 2 the Wild Life Management Plan (WLMP) prepared has already been approved by PCCF, Ranchi on May'10.2010. 1 st installment already submitted. Complied
5	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.45 % and 46 % respectively at any given time. In case of variation of coal quality at the time of issuance of LOA, a fresh reference shall be made to MoEF for suitable amendment to EC condition wherever necessary	The sulphur and ash content in used coal conforms the limits.
6	A single stack of 220 m height shall be provided with continuous online monitoring equipment's for Sox, Nox and PM. Exit velocity of flue gases shall not be less than 25 m/sec. Hg emission from stack may also be monitored on periodic basis.	Twin flue chimney of 275m height has constructed for proper dispersion of gases. Online monitoring equipment has installed in chimney. Photographs with details of CEMS enclosed as Annexure I Hg concentration in flue gases is well within prescribed limits.
7	High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emissions does not exceed 50 mg/Nm ³	High efficient ESPs of 32 fields has been installed to ensure control Particulate matter emission in flue gas. Stack monitoring report from October 2017 to March 2018 enclosed as Annexure II.
8	Adequate dust extraction system such as cyclones/bag filters and water spray in dusty areas such as in coal handling and ash handling points, transfer area and other vulnerable dusty areas shall be provided.	Necessary mitigation measures in accordance with EMP and EC conditions has taken to control fugitive emissions from ash storage/transfer and coal handling plant such as installation and operation of bag filters collectors, use of water spray systems and enclosed conveyors with well designed, extraction and filtration equipment on transfer points. Photographs Attached as Annexure III.

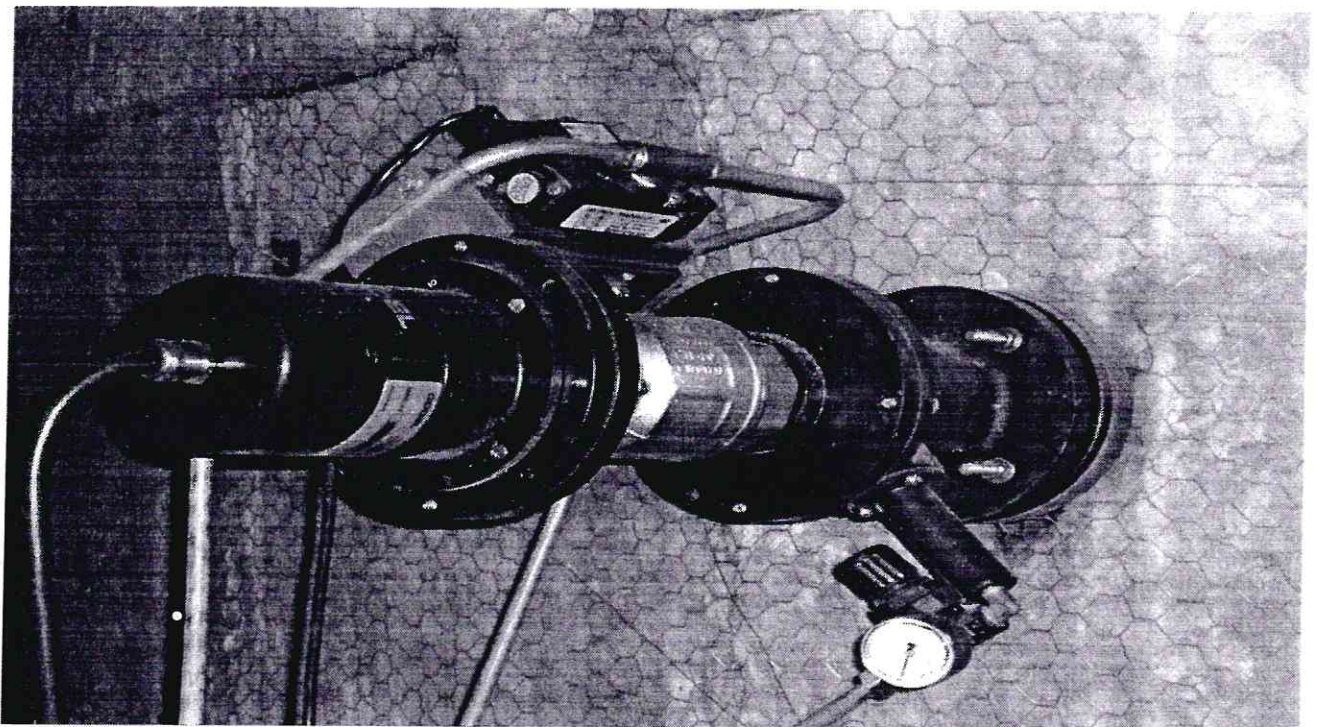
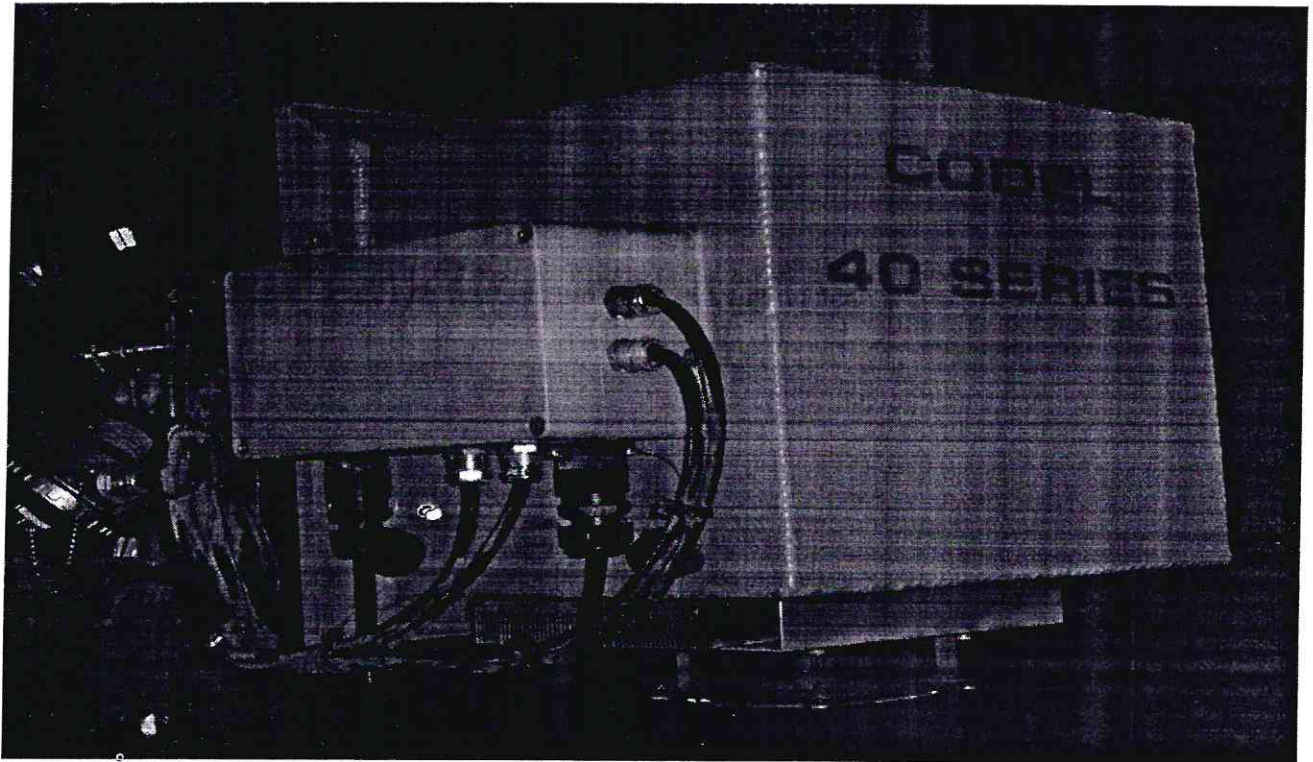
	bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.	pond for the month of Dec 2017 enclosed as Annexure IV & Annexure V respectively.
10	Ash pond shall be lined with impervious lining. Adequate safety measures shall be implemented to protect the ash dyke from getting breached.	Complied
11	Closed cycling cooling system with cooling towers shall be provided. The effluents shall be treated as per the prescribed norms.	The project design involves closed cycle cooling systems with induce draft cooling towers. The effluent generated from process operation is being treated in a Guard pond to ensure conformance to CPCB standards and recycled in plant process. Treated effluent analysis report of Guard pond from October 2017 to March 2018 enclosed as Annexure VI.
12	No ground water shall be extracted for project work at any stage.	Complied.
13	Natural drainage system within the project site should not be disturbed.	Complied.
14	The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not get mixed.	The project is designed with zero discharge provisions and there is separate arrangement for storm water and effluent water. Complied
15	A sewage treatment plant shall be provided and the treated sewage shall be used for raising green belt /plantation.	STP 60 Kl capacity (03 No) has installed within plant premises to treat sewage waste. Photographs enclosed as Annexure VII.
16	Rainwater harvesting should be adopted CGWA shall be consulted for finalization of appropriate rain water technology within a period of three months from the date of clearance and details shall be furnished	The Rain water harvesting report has submitted and approved from CGWA Ranchi. Rain water harvesting system has constructed in accordance with the approved rain water harvesting plan.
17	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires of coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to RO of the Ministry at Bhubaneswar.	The design of coal yard along with provision of fire safety measures viz. fire hydrants, water sprinklers has installed and submitted to the Ministry. Complied
18	Storage facilities of auxiliary liquid fuel such as LDO and HFO/LSHS shall be made in the plant area in consultation with dept. Of Explosive, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5 %. DMP shall be prepared to meet any eventuality in case of an accident taking place due to storage	Approval received on dated 15/12/2011. License No. P/HQ/JH/15/1065 (P257355), for LDO storage installation (under Petroleum Class "C") for operations The analysis report for LDO that is supplied by IOCL has obtained to check conformance with sulfur limits prescribed regularly.

