Ref: MOE&F, RNC/HYC/BN/281116/01 **Dated: 28.11.2016**

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 2016 to September 2016,-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 2016 to September 2016,-.**

This is for your reference and record, please.

Thanking you,

For **Adhunik Power & Natural resources Limited**

Received
Mukesh yadav
21/12/2016
MoEF Environment, Forests & Climate Change C.O. Ranchi

(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

REPORT

ENVIRONMENTAL COMPLIANCE STATUS REPORT FOR 1X270 MW COAL BASED POWER PLANT

(Unit I)

APRIL 2016 - SEPTEMBER 2016

Adhunik Power & Natural Resources Limited

Village: Padampur, Behind PGCIL Substation

Kandra Chouka Road, Saraikela-Kharsawan

Jharkhand

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.		
Period Of Compliances: April 2016 to September 2016		
Sl No	**EC Conditions**	**Status as on 30st September 2016**
1	No additional land in excess of 119 ha shall be acquired for any activity/facility of this project.	Noted
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.	The applicable conditions as specified in the matter of Goa foundation Vs Union of India in Writ. Petition (Civil) no. 460 of 2004 as applicable shall be adhered to by the company.
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. 1st installment already submitted.
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. **Coal analysis report for the month of Sep 2016 enclosed as Annexure I**
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 II** Stack monitoring report containing Hg concentration for the month of Aug 2016 enclosed as **Annexure III**
7	High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emissions does not exceed 50 mg/Nm3	High efficient ESPs of 32 fields has been installed to ensure control Particulate matter emission in flue gas. **Stack monitoring report from April 2016 to Sep 2016 enclosed as Annexure III.** **Photographs enclosed as Annexure IV.**
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 V.**
9	Fly ash shall be collected in dry from and storage facility (Silos) shall be provided 100 % fly ash utilization shall be ensured from 4th year onwards. Unutilized ash shall be disposed off in the ash pond in the form of slurry from. Mercury and other heavy metals	Agreements made with cement plants, brick plants, etc to ensure 100% utilization of fly ash from 4th year onwards. Monitoring of mercury and other heavy metals (As, Hg, Cr, Pd etc.) in the bottom ash and also in the effluents emanating from the ash pond is being done periodically. **Bottom ash**

	(As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.	**analysis report & effluent analysis report of ash pond for the month of Aug 2016 enclosed as Annexure VI & Annexure VII respectively.**
10	Ash pond shall be lined with impervious lining. Adequate safety measures shall be implemented to protect the ash dyke from getting breached.	The ash pond has designed to encompasses leachate collection & monitoring system, impervious lining etc for protection of local ground water resource as per the requirement..
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 an ETP/Guard pond to ensure conformance to CPCB standards and recycled in plant process. **Treated effluent analysis report of Guard pond from April 2016 to Sep 2016 enclosed as Annexure VIII.**
12	No ground water shall be extracted for project work at any stage.	Strictly complied.
13	Natural drainage system within the project site should not be disturbed.	We ensure.
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.
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 IX.**
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 CGA 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.
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 oil.	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.
19	Regular monitoring of ground water in and around to ash pond area including heavy metals (Hg, Cr, As, Pb) shall be carried out, records maintained and six monthly report shall be furnished to RO of ministry. The	Regular monitoring of ground water in and around ash pond area including heavy metals is being carried out. **Ground water analysis report of upstream & downstream of ash pond from April 2016 to Sep 2016 enclosed as Annexure X.**

	data so obtained should be compared with the base line data so as to ensure that the ground water quality is not adversely affected due to the project.	
20	A green belt of adequate with 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.45634 nos.(Area covered-38.2 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 85.7%. Total Survived plants are 39108. Plantation in financial year (2015-16)-9286 samplings. Name of Plant Species- Gulamohar, Neem, Pelatforum, Seesam, Bakul, Jamun etc. Details of Plantation attached as **Annexure XI** with photographs
21	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.
22	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 height 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 April 2016 to Sep 2016 enclosed As Annexure XII.**
23	Regular monitoring of ground level concentration of SO2, NOx, 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 of core zone & Buffer zone is being conducted by APNRL engaged NABL accredited M/s Yugantar Bharthi (half yearly) /M/s Thermax (Monthly). Review of air quality monitoring results revealed compliance to NAAQS. In- house Ambient Air monitoring reports from **April 2016 to Sep 2016** is enclosed as **Annexure XIII (a)** & Ambient air monitoring report for the month of Aug 2016 conducted by NABL accredited laboratory (M/s Yugantar Bharti) is enclosed as **Annexure XIII(b).**
24	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 the completion of the project.	Plant is in operational condition and local labors are coming from nearby villages.
25	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter,	Complied.

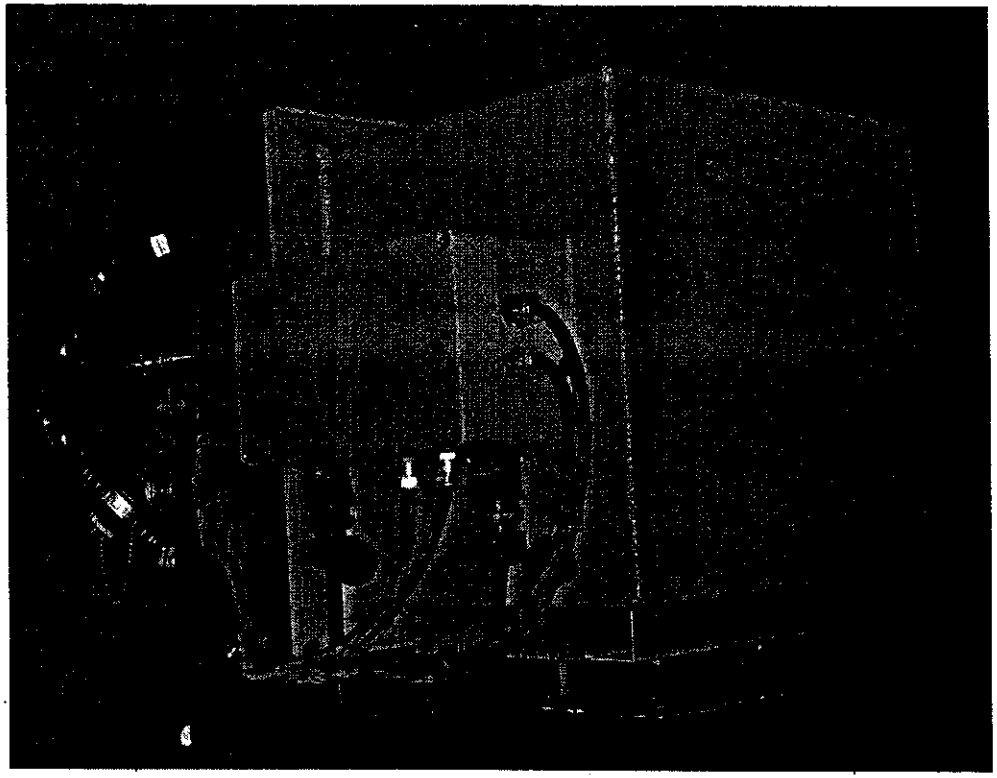
	informing that the project has been accorded EC and copies of clearance letter are available with the SPCB/committee and may also be seen at Website of the MoEF at http://envfor.nic.in.	
26	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat Zila Praised/Municipal Corporation, 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 XIV.**
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, SO2, NOx (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, SO2, NOx) 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 been seen on **URL: http://www.adhunikgroup.com/uploads/ec_pdf/1466406555.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 (Oct,15-March ,16) for the project along with environmental monitoring data submitted to MoEF RO at Ranchi vide letter No MOE&F,RNC/HYC/PKB/5616/01 dated 05th June 2016 . **Acknowledgement copy of same enclosed as Annexure XV.**
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 (2015-16) in Form V has submitted vide letter No: APNRL/JSPCB/ES/2015-16/01 dated 14th Sep 2016. **Acknowledgement copy of same enclosed as Annexure XVI.**
31	RO of the MoEF located at Bhubaneswar will monitor the implementation of the stipulated conditions. A complete set-up of documents including EIA report EMP along with the additional information submitted from time to time shall be forwarded to the RO for their use during monitoring. Project proponent will upload the compliance status	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, SO2, NOx) for both ambient air quality and chimney emissions is being displayed at the main gate of the company. However Half yearly progress report is being sent to RO office, Ranchi on regular basis as per the requirement & uploaded on

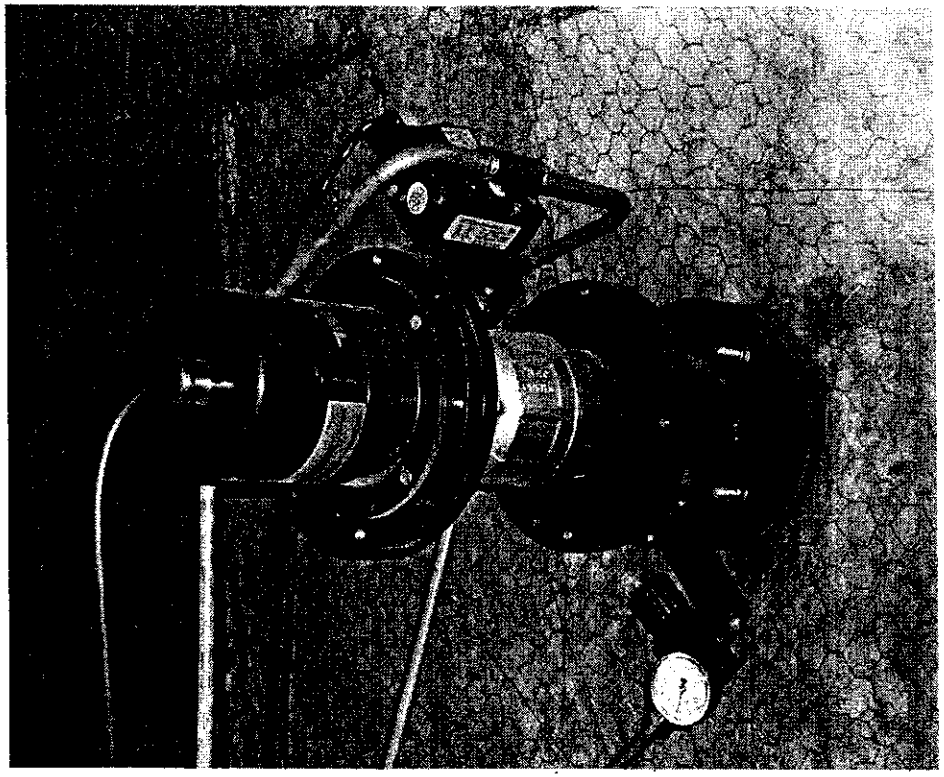
	their website and update the same from time to time at least six monthly basis. Criteria pollutant level (Stack and ambient level of NOx) will be displayed at the main gate of the power plant.	company website.
32	Separate fund shall be allocated for implementation of environmental protection measures 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.	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 2016-17(April 2016- Sep 2016) attached as **Annexure XVII.**
33	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 od start of land development work and commissioning of plant.	Complied
34	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.	We ensure

Adhunik Power & Natural Resource Limited

COAL QUALITY ANALYSIS REPORT ON AS RECEIVED BASIS									31/10/2016
Date	Source	Transporter & DO	LOT	Qty. MT	ARB				
					ASH%	VM%	S(%)	FC%	GCV kCal/Kg
9-Sep-16	Amrapali	GP 30	4	1190.67	36.61	20.0122	0.36	27.6971	3075.6122
10-Sep-16	Amrapali	GP 30	4	367.7	37.49	19.7378	0.41	28.1414	3214.3053
11-Sep-16	Amrapali	GP 30	2	41.31	38.26	19.7077	0.38	27.2894	3238.4072
12-Sep-16	Amrapali	GP 30	2	203.98	36.87	20.2967	0.42	28.1321	3133.8318
13-Sep-16	Amrapali	MG 30	1	264.43	36.52	18.8188	0.43	26.9107	3066.739
14-Sep-16	Amrapali	MG 30	1	369.27	36.93	19.9102	0.39	28.2293	3210.1678
15-Sep-16	Amrapali	MG 30	2	280.75	36.63	20.4966	0.36	30.0262	3417.8796
16-Sep-16	Amrapali	GP 30	1	409.9	35.82	20.1077	0.41	27.6613	3319.7032
17-Sep-16	Amrapali	GP 30	5	409.9	35.73	20.1077	0.44	27.6613	3319.7032
18-Sep-16	Amrapali	GP 30	1	407.72	35.84	19.9345	0.43	28.5698	3154.692
19-Sep-16	Amrapali	GP 30	3	407.72	38.39	19.9345	0.46	28.5698	3154.692
20-Sep-16	Amrapali	GP 30	1	408.41	37.12	20.687	0.39	29.279	3340.0762
21-Sep-16	Amrapali	MG 30	1	410.2	38.66	20.6952	0.41	28.9839	3364.7376
22-Sep-16	Amrapali	GP 30	1	140.31	37.93	21.695	0.39	29.6659	3445.7314
23-Sep-16	Amrapali	GP 30	3	140.31	39.21	21.695	0.4	29.6659	3445.7314
24-Sep-16	Amrapali	GP 30	1	41.63	38.48	20.7886	0.44	29.4127	3367.938
25-Sep-16	Amrapali	GP 30	1	19.63	39.45	20.7981	0.41	30.7466	3519.7434
26-Sep-16	Amrapali	MG 30	1	20.24	36.61	21.1093	0.39	28.2897	3352.6548
27-Sep-16	Amrapali	GP 30	3	81.5	34.55	20.8987	0.38	29.483	3413.4454
28-Sep-16	Amrapali	MG 30	1	321.18	34.40	21.0696	0.42	30.3951	3566.0304
29-Sep-16	Amrapali	MG 30	1	184.64	36.76	20.3271	0.46	29.3742	3390.2186
30-Sep-16	Amrapali	MG 30	1	408.45	34.68	19.9599	0.39	29.1633	3327.2375