	the base line data so as to ensure that the ground water quality is not adversely affected due to the project.	
10	A green belt of adequate width and density shall be developed around the plant periphery covering 1/3 of the project area preferably with local species.	A thick green belt of adequate width is being developed. 57986 nos. (Area covered-42.8 acres) of plantation has been completed in and outside along the periphery of the power plant to arrest any dust emissions and help in attenuation of noise till Sep 2016. Survival rate of sapling is 86.4%. Total Survived plants are 52638. Plantation done till March 2018 is 2368 samplings. Name of Plant Species- Gulamohar, Neem, Pelatforum, Seesam, Bakul, Jamun etc. Details of Plantation attached as Annexure IX with photographs
11	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Plant is under operation however A first aid center comprising of competent medical staff (6 no's) and equipped with necessary medical facilities is made available onsite to provide emergency medical aid to both contract workers and company staff.
12	Noise level emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite PPE like ear plug/ear muff etc shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	Adequate measures has implemented in consistent with the EMP to control turbine noise levels within stipulated limits. This include installing of sufficient engineering control in turbines as per design specifications, provision of ear plugs/ear muffs for workers exposed to high noise, rotation of workers and carrying out periodic audiometric testing of workers and records is being maintained. Noise level monitoring report from October 2017 to March 2018 As Annexure X.
13	Regular monitoring of ground level concentration of SO ₂ , NO _x , RSPM and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to RO of ministry. The data shall also be put on the website of the company.	Monitoring of Air quality is being conducted by APNRL on monthly basis. Review of air quality monitoring results revealed compliance to NAAQS. In- house Ambient Air monitoring reports from October 2017 to March 2018 is enclosed as Annexure XI.
14	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care crèche etc, The housing may be in the form of temporary structure to be removed after	Plant is in operational condition and local labors are coming from nearby villages.

	informing that the project has been accorded EC and copies of clearance letter are available with the SPCB/committee and may also be seen at Website of the MoEF at http://envfor.nic.in .	
26	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat Zila Praised/Municipal Corporation, urban local body and the local NGO, is any from whom suggestion/representation, if any were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Complied.
27	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	A Environmental Management Cell is being operational onsite to ensure effective implementation of specific EMPs. Organization chart of Environmental Management Cell enclosed as Annexure XII.
28	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the RO of MoEF the respective zonal office of CPCB and the SPCB the criteria pollutant level namely SPM, RSPM, SO ₂ , NO _x (ambient level as stack emission) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The updated compliance status of the stipulated EC conditions along with monitored data has been displayed at the company website. The monitoring data (SPM, RSPM, SO ₂ , NO _x) for both ambient air quality and chimney emissions is being displayed at the main gate of the company. Uploaded compliance status of the stipulated EC conditions along with monitored data can be seen on URL: https://www.adhunikgroup.com/uploads/ec_pdf/1515577138.pdf
29	The project proponent shall also submit six monthly report on the status of compliance of the stipulated condition including result of monitored data (both in hard copy as well by email) to the respective RO of MoEF, the respective zonal office of CPCB and the SPCB.	Last six monthly reports (April ,17-September ,17) for the project along with environmental monitoring data submitted to MoEF RO at Ranchi vide letter No MOE&F,RNC/HYC/BN/281217/01 dated 28 th Dec 2017 . Acknowledgement copy of same enclosed as Annexure XIII.
30	The environmental statement for each financial year ending 31st March in form-V as is mandated to be submitted by the project proponent to the concern SBCB as prescribed under the Environment Protection Rules, 1986 as amended subsequently shall also be put on the website of the company along with the status of the compliance of EC condition and shall also be sent to the respective RO of MoEF by email.	The last environmental statement for financial year (2016-17) in Form V has submitted vide letter No: APNRL/JSPCB/ES/2016-17/01 dated 15 th Sep 2017. Acknowledgement copy of same enclosed as Annexure XIV.
	RO of the MoEF located at Bhubaneswar will	The updated compliance status of the stipulated EC