Continuous emission monitoring system





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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.	HNE10CQ003
FEATURES		
6	Range	0-100% Opacity , 0-999mg/m3, 0-999mg/Nm3 (Fully site selectable)
7	Min. detectable conc.	1 mg/m3
8	Measurement Units	Fully selectable units-, mg/m3 (measured)., mg/Nm3(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	Analyser can be mounted in Chimney at Elevation of 91.6 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

Forbes Marshall CODEL

CODEL

Ref: GCEM40A0/DS/02

DATA SHEET
CO, SO2, NOx 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.	SOx	HNE10CQ004
		NOx	HNE10CQ001
		CO	HNE10CQ002
		FEATURES	
6.	Range	CO : 0 to 1000ppm, 0 to 1000mg/m3, 0 to 1000mg/Nm3 SO2 : 0 to 1000ppm, 0 to 1000mg/m3, 0 to 1000mg/Nm3, NOx : 0 to 1000ppm, 0 to 1000mg/m3, 0 to 1000mg/Nm3, CO2 : 0 to 25% H2O : 0 to 25% Above ranges are site selectable up to 3000 ppm	
7.	Min. detectable conc.	1 ppm , 1mg/m3, 1mg/Nm3 for CO,SO2,NOx & 0.5% for CO2,H2O.	
8.	Measurement Units	Fully selectable units-ppm or % by volume, mg/m3 (measured) and mg/Nm3 (Normalised to temperature, pressure, H2O & CO2)	
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,SO2, NOx,& 0.5% for CO2 & H2O	
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,SO2,NOx, 0.5% for CO2,H2O	
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,SO2,NOx in ppm & CO2,H2O 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 detecter
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

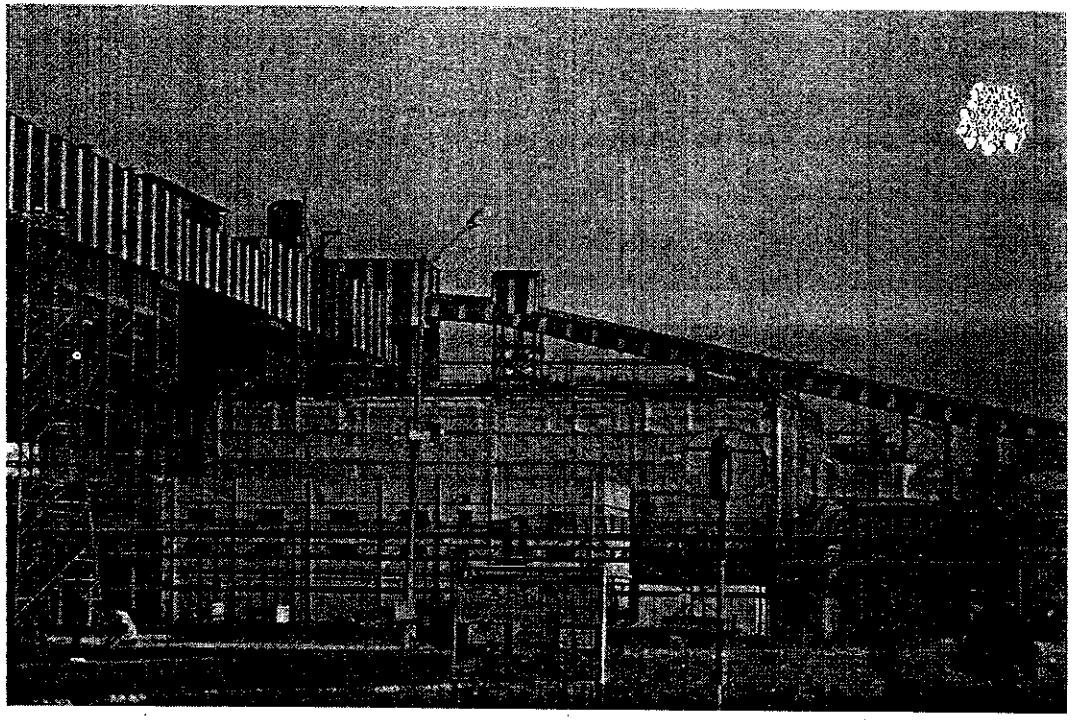
CONNECTIONS & DIMENSIONS		
27	Analyser mounting details	Please refer drawing for analyser mounting flange details. Mounting location on Chimney at 91 Mtrs Elevation.
28	Stack width	Suitable for duct/Stack inner diameter of more than 2000mm.
ACCESSORIES		
29	Standard span gas for calibration	Make : Chemtron Science Laboratory, Mumbai Material : Aluminium Cylinder Capacity : 10 ltr W.C Filled with : 500ppm CO, 500ppm SO2, 500ppm NO and balance Nitrogen (N2) Cylinder with SS regulator, necessary tubing's & fittings. Filled pressure: filled at 120-130kg/cm2
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

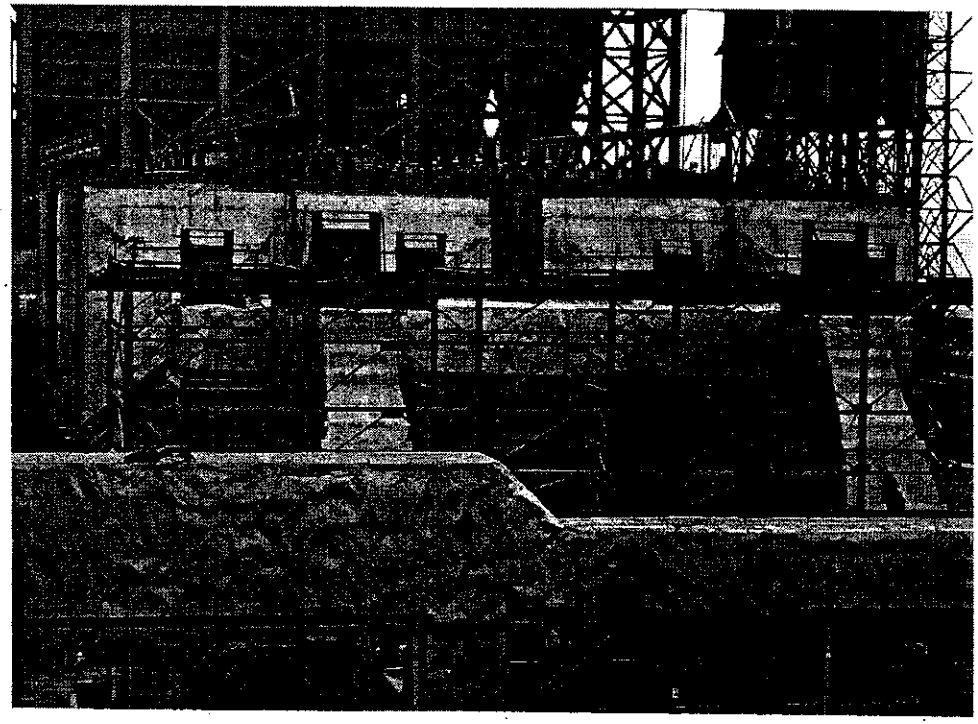
Adhunik Power & Natural Resources Limited, Padampur