	<p>their website and update the same from time to time at least six monthly basis. Criteria pollutant level (Stack and ambient level of NOx) will be displayed at the main gate of the power plant.</p>	<p>company website. Uploaded compliance status of the stipulated EC conditions along with monitored data can be seen on URL: https://www.adhunikgroup.com/uploads/ec_pdf/1515577138.pdf</p>
12	<p>Separate fund shall be allocated for implementation of environmental protection measures along with item wise break up this cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year wise expenditure should be reported to the ministry.</p>	<p>Adequate budgetary provision has been made by the APNRL for execution of environmental management plan. Details of item wise expenditure incurred on environmental measures for the financial year 2017-18 are attached as Annexure XV.</p>
13	<p>The project authorities shall inform the RO as well as the ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work and commissioning of plant.</p>	<p>Complied</p>
14	<p>Full cooperation shall be extended to the Scientists/officers from the ministry / RO of the ministry at Bhubaneswar/the CPCB/the SPCB who would be monitoring the compliance of environmental status.</p>	<p>We ensure.</p>

Continuous emission monitoring system



2/4



CODEL

REF: DCEM2100/DS/02

DATA SHEET DCEM2100 DUST MONITOR		
GENERAL		
1	Make	Codel, UK
2	Model	DCEM2100 Dust Monitor
3	Type	In-Situ Non contact cross duct type
4	Qty of units	2 No
5	Tag No.	HNE10CO003
FEATURES		
6	Range	0-100% Opacity, 0-999mg/m ³ , 0-999mg/Nm ³ (Fully site selectable)
7	Min. detectable conc.	1 mg/m ³
8	Measurement Units	Fully selectable units, mg/m ³ (measured), mg/Nm ³ (Normalized) and opacity(%)
9	Measurement averaging	Fully selectable in range 10sec to 30 days
10	Response time	90% in 5 seconds.
11	Auto/manual calibration	In built automatic zero and span calibration
12	Accuracy	+/-0.2% Opacity of measurement
13	Drift	Less than 1% per month
14	Resolution	+/-0.1% opacity
15	Linearity	+/- 0.1% of full scale
16	Repeatability	+/-0.1% opacity
17	Power supply	88 - 264 VAC, 50-60Hz, 125 VA
18	Remote/Local control unit	Isolated 2x 4-20 mA, 500-ohms outputs fully configurable. 3 x Volt free SPCO contact rated at 50 VDC 1 Amp. 2 Line X 32 character alpha-numeric LCD displays with 4 key keypad.
19	Automatic misalignment detection	Provided in the instrument as a warning signal of misalignment
20	Correction for contamination	Automatic window contamination check
21	Error Diagnostics	Dirty optics, Misalignment, Valve 1 closed, Valve 2 closed to indicate the error conditions.
22	Construction material and Enclosures	Fully sealed aluminum enclosures to IP 66
DESIGN CONDITIONS		
23	Source	Modulated high intensity LED
24	Detector	Silicon photocell
25	Ambient air temp.	- 20deg.C to 60 deg.C
26	Gas Temperature	Upto 850 deg.c
CONNECTIONS & DIMENSIONS		
27	Analyzer mounting details	Analyzer can be mounted in Chimney at Elevation of 9.6 Mtrs. Please refer drawing for analyser mounting flange details.
28	Path length	Suitable for 0.5 to 12m duct/stack inner diameter
ACCESSORIES		
29	Fail safe shutters	Built in
30	Air Purges	Air purges for continuous air supply to instrument provided
31	Interconnecting cables and mounting hardware	Included in supply.
32	Temp. transmitter	24 VDC Supply Make: Precision Converter Model: PCHMR Range: 0 to 300 Deg C

Ref: GCEM40A0/DS/02

DATA SHEET		
CO, SO₂, NO_x GAS ANALYSER		
GENERAL		
1.	Make	CODEL International Ltd., UK
2.	Model/Article No	GCEM4000 Series Article no GCEM40A0
3.	Type	Infrared Absorption Analyser-In-Situ type
4.	Qty	2 No.
5.	Tag No.	SO _x HNE10CQ004
		NO _x HNE10CQ001
		CO HNE10CQ002
FEATURES		
6.	Range	CO : 0 to 1000ppm, 0 to 1000mg/m ³ , 0 to 1000mg/Nm ³ SO ₂ : 0 to 1000ppm, 0 to 1000mg/m ³ , 0 to 1000mg/Nm ³ , NO _x : 0 to 1000ppm, 0 to 1000mg/m ³ , 0 to 1000mg/Nm ³ , CO ₂ : 0 to 25% H ₂ O : 0 to 25% Above ranges are site selectable up to 3000 ppm
7.	Min. detectable conc.	1 ppm , 1mg/m ³ , 1mg/Nm ³ for CO,SO ₂ ,NO _x & 0.5% for CO ₂ ,H ₂ O.
8.	Measurement Units	Fully selectable units-ppm or % by volume, mg/m ³ (measured) and mg/Nm ³ (Normalised to temperature, pressure, H ₂ O & CO ₂)
9.	Measurement averaging	Fully selectable in range 10Sec to 1 hour
10.	Response time (T90)	Detector less than 10 seconds, Calibration less than 200 seconds.
11.	Auto & manual calibration	In built and selectable
12.	Function	Continuous function
13.	Accuracy	+/- 2% of measured value for CO,SO ₂ , NO _x ,& 0.5% for CO ₂ & H ₂ O
14.	Zero /span drift(24hrs)	Over all drift less than +/-2% per month
15.	Repeatability	Less than 2% of span
16.	Sensitivity	1 ppm for CO,SO ₂ ,NO _x , 0.5% for CO ₂ ,H ₂ O
17.	Linearity	Less than 2%
18.	LCD Display	LCD with back light
19.	Power supply	240VAC, 50-60Hz, +/-10% 400VA
20.	Outputs	Analog : 5 x 4-20 mA isolated, max. 500 Ohms, full configurable from Keypad for CO,SO ₂ ,NO _x in ppm & CO ₂ ,H ₂ O in % to DCS fully site configurable. Logic: 5 x Volt free contacts, SPCO rated at 50 volt 1A & 1x data invalid output (System fault)
21.	Serial Communications	RS232/RS485 Modbus O/P
22.	Construction material and Enclosures	Electronic Housings (DDU) : Corrosion resistant, epoxy coated Aluminium housing sealed to IP 66 Probe : SS316L
DESIGN CONDITIONS		
23.	Infrared source	Heater cartridge assembly
24.	Infrared detector	Lead selenid detector
25.	Ambient air temp.	Transceiver unit 0 to 70 °C, Electronic unit (PSU & DDU) 0 to 60 °C
26.	Flue gas temp.	Up to 350 deg.C