STACK EMISSION MONITORING REPORT

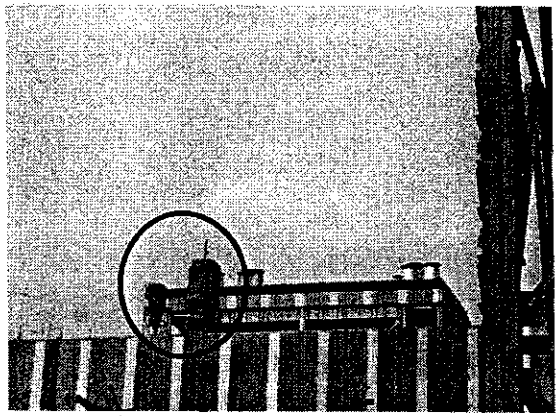
Sl.No.		UNIT-1			
	PARAMETERS	PM	SO2	NOX	Hg
	AS PER CONSENTED NORMS	50 mg/Nm3	600 mg/Nm3	300 mg/Nm3	0.03 mg/m3
1	Apr-16	48.1	298.6	135.7	<0.01
2	May-16	46.7	326.1	241.9	<0.01
3	Jun-16	42.6	389.1	261.3	<0.01
4	Jul-16	48.6	374.6	288.7	<0.01
5	Aug-16	45.3	356.7	199.2	<0.01
6	Sep-16	41.6	384.1	165.3	<0.01

Electrostatic Precipitator

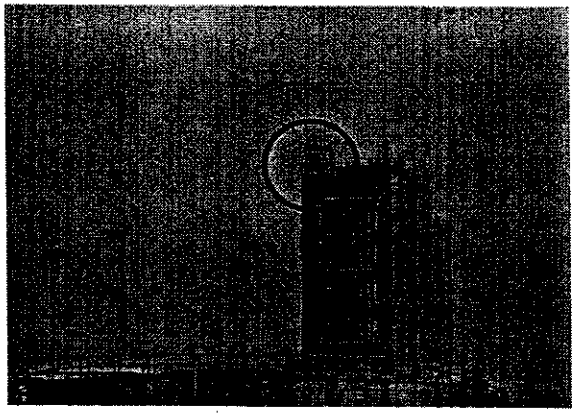




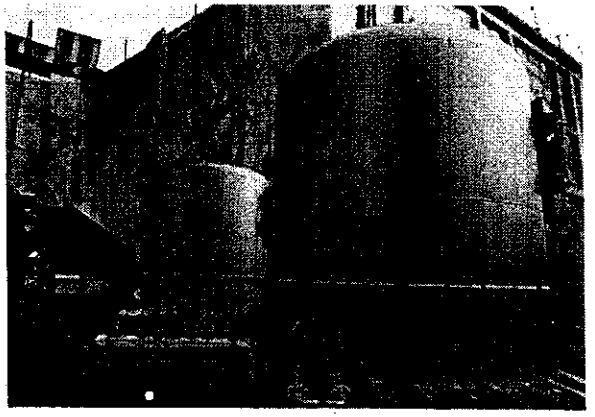
Bag Filter installed at Coal mill building



Bag Filter installed at Ash silo



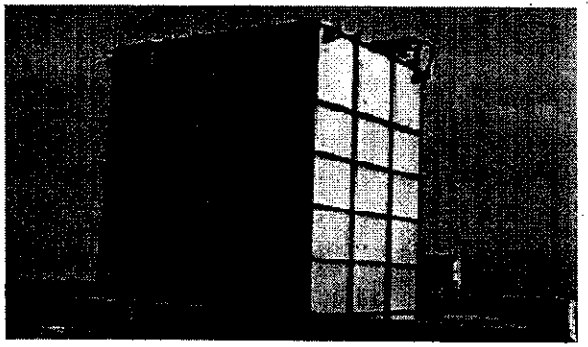
Bag filter at buffer hopper



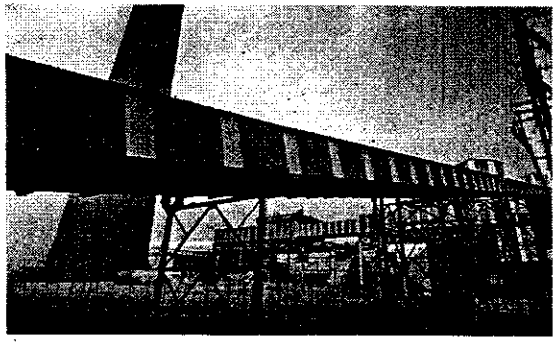
Dust suppression through Tanker

Fixed type DS system for coal Conveyor

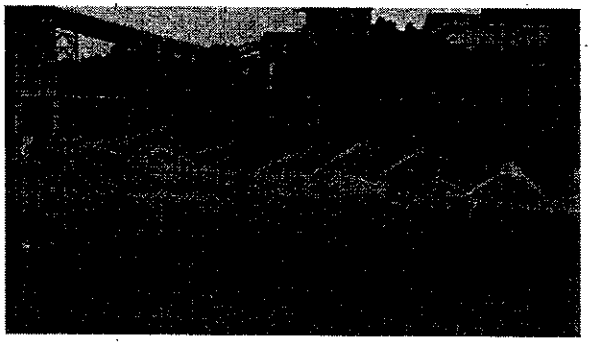
DE system at Coal Crusher House



Closed type coal conveying system



Fixed type dust suppression system



Fixed type DS system at Coal Yard

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

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Jharkhand State Pollution Control Board (JSPCB) (B-1874)

Test Report

Issued to : -	Sample Code: - 160829-BA-E01
M/sADHUNIK POWER & NATURAL RESOURCES LIMITED Vill: Padampur, Behind P.G.C.LL Substation,Jamshedpur-832105, Jharkhand	Report ID : - YBAEEL/JSR/16-08-29/BA/01 Date of Issue: – 15.09.16 Reference : - YBAEEL/WA/L/C/Aug-16
Sample Particulars	**Details of Sampling**
Sample Name/Description: - Bottom Ash Sample Quantity : - 10 kg Sample pkg. Condition : - Sealed in plastic bottle	Date of sampling : - 28-08-2016 Sample Received Date: -29/08/2016 Sample collected by: -Mukesh Singh & Team Sampling Location: -Bottom Ash Hopper (Unit I)

Test Result

Test started on: -	30th August 2016	Test completed on :-	13th September 2016

Sl. No.	Tested Parameter	Unit	Results
1.	Arsenic	ppm	< 0.01
2.	Mercury	ppm	< 0.01
3.	Chromium	ppm	0.03
4.	Lead	ppm	0.07
5.	Antimony	ppm	< 0.01
6.	Beryllium	ppm	< 0.01
7.	Cadmium	ppm	0.03
8.	Copper	ppm	0.05
9.	Nickel	ppm	0.04
10.	Selenium	ppm	0.01
11.	Silver	ppm	< 0.01
12.	Tin	ppm	< 0.01
13.	Zinc	ppm	0.1
14.	Unborn carbon	%	1.4