CONNECTIONS & DIMENSIONS		
27	Analyser mounting details	Please refer drawing for analyser mounting flange details. Mounting location on Chimney at 91 Mtrs Elevation.
28	Stack width	Suitable for duct/Stack inner diameter of more than 2000mm.
ACCESSORIES		
29	Standard span gas for calibration	Make : Chemtron Science Laboratory, Mumbai Material : Aluminium Cylinder Capacity : 10 ltr W.C Filled with : 500ppm CO, 500ppm SO ₂ , 500ppm NO and balance Nitrogen (N ₂) Cylinder with SS regulator, necessary tubing's & fittings. Filled pressure: filled at 120-130kg/cm ²
30	Zero Calibration	For zero calibration we use plant compressed air.
31	Air dryer unit	Maximum Pressure : 10 bar Maximum temperature : 57 deg.C Air dryer unit to dry down the compressed air to -20 deg.c .
32	Zero/span gas calibration tubes	For zero calibration, client to provide plant instrument air line up to probe (10 mm OD connection) For span gas calibration, 20 mtr length SS tube of 10mm OD with necessary fittings from Cylinder to probe.
33	Pressure transmitter	Mounted on GCEM40A0 probe Make : Druck Range : 1 .6bar absolute with 4-20mA output Input supply : 24VDC operated
34	Temperature transmitter	Mounted on GCEM40A0 probe Make : Peak Sensor Limited, Washington Type: K type thermocouple Range : 0 – 600 deg.C with 4-20mA output Input supply : 24VDC operated
35	Plant instrument air Consumption	5 LPM @3 bar pressure continuous 10LPM @3 bar pressure during zero calibration

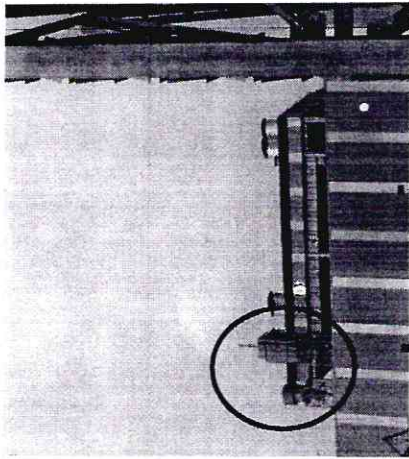
Adhunik Power & Natural Resources Limited, Padampur

STACK EMISSION MONITORING REPORT

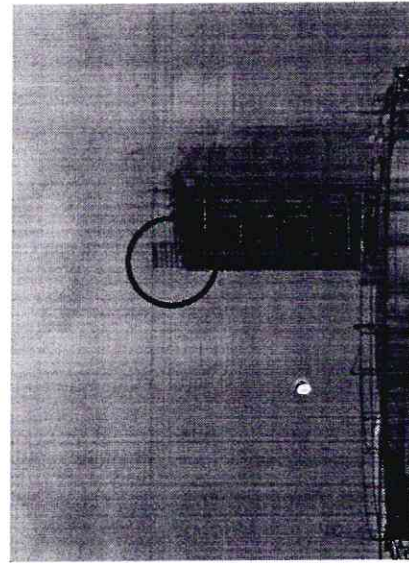
No.	UNIT-1			
	PARAMETERS	PM	SO2	NOX
	AS PER CONSENTED NORMS	100 mg/Nm ³	ND	ND
1	Oct-17	43.6	496.7	231.8
2	Nov-17	45.1	531.8	234.8
3	Dec-17	45.3	451.6	220.2
4	Jan-18	42.6	311.6	166.8
5	Feb-18	39.6	366.8	196.4
6	Mar-18	43.6	486.7	196.2