*****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.

15/9/16

Tested by
(Bajrang Kumar)
Analyst

Verified by
(Sunil Singh)
Authorised Signatory

15/9/16

Issued by
(Umesh Das)
Technical Manager

Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Yugantar Bharati Analytical & Environmental Engineering Laboratory

An ISO 9001: 2008 Certified Laboratory

Post Box no. 32 | Namkom Post Office | Sidroul | Ranchi - 834010 (Jharkhand)
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Jharkhand State Pollution Control Board (JSPCB) (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: - 160830-WW-E03** **Report ID : - YBAEEL/JSR/16-08-029/WW/03** **Date of Issue: 15.09.16** **Reference : - YBAEEL/WA/L/C/Aug-16/09**
Sample Particulars	**Details of Sampling**
Sample Name/Description: - Waste Water **Sample Quantity : - One litre** **Sample pkg. Condition : - Sealed in plastic bottle**	**Date of sampling : - 28-08-2016** **Sample Received Date: -29/08/2016** **Sampling Protocol: - YBAEEL/SP/01/00** **Sample collected by: -Mr.Mukesh Singh & Team** **Sampling Location: -Ash pond outlet**

Test Result

Test started on: -	**30th August 2016**	Test completed on :-	**10th September 2016**

Sl. No.	Tested Parameter	Unit	Results	Method (APHA 22ND Edition 2012)	Permissible Limit
1.	pH	---	**7.75**	4500 H+ B	5.5 -9
2.	Temperature	^{0}c	**25.9**	2550 B	N/A
3.	Total Suspended solid	mg/l	**23**	2540 C	100
4.	Oil & Grease	mg/l	**<4**	5520 B	10
5.	Mercury	mg/l	**ND (DL 0.001)**	3112 B	N/A
6.	Arsenic	mg/l	**ND (DL 0.003)**	3114 B	N/A
7.	Total Chromium	mg/l	**ND (DL 0.01)**	3111 B	N/A
8.	Lead	mg/l	**<0.01**	3111 B	N/A

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

Remarks:-According to tested parameter, the results found within the prescribe limit of Waste water specification IS 2490: 1974.

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15/9/16

Tested by
(Bajrang Kumar)
Analyst

Verified by
(Sunil Singh)
Authorised Signatory

16/9/16

Issued by
(UmeshDas)
Technical Manager

Technical Manager
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Yugantar Bharati Analytical & Environmental Engineering Laboratory

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Post Box no. 32 | Namkom Post Office | Sidroul | Ranchi - 834010 (Jharkhand)
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Adhunik Power & Natural Resources Ltd, Padampur

WATER SAMPLE ANALYSIS RESULT OF GUARD POND

Sr. No	Parameters	LIMIT AS PER E(P) A FOR INLAND SURFACE WATER DISPOSAL	Unit	April	May	June	July	August	September
				2016	2016	2016	2016	2016	2016
1	Total Cr	2	mg/L	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2	Copper	3	mg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
3	Zinc	5	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4	Phosphates	5	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
5	pH	5.5 to 9	-	6.9	7.6	7.2	7.6	7.2	7.5
6	Suspended Solids	100	mg/L	18	17	15	19	21	23
7	Oil & Grease	10	mg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
8	BOD 3 day 27 Deg. C	30	mg/L	2.8	2.1	3.6	3.4	3.6	3.9
9	COD	250	mg/L	15.1	11.9	16.4	15.4	12.9	13.4
10	TDS	-	-	398	368	384	374	341	356
11	Cloride	-	-	216	211	236	241	236	245
12	Sulphate	-	-	25.9	22.6	20.6	19.7	12.9	13.2
13	Iron	3	mg/L	0.61	1.02	1.03	0.95	0.88	0.75

*** Treated Water used for dust supression & Horticulture work.**

Sewage Treatment Plant

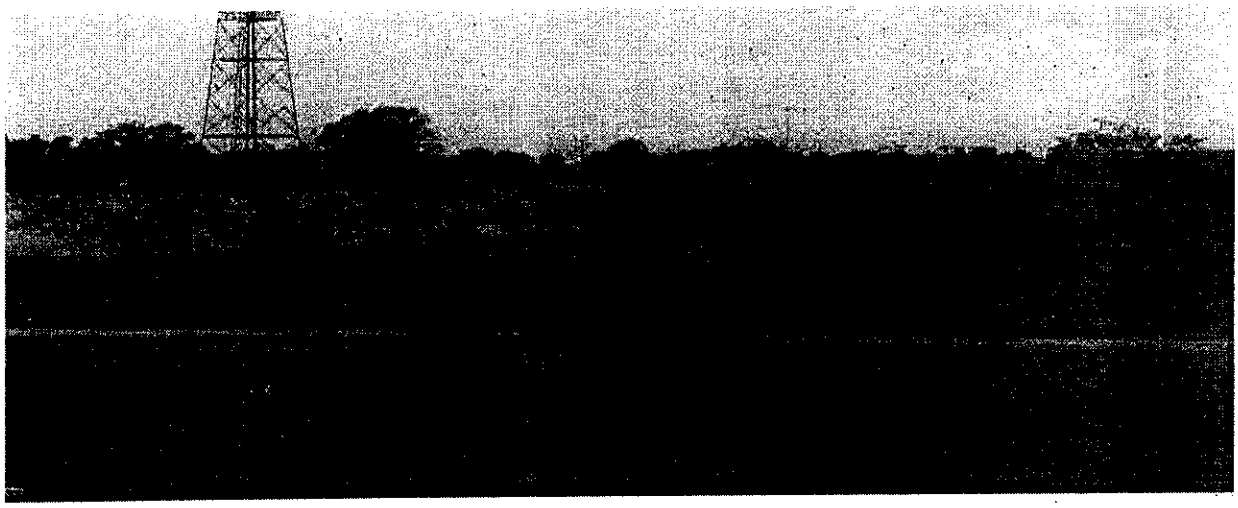
Adhunik Power & Natural Resources Ltd, Padampur