* SO₂ -mentioned in mg/Nm³

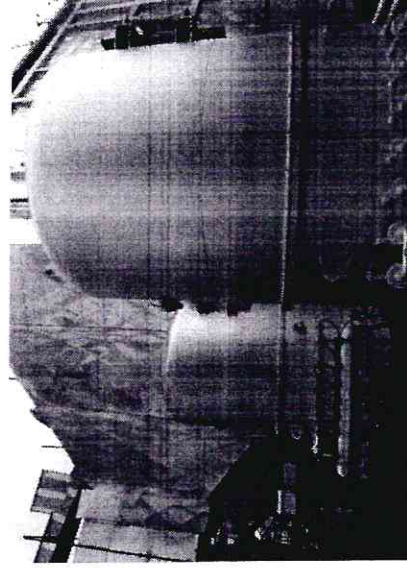
* NO_x -mentioned in mg/Nm³



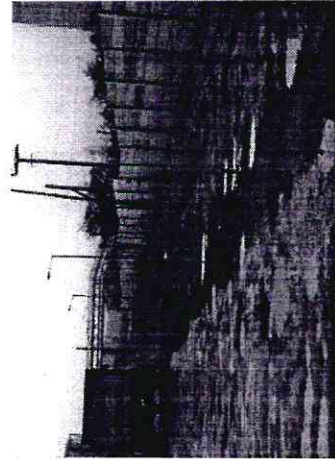
suppression through Tanker



Fixed type DS system for coal Conveyor



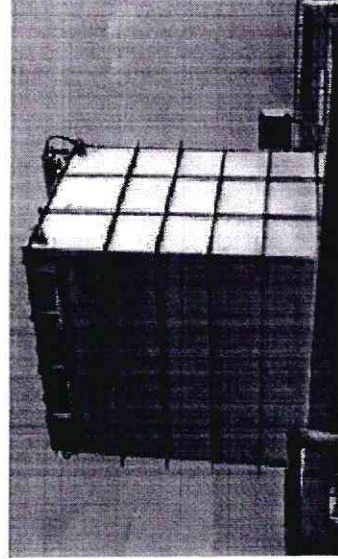
DE system at Coal Crusher House



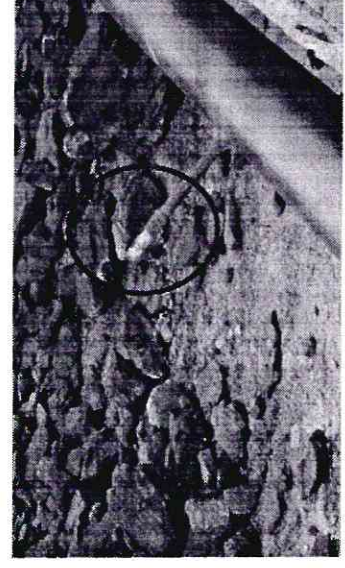
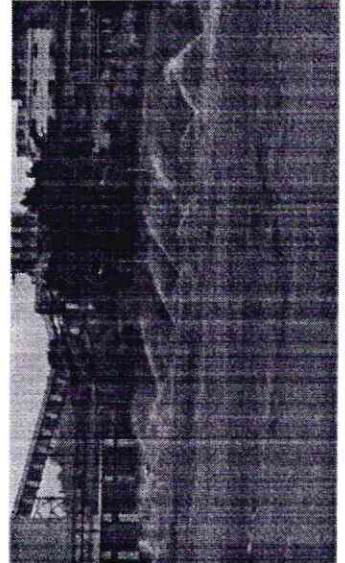
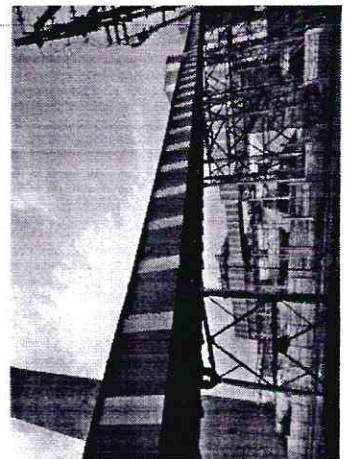
closed type coal conveying system



Fixed type dust suppression system



Fixed type DS system at Coal Yard



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YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB ACCREDITED BY:

National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

(T 2982, T-2918)
(B-1874)

Test Report

Issued to : - M/s ADHUNIK POWER & NATURAL RESOURCES LIMITED (Unit II) Vill: Padampur, Behind P.G.C.I.L Substation, Jamshedpur-832105, Jharkhand	Sample Code: - 171231-BA-E01 Report ID : - YBAEEL/JSR/17-12-31/BA/01 Date of Issue: - 10 th Jan. 2018 Reference : - YBAEEL/WA/LC/Dec-17
Sample Name/Description: - Bottom Ash Sample Quantity : - 5 kg Sample pkg. Condition : - Sealed in plastic bag	Date of sampling : - 31-12-2017 Sample Received Date: - 01/01/2018 Sample collected by: - Own/ Mr. Pramod Singh & Team Sampling Location: - Bottom Ash Hopper (Unit II)

Test Result

Test started on: -	1 st Jan. 2018	Test completed on :-	9 th Jan. 2018
Sl. No.	Tested Parameter	Unit	Results
1.	Arsenic	ppm	0.09
2.	Mercury	ppm	0.06
3.	Chromium	ppm	0.12
4.	Lead	ppm	0.28
5.	Cadmium	ppm	0.04
6.	Copper	ppm	0.24
7.	Nickel	ppm	0.07
8.	Selenium	ppm	0.01
9.	Zinc	ppm	0.21
10.	Unborn carbon	%	2.63

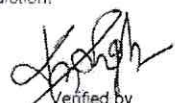
*****End of Test*****

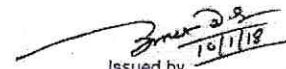
Remarks:-According to tested parameter, the results found as above.

Specific contractual notes: -

- ◆ 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.
- ◆ This report cannot be reproduced, except when in full, without the written permission of the Lab In-charge
- ◆ The samples received shall be destroyed after two month from the date of issue of the certificate unless specified otherwise and sample for biological testing will be destroyed after two week of testing.
- ◆ The liability of the laboratory is limited to the invoiced amount.
- ◆ All disputes are subjected to the Ranchi Jurisdiction.


Tested by
(Bajrang Kr.)
Analyst


Verified by
(Sunil Singh)
Authorised Signatory


Issued by
(Umesh Das)
Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory





YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB ACCREDITED BY:

National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

(T-2932, T-2918)
(B-1874)

Test Report

Issued to :- M/s ADHUNIK POWER & NATURAL RESOURCES LIMITED Vill: Padampur, Behind P.G.C.I.L Substation, Jamshedpur-832105, Jharkhand	Sample Code: - 171231-WW-E01 Report ID :- YBAEEL/JSR/17-12-31/WW/E01 Date of Issue: - 10 th Jan. 2018 Reference :- YBAEEL/WA/L/C/Dec-17/13
Sample Particulars	Details of Sampling
Sample Name/Description: - Waste Water Sample Quantity :- One litre Sample pkg. Condition :- Sealed in plastic bottle	Date of sampling :- 31-12-2017 Sample Received Date: - 1/01/2018 Sampling Protocol: - YBAEEL/SP/01/00 Sample collected by: - Own/ Mr. Mukesh Singh & Team Sampling Location: - Ash pond outlet

Test Result

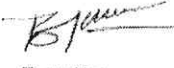
Test started on: -	1 st Jan. 2018	Test completed on: -	9 th Jan. 2018		
Sl. No.	Tested Parameter	Unit	Results	Method (APHA 22 ND Edition 2012)	Permissible Limit
1.	pH	---	7.6	4500 H+ B	N/A
2.	Temperature	°c	22.7	2550 B	N/A
3.	Total dissolve solid	mg/l	57	2540 C	N/A
4.	Oil & Grease	mg/l	5.2	5520 B	N/A
5.	Mercury	mg/l	< 0.003	3112 B	N/A
6.	Arsenic	mg/l	< 0.003	3114 B	N/A
7.	Total Chromium	mg/l	0.01	3111 B	N/A
8.	Lead	mg/l	0.03	3111 B	N/A

*****End of Test*****

Remarks:-According to tested parameter, the results found within the prescribe limit of waste water specification.

Specific contractual notes: -

- ◆ 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.
- ◆ This report cannot be reproduced, except when in full, without the written permission of the Lab In-charge
- ◆ The samples received shall be destroyed after two month from the date of issue of the certificate unless specified otherwise and sample for biological testing will be destroyed after two week of testing.
- ◆ The liability of the laboratory is limited to the invoiced amount.
- ◆ All disputes are subjected to the Ranchi Jurisdiction.


Tested by
(Bajrang Kr.)
Lab Analyst


Verified by
(Sunil Singh)
Authorised Signatory


Issued by
(Umesh Das)
Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory



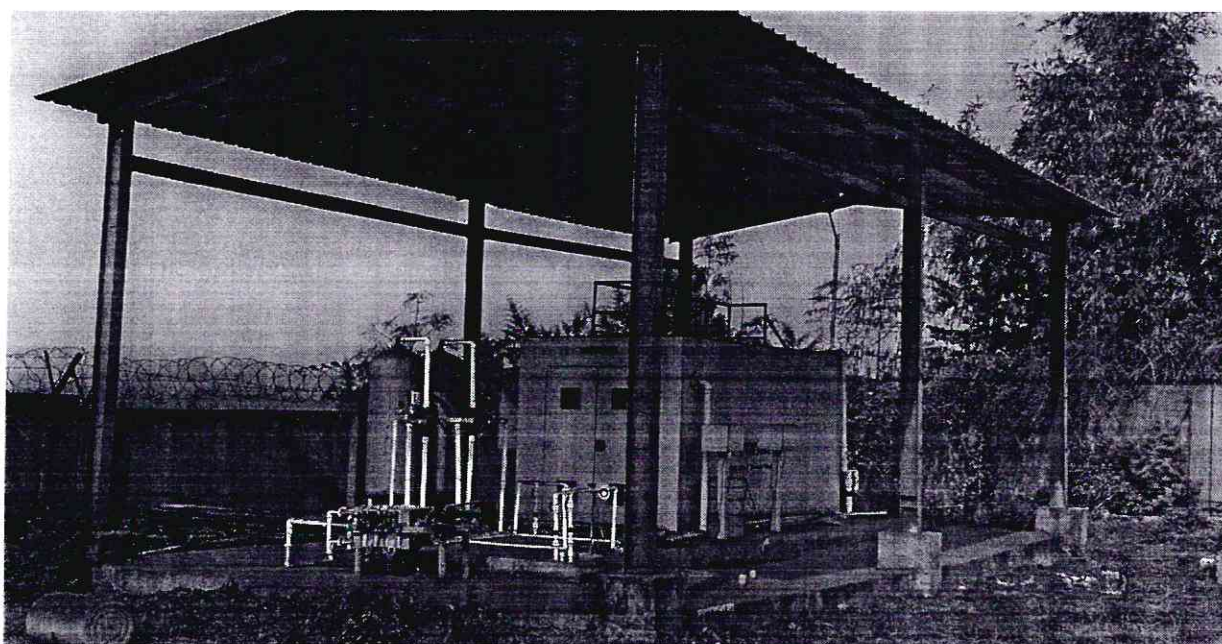
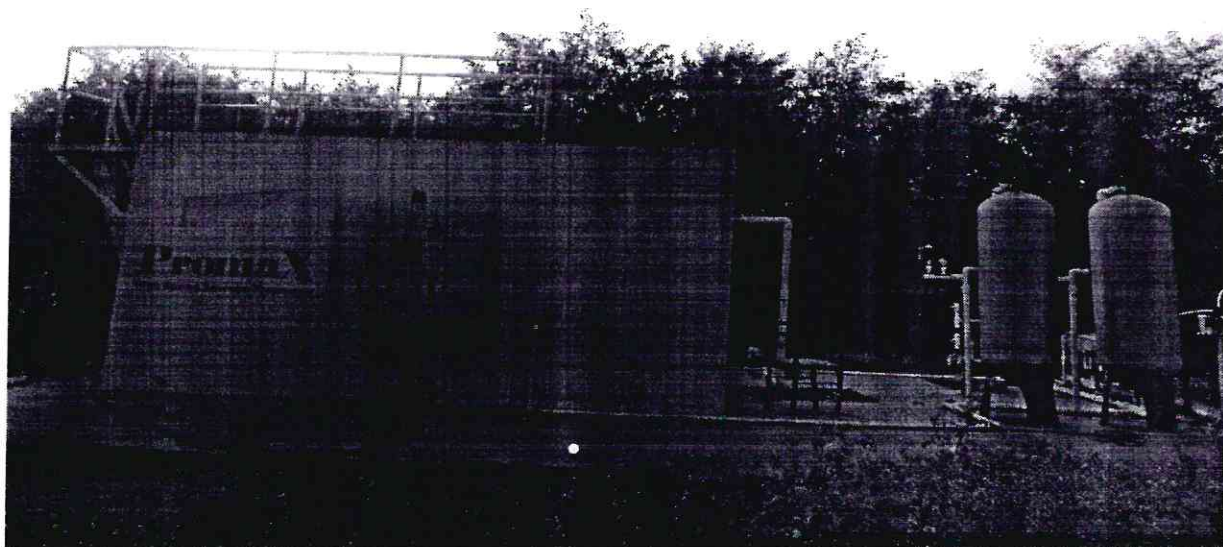
Adhunik Power & Natural Resources Ltd, Padampur

WATER SAMPLE ANALYSIS RESULT OF GUARD POND

Parameters	LIMIT AS PER E(P) A FOR INLAND SURFACE WATER DISPOSAL	Unit	October	November	December	January	February	March
			2017	2017	2017	2018	2018	2018
Chloride	2	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulphate	3	mg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Calcium	5	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Magnesium	5	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Hardness	5.5 to 9	-	7.2	7.6	7.2	7.6	7.2	7.1
Total Solids	100	mg/L	39	38	26	24	22	25
Free Chlorine	10	mg/L	2.1	N.D.	N.D.	N.D.	N.D.	N.D.
Temperature	30	mg/L	1.6	1.6	1.3	1.1	1.6	1.6
Dissolved Oxygen	250	mg/L	16.7	12.8	16.4	15.9	15.4	15.6
pH	-	-	469	561	357	361	361	456
Alkalinity	-	-	235	244	213	218	223	223
Total Hardness	-	-	21.9	22.8	20.6	21.9	22.4	21.3
Water used for dust suppression & Horticulture work.	3	mg/L	0.63	0.67	0.41	0.43	0.45	0.52