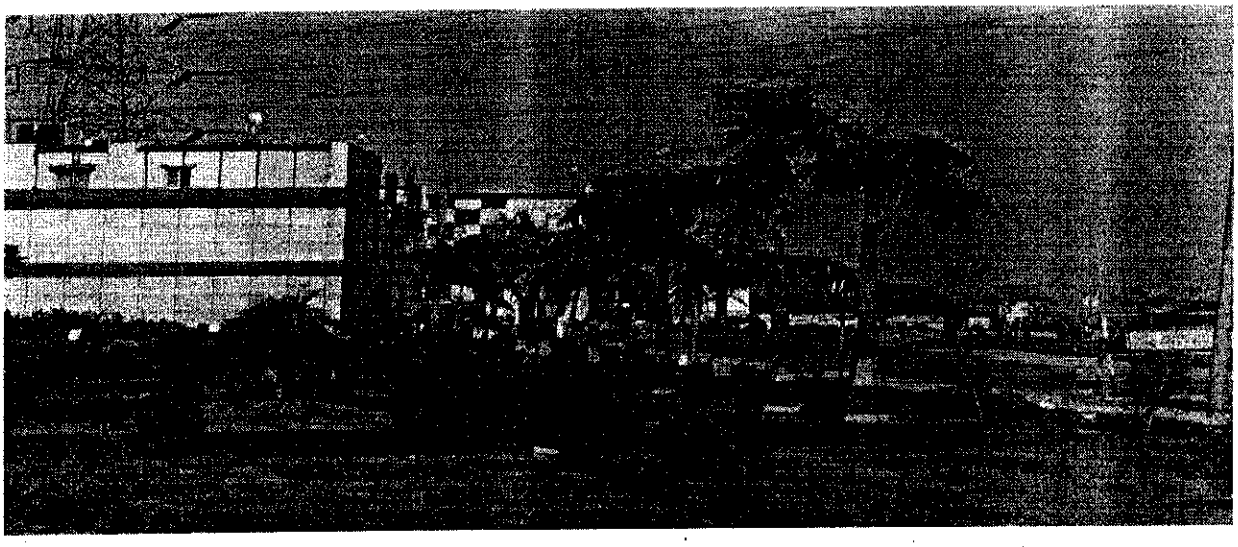
GROUND WATER MONITORING OF TUBE WELL OF VILLAGE PADAMPUR (UPSTREAM OF ASH POND) & VILLAGE PINDRABERA (DOWN STREAM OF ASH POND)- April 2016 to Sep 2016

Sl No	Parameters	Unit	April		May		June		July		August		September	
			Village Padampur	Village Pindrabera	Village Padampur	Village Pindrabera	Village Padampur	Village Pindrabera	Village Padampur	Village Pindrabera	Village Padampur	Village Pindrabera	Village Padampur	Village Pindrabera
1	Color	Hazen	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	3.6	4.2	3.2	3.6	3.6	3.9	3.2	3.8	3.3	3.4	3.2	3.6
5	pH	-	6.8	6.6	7.1	6.9	7.2	6.8	7.3	6.9	7.1	6.8	7.2	6.9
6	Temperature	^{0}C	25.3	23.9	23.1	21.8	22.6	23.1	21.6	23.8	20.6	22.1	21.6	23.4
7	Total Hardness(CaCo3)	Mg/l	230.7	212.5	221.5	211.9	201	213	215	221	212	226	218	230
8	Iron (Fe)	Mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9	Chlorides (Cl)	Mg/l	38.6	35.9	36.4	35.1	32.9	36.4	35.4	31.9	32.6	30.1	31.4	32.7
10	Residual Free Chlorine	Mg/l	0.0051	0.0063	0.0057	0.0043	0.0051	0.0044	0.0056	0.0043	0.0051	0.0045	0.0053	0.0041
11	TDS	Mg/l	269.4	191.8	291.4	201.5	245.31	191.49	251.6	196.41	248.3	214.8	251.3	219.7
12	Elec conductivity	mhos	340.5	301.9	386.4	276.4	377.4	294.6	376.53	300.01	381.2	314.8	375.6	316.7
13	Calcium (Ca)	Mg/l	51.22	58.64	46.7	53.7	123	119	125	114	118	116	120	115
14	Magnesium(Mg)	Mg/l	17.36	12.88	16.42	13.47	78	94	94	112	101	113	124	110
15	Copper (Cu)	Mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
16	Manganese(Mn)	Mg/l	0.0064	0.0051	0.0061	0.0052	0.0059	0.0053	0.0052	0.0061	0.0051	0.0062	0.0052	0.0060
17	Sulfate (SO4)	Mg/l	40.23	32.15	41.23	34.51	42.62	33.89	41.66	38.47	42.15	38.66	41.69	34.62
18	Total Nitrate (NO3)	Mg/l	16.89	12.64	17.59	13.55	16.32	12.84	15.61	12.94	12.64	11.39	12.23	10.63
19	Fluoride(F)	Mg/l	0.0067	0.0041	0.005	0.003	0.005	0.0031	0.0046	0.0034	0.0041	0.0035	0.0039	0.0035
20	Cadmium (Cd)	Mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
21	Cyanide(CN)	Mg/l	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
22	Lead (Pb)	Mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
23	Zinc(Zn)	Mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
24	Total Chromium (Cr)	Mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
25	Arsenic (As)	Mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
26	Mercury(Hg)	Mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
27	Total Alkalinity (CaCO3	Mg/l	189	143	201	135	198	142	189	158	184	156	182	154
28	Acidity	Mg/l	16	18	18	17	19	16	16	14	15	14	14	13
29	Aluminium (Al)	Mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
30	Boron (B)	Mg/l	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02	<0.05	<0.02
31	Sodium (Na)	Mg/l	25.4	18.7	22.8	18.4	21.6	17.4	20.6	17.4	21.3	16.4	20.6	17.6
32	Potassium (K)	Mg/l	2.9	2.1	2.2	1.41	2.1	1.61	2.2	1.86	2.1	1.94	2.2	1.86
33	Total Bacterial Count	Nos/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
34	E Coli	Nos/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
35	S enteritidis	Nos/100ml	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

Green Belt Development

GREEN BELT DEVELOPMENT		
01	Afforestation	A thick green belt of adequate width is being developed.45634 nos.(Area covered-38.2 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. Survival rate of sapling is 85.7% .
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





Adhunik Power & Natural Resources Limited, Padampur

NOISE LEVEL MONITORING REPORT

Sl.No.	LOCATION	Ambient Noise Monitoring						Work Zone Noise Monitoring		
		NEAR MAIN GATE		ADMINISTRATIVE BUILDING		COAL YARD		NEAR COOLING TOWER	BOILER FEED PUMP	TURBINE FLOOR
	CONSENTED NORMS	75 dBA	70 dBA	75 dBA	70 dBA	75 dBA	70 dBA	85 dBA		
		Day	Night	Day	Night	Day	Night			
1	Apr-16	42.6	32.6	63.9	47.1	72.4	61.9	77.2	82.5	83.6
2	May-16	51.2	34.9	61.2	34.9	74.1	64.3	77.1	83.5	84.2
3	Jun-16	53.4	32.1	64.5	33.8	73.6	61.8	76.4	81.6	82.6
4	Jul-16	50.1	30.5	62.1	32.8	71.6	59.4	73.5	80.9	83.4
5	Aug-16	49.6	35.1	60.4	34.1	70.6	55.9	74.2	81.3	84.1
6	Sep-16	49.6	35.1	56.7	30.2	71.6	51.6	77.2	82.1	84.5

Adhunik Power & Natural Resources Limited, Padampur

AMBIENT AIR QUALITY MONITORING REPORT (Core Zone)