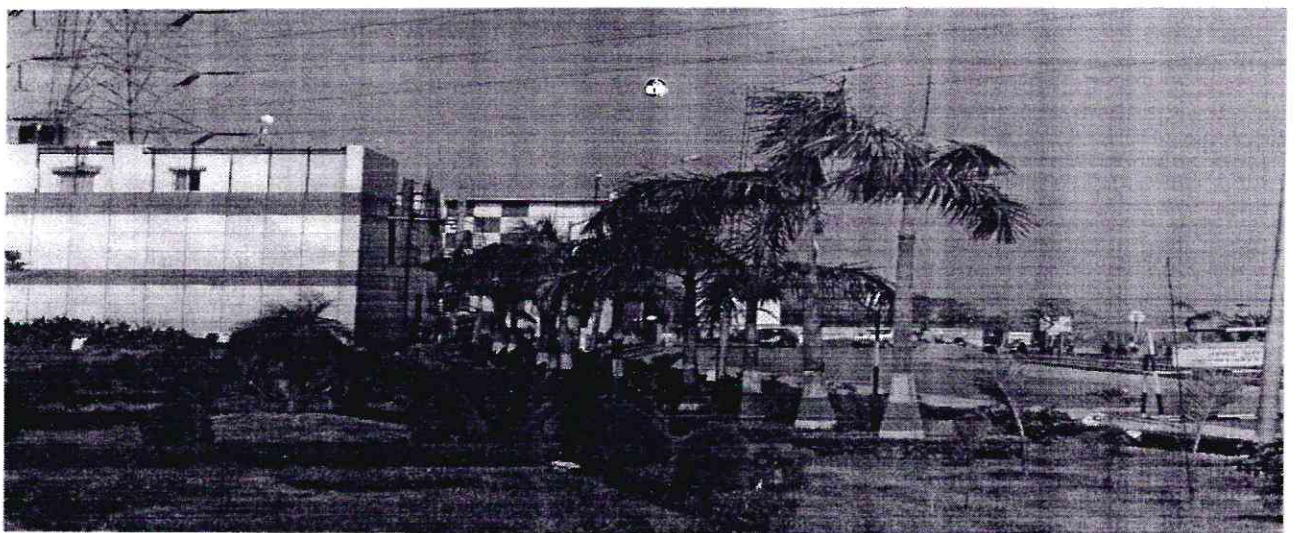
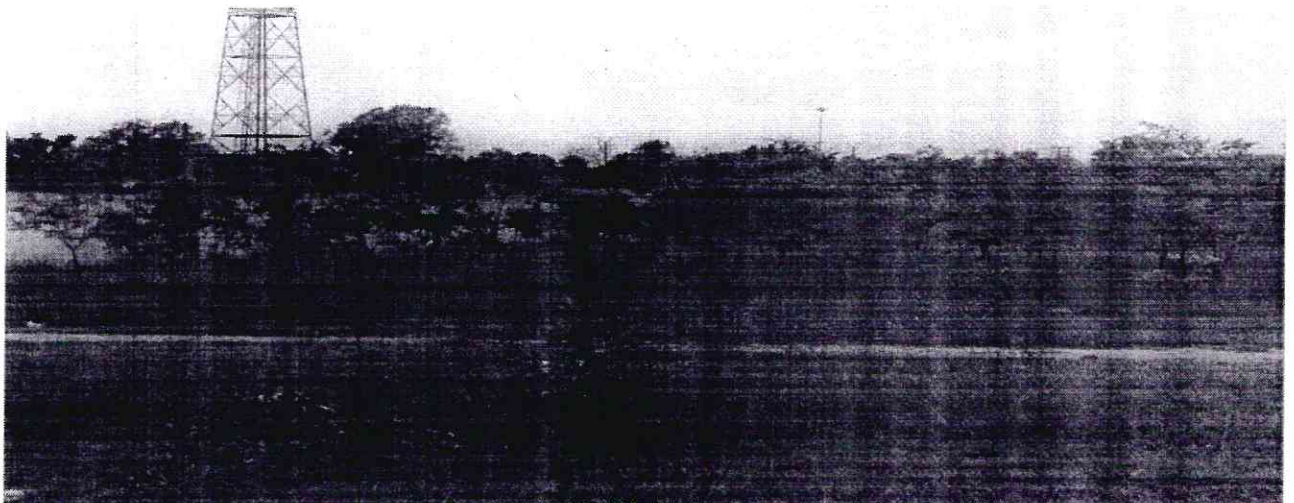
Annexure VI

Sewage Treatment Plant



Green Belt Development

GREEN BELT DEVELOPMENT		
01	Afforestation	A thick green belt of adequate width is being developed.59678 nos.(Area covered-42.8 acres) of plantation has been completed in and outside along the periphery of the power plant to arrest any dust emissions and help in attenuation of noise till Sep 2016. Survival rate of sapling is 86.4%. Total Survived plants are 52638. Plantation done till March 2018 is 2368 samplings. Name of Plant Species- Gulamohar, Neem, Pelatforum, Seesam, Bakul, Jamun etc.
02	Landscape & Gardening	We develop world class landscape and garden inside and outside of plant premises to control soil erosion and making healthy working environment



AADANIK POWER & NATURAL RESOURCES LIMITED, RAJAMPUR
NOISE LEVEL MONITORING REPORT

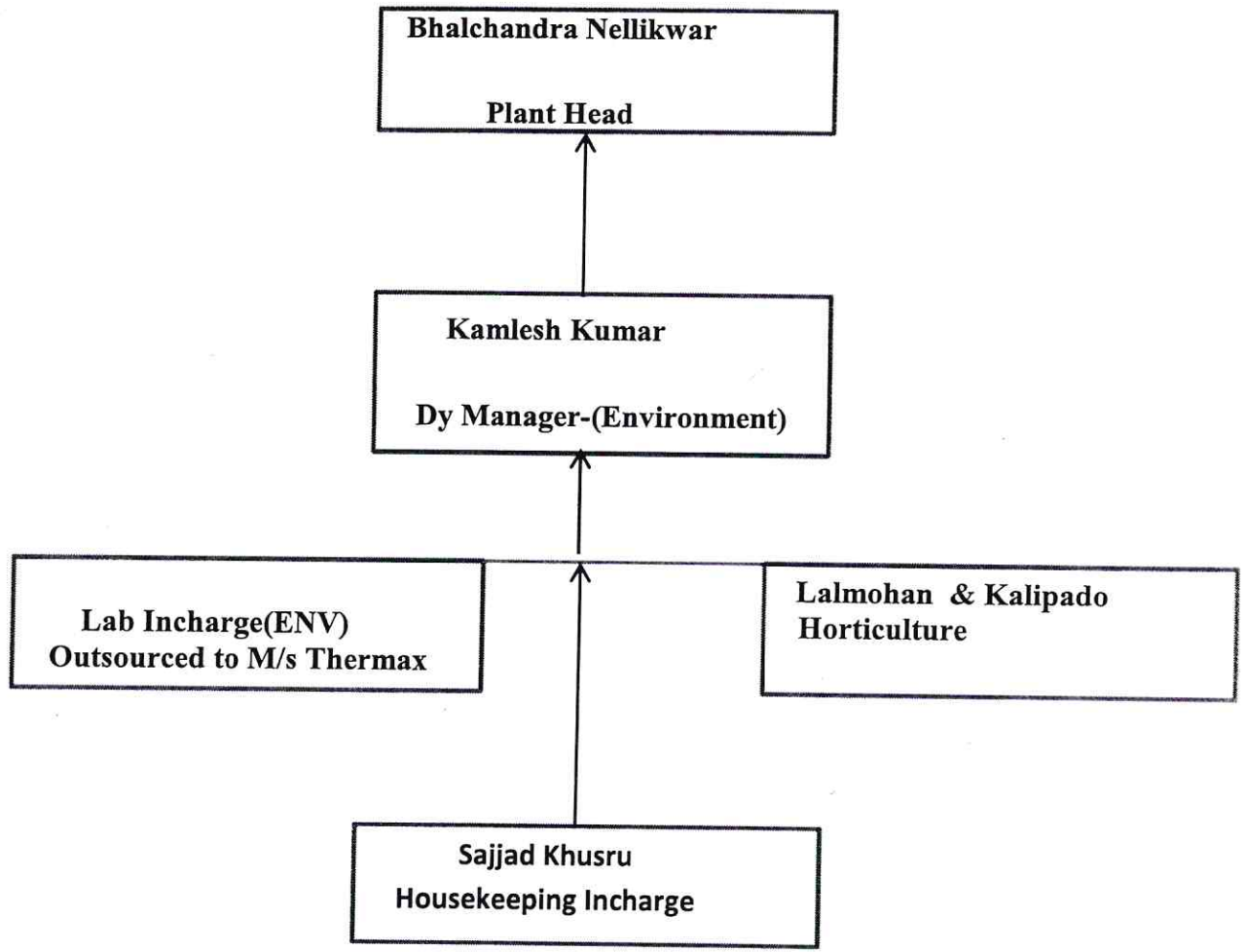
LOCATION	NEAR MAIN GATE		ADMINISTRATIVE BUILDING				COAL YARD		NEAR COOLING	BOILER FEED	TURBINE FLOOR
	75 dBA		70 dBA		75 dBA		70 dBA				
	Day	Night	Day	Night	Day	Night	Day	Night			
CONSENTED NORMS									85dBA		
Oct-17	62.3	45.6	59.4	43.6	74.3	56.1	75	82	84		
Nov-17	58.4	49.7	56.7	45.5	74.6	56.4	76	81	83		
Dec-17	56.3	35.1	46.8	34.7	65.4	52.9	75	81	83.1		
Jan-18	55.2	36.4	46.1	35.4	67.8	55.1	73	82	83.7		
Feb-18	56.8	36.9	47.1	36.4	65.2	54.6	72	84.6	82.9		
Mar-18	57.3	36.9	49.2	35.9	71.6	51.3	77	82	84		

AANUNIK Power & Natural Resources Limited, Raadampur
AMBIENT AIR QUALITY MONITORING REPORT

DATE	GET Hostel					Switch Yard					CHP area				
	PM 10	PM 2.5	SO2	NOX		PM 10	PM 2.5	SO2	NOX		PM 10	PM 2.5	SO2	NOX	
17	69.7	49.7	10.3	7.6	80 µg/m3	79.4	51.6	9.4	7.1	80 µg/m3	83.5	52.6	12.4	8.6	80 µg/m3
17	70.3	45.9	11.6	9.1	80 µg/m3	79.2	51.3	10.4	8.6	80 µg/m3	88.1	56.3	10.9	8.7	80 µg/m3
17	56.9	35.4	12.5	9.4	80 µg/m3	70.6	45.9	11.8	8.3	80 µg/m3	75.6	56.7	13.4	11.2	80 µg/m3
18	58.9	39.4	12.3	10.6	80 µg/m3	72.6	43.9	10.3	9.4	80 µg/m3	74.5	54.9	12.8	10.2	80 µg/m3
18	60.1	41.3	11.9	9.2	80 µg/m3	73.1	41.2	10.6	8.9	80 µg/m3	77.4	55.3	11.6	9.4	80 µg/m3
18	54.6	36.4	11.9	9.7	80 µg/m3	72.6	48.6	10.6	9.4	80 µg/m3	82.4	58.4	12.3	10.3	80 µg/m3

1 annexure +

ORGANISATION CHART ENVIRONMENT MANAGEMENT CELL





ADHUNIK POWER AND NATURAL RESOURCES LIMITED

WORKS : Village – Padampur, Behind P.G.C.I.L Substation,
Adityapur Kandra Road, Saraikela – Kharswan : 832402, Jharkhand
Phone: + 91-657-6628400, Fax: + 91-657-6688440

Ref: MOE&F, RNC/HYC/BN/281217/01

Dated: 28.12.2017

To,

Regional Office (ECZ),
Ministry of Environment, Forest and Climate Change,
Bungalow No. A-2, Shyamali Colony,
Ranchi – 834002

Sub:- Submission of Half yearly compliance status report (Unit I) for the period – April 2017 to September 2017,-Reg.

Ref:- MoEF letter No.J-13011/8/2009-IA.II(T), dated 29th Aug 2009.

Sir,

With reference to the above referred Environmental Clearance, we are pleased to submit herewith the half yearly compliance status report (Unit I) for the period of April 2017 to September 2017.

This is for your reference and record, please.

Thanking you,

For Adhunik Power & Natural resources Limited

(Authorized Signatory)

Encl: As Above

Copy to:

- i) Central Pollution Control Board, Kolkatta
- ii) Member Secretary, Jharkhand State Pollution Control Board, Jharkhand
- iii) Regional Officer, JSPCB, Jamshedpur



Ref
Beebri
29/12/17

Ref No APNRL/JSPCB/ES/2016-17/01

Date: 15th Sep 2017

The Member Secretary
Jharkhand Pollution Control Board
Jharkhand

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

Ref: Environmental Clearance letter No J-13011/8/2009-IA.II(T), Dated 29th Aug 2009.

Dear Sir,

In line with compliance of above referred EC letter point No XXX 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

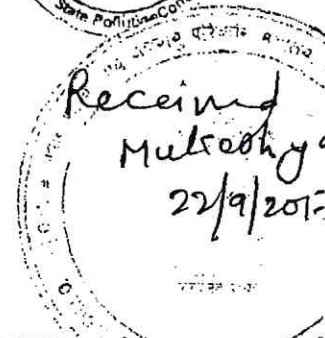
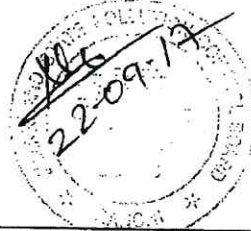
Bhalchandra Nellikwar
(Plant Head)

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,Jharkhand



m... ..

**curring cost incurred on Environment protection measures of M/s
Adhunik Power & Natural Resources Ltd. Year 2017-18(in Lakhs)**

Description of Environment Measures	April 2017- March 2018						Total cost (Unit I & Unit II)
	Unit I			Unit II			
	Energy	Other cost	Total Cost	Energy	Other cost	Total Cost	
operation & Maintenance	126.54	3.26	129.80	65.94	3.26	69.20	199.00
P & STP operation & Maintenance	9.62	1.69	11.31	9.62	1.69	11.31	22.62
ment Housekeeping	0.00	91.87	91.87	0.00	91.87	91.87	183.74
System Operation & Maintenance	8.63	0.94	9.57	14.63	1.96	16.59	26.16
operation & Maintenance	0.19	2.45	2.64	0.19	1.23	1.42	4.06
Green Belt development	0.10	8.00	8.10	0.10	8.00	8.10	16.20
Environment Management System(Monitoring, Equipment Calibration, Calibration of Environment Programmes & Preparation of Environment Audit, ESMS report)	0.61	3.26	3.87	0.56	3.26	3.82	7.69
Waste disposal system	0.00	880.76	880.76	0.00	880.76	880.76	1761.52
rain water harvesting system	0.00	0.12	0.12	0.00	0.12	0.12	0.24
AQMS & CEMS Operation & Maintenance	0.23	1.58	1.81	0.23	0.96	1.19	3.00
	145.92	993.93	1139.85	91.27	993.11	1084.38	2224.23