Sl.No.	LOCATION→	GET Hostel				Switch Yard				CHP area			
	PARAMETERS	PM 10	PM 2.5	SO2	NOX	PM 10	PM 2.5	SO2	NOX	PM 10	PM 2.5	SO2	NOX
	AS PER CONSENTED NORMS	100 µg/m3	60 µg/m3	80 µg/m3	80 µg/m3	100 µg/m3	60 µg/m3	80 µg/m3	80 µg/m3	100 µg/m3	60 µg/m3	80 µg/m3	80 µg/m3
1	**Apr-16**	56.8	39.4	14.8	8.6	64.9	46.8	20.7	12.8	72.9	48.3	17.4	12.1
2	**May-16**	64.3	47.9	12.8	5.6	81.6	52.9	15.4	11.7	89.6	55.6	14.3	11.7
3	**Jun-16**	59.1	39.4	12.1	6.9	72.4	55.1	13.4	9.7	81.9	56.4	12.9	10.3
4	**Jul-16**	48.6	29.4	11.6	7.9	66.3	42.1	12.6	10.7	76.1	52.5	10.6	7.3
5	**Aug-16**	45.6	26.3	10.3	8.1	61.9	44.6	11.8	6.4	71.5	50.7	12.7	7.7
6	**Sep-16**	48.6	31.4	11.6	8.4	65.7	41.6	10.9	7.8	72.9	52.4	11.9	7.9

Adhunik Power & Natural Resources Limited, Padampur

AMBIENT AIR QUALITY MONITORING REPORT (Buffer Zone)

Sl.No.	LOCATION→	Village Padampur				Village Srirampur				Village Pindrabera			
	PARAMETERS	PM 10	PM 2.5	SO2	NOX	PM 10	PM 2.5	SO2	NOX	PM 10	PM 2.5	SO2	NOX
	AS PER CONSENTED NORMS	100 µg/m3	60 µg/m3	80 µg/m3	80 µg/m3	100 µg/m3	60 µg/m3	80 µg/m3	80 µg/m3	100 µg/m3	60 µg/m3	80 µg/m3	80 µg/m3
1	**Apr-16**	49.6	31.6	12.8	6.9	59.4	42.8	15.6	12.7	72.6	45.9	16.4	11.3
2	**May-16**	51.6	35.1	11.6	7.1	75.3	45.7	12.8	9.4	75.4	51.3	15.6	12.4
3	**Jun-16**	53.6	36.4	10.8	8.4	66.4	41.8	11.6	6.1	71.5	54.9	14.6	11.3
4	**Jul-16**	55.4	32.8	11.4	8.4	68.7	42.8	10.6	6.8	72.5	55.4	12.9	10.7
5	**Aug-16**	55.3	35.1	11.2	9.1	67.1	42.8	10.9	7.5	75.2	53.1	12.6	9.8
6	**Sep-16**	52.4	31.9	10.6	9.7	70.5	41.6	11.8	6.5	79.4	55.4	12.1	9.4

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Ambient Air Quality Report (Core Zone)

Report Release Date	15-Sep-2016	Protocol	IS 5182	Part II	Part IV	Part VI
Report ID	YBAEEL/JSR/16-08-27/AAQ/01	Sample Description		Ambient Air Quality		
Sampling Date	27th to 28th August 2016	Type of Industry		Power Plant		
Name of Industry		Sampling Locations	Site A	CHP Area		
M/s - Adhunik Power & Natural Resources Limited Vill: - Padampur, Behind P.G.C.I.L substation, Jamshedpur - 832105, Jharkhand			Site B	GET Hostel		
			Site C	Switch Yard		
		Work Order No.		---		
		Work Order Date		---		
		Weather Condition		Cloudy		
Customer Ref.	Mr. Kamlesh Jha	Sample drawn by		Mr. Mukesh Singh & team		

Monitored Parameters	Method	Samplin Location			Units	NAAQS industrial, residential, rural &
		Site A	Site B	Site C		
Particulate Matter (PM2.5)	USEPA Guideline	52.22	39.31	34.56	µg/m3	60 µg/m3
Particulate Matter (PM10)	CPCB Guideline	81.14	71.29	74.29	µg/m3	100 µg/m3
Sulphur Dioxide (SO2)	CPCB Guideline	12.3	12.6	12.2	µg/m3	80 µg/m3
Nitrogen Dioxide (NO2)	CPCB Guideline	15.3	15.1	15.7	µg/m3	80 µg/m3
Carbon Monoxide (CO)	IS 5182, Part 10	1.1	1.0	1.3	mg/m3	4 mg/m3
Ozone (O3)	CPCB Guideline	4.3	4.1	4	µg/m3	100 µg/m3
Ammonia (NH3)	APHA 22nd ed.	6.5	7.4	6.7	µg/m3	400 µg/m3
Lead (Pb)	IS 5182, Part 22	N.D	N.D	N.D	µg/m3	1.0 µg/m3
Benzene (C6H6)	IS 5182, Part 21	0.4	0.4	0.5	µg/m3	5 µg/m3
Benzo(a)Pyrene (BaP)	IS 5182, Part 12	N.D	N.D	N.D	ng/m3	1 ng/m3
Arsenic (As)	USEPA Guideline	N.D	N.D	N.D	ng/m3	6 ng/m3
Nickel (Ni)	USEPA Guideline	1.2	1.3	1.1	ng/m3	20 ng/m3

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

Remarks: All values are observed well within the limit

Note:
All values are expressed in microgram/ cubic meter
The results listed refer only to the tested sample and applicable parameter.
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The samples collected shall be destroyed after two month 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

Tested by
Mukesh Kr. Singh
Field Analyst

Verified by
Pallavi Rani
Section In-charge

15/9/16
Issued by
Umesh Das
Technical Manager

Technical Manager
Yugantar Bharati Analytical & Environmental Engineering Laboratory

Yugantar Bharati Analytical & Environmental Engineering Laboratory

An ISO 9001: 2008 Certified Laboratory

Post Box no. 32 | Namkom Post Office | Sidroul | Ranchi - 834010 (Jharkhand)
Ph. 0651-6003372, 098351-97960 | Tele Fax : 0651-2260787 | E-mail : ybaeel@gmail.com

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited By | National Accreditation Board for Testing & Calibration Laboratory (NABL) (T 2982, T-2918)
Jharkhand State Pollution Control Board (JSPCB) (B-1874)

Ambient Air Quality Report (Buffer Zone)

Report Release Date	15.9.2016	**Protocol**	IS 5182	Part II	Part IV	Part VI
Report ID	YBAEEL/JSR/16-08-28/AAQ/02	**Sample Description**		Ambient Air Quality		
Sampling Date	28th to 29th Aug 2016	**Type of Industry**		Power Plant		
Name of Industry	M/s - Adhunik Power & Natural Resources Limited (Unit-I) Vill: - Padampur, Behind P.G.C.I.L substation, Jamshedpur - 832105, Jharkhand	**Sampling Locations**	Site A	Village Pindrabera		
			Site B	Village Padampur		
			Site C	Village Srirampur		
		Work Order No.		3030002260		
		Work Order Date		09.09.2016		
		Weather Condition		Clear		
Customer Ref.	Mr. Kamlesh Jha	**Sample drawn by**		Mukesh Singh & Team		

Monitored Parameters	Method	Samplin Location			Units	NAAQS industrial, residential, rural &
		Site A	Site B	Site C		
Particulate Matter (PM2.5)	CPCB Guideline	40.9	36.4	41.3	µg/m3	60 µg/m3
Particulate Matter (PM10)	IS 5182 Part IV	61.5	67.9	59.7	µg/m3	100 µg/m3
Sulphur Dioxide (SO2)	IS 5182 Part II	11.6	10.9	12.4	µg/m3	80 µg/m3
Nitrogen Dioxide (NO2)	IS 5182 Part VI	5.3	8.9	7.4	µg/m3	80 µg/m3
Carbon Monoxide (CO)	IS 5182, Part X	<1.0	<1.0	<1.0	mg/m3	4 mg/m3
Ozone (O3)	CPCB Guideline	2.6	2.3	2.1	µg/m3	100 µg/m3
Ammonia (NH3)	CPCB Guideline	3.2	3.7	2.6	µg/m3	400 µg/m3
Lead (Pb)	IS 5182, Part 22	<0.1	<0.1	<0.1	µg/m3	1.0 µg/m3
Benzene (C6H6)	IS 5182, Part 11	<0.5	<0.5	<0.5	µg/m3	5 µg/m3
Benzo(a)Pyrene (BaP)	IS 5182, Part 12	<0.1	<0.1	<0.1	ng/m3	1 ng/m3
Arsenic (As)	CPCB Guideline	<0.003	<0.003	<0.003	ng/m3	6 ng/m3
Nickel (Ni)	IS 5182, Part 22	<0.1	<0.1	<0.1	ng/m3	20 ng/m3

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

Remarks: All values are observed well within the limit

Note:
All values are expressed in microgram/ cubic meter

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

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15/9/16

Tested by
Bajrang Kumar

Verified by
Pallavi Rani

15/9/16

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

Yugantar Bharati Analytical & Environmental Engineering Laboratory

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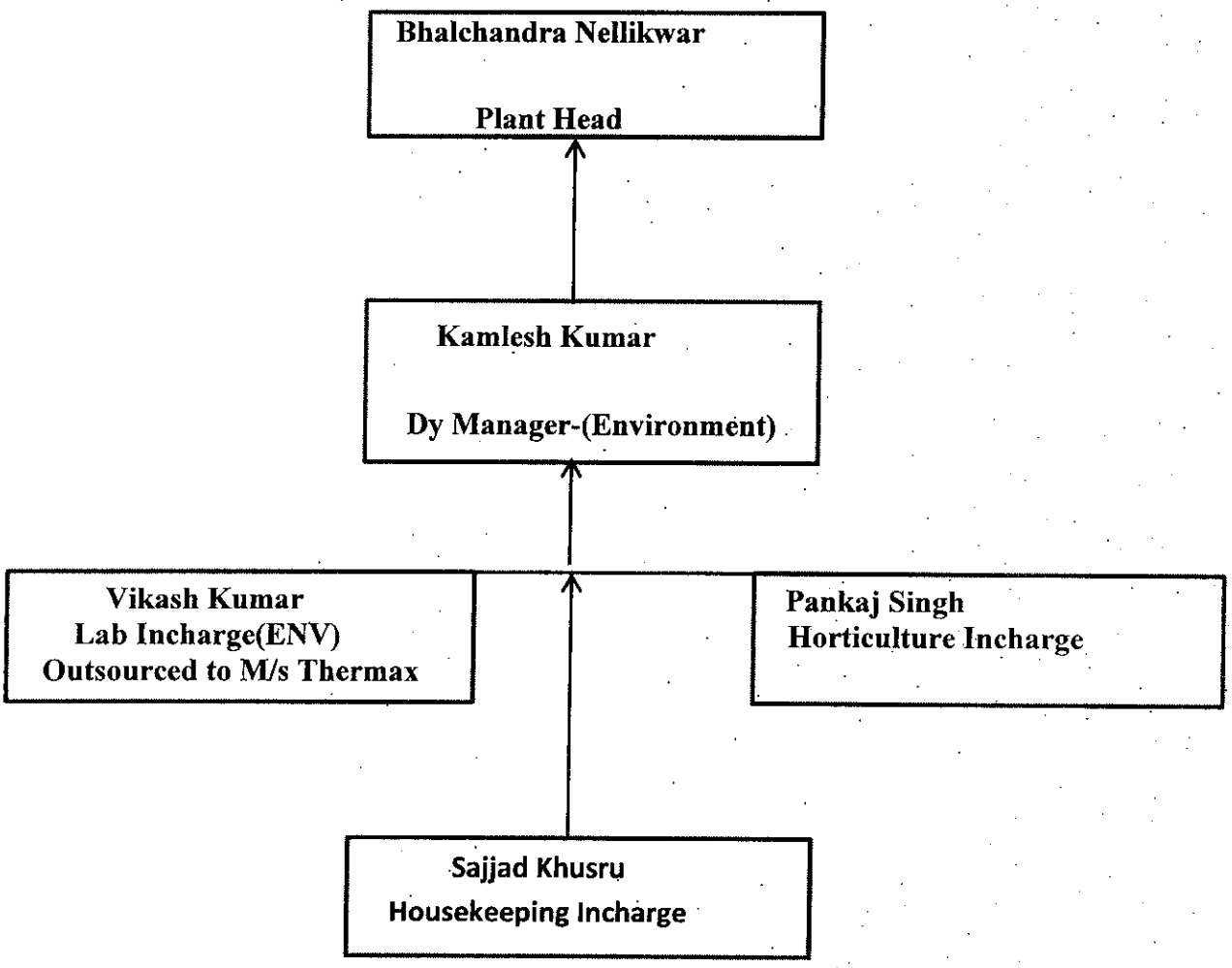
ORGANISATION CHART
ENVIRONMENT MANAGEMENT CELL



%c

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/PKB/5616/01 **Dated: 05.06.2016**

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 2015 to March 2016,-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 2015 to March 2016.**

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

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

O/C

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 No APNRL/JSPCB/ES/2015-16/01 Date: 14th Sep 2016

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-Saraikela-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 2015-16.

This is for your kind information & record please.

Thanking You

Your's faithfully

Bhalchandra Nellikwar
(Plant Head)

Received
19/9/16
Sanjay Prasad

Received
15-9-16

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

Rel
Bodhi
19/9/16

Recurring cost incurred on Environment protection measures of M/s Adhunik Power & Natural Resources Ltd. Year 2015-16(in Lakhs)

Sl No	Description of Environment Measures	April 2016- September 2016		
		Unit I		
		Energy	Other cost	Total Cost
1	ESP operation & Maintenace	109.56	3.83	113.39
2	ETP & STP operation & Maintenance	12.54	9.11	21.65
3	Plant Housekeeping	0.00	36.44	36.44
4	DE System Operation & Maintenance	21.56	1.94	23.50
5	DS operation & Maintenance	0.25	1.05	1.30
6	Green Belt development	0.10	8.12	8.22
7	Environment Management system(Monitoring, Equipment Calibration, Clebration of Environment Programmes & Preparation of Environment Audit,	0.75	9.46	10.21
8	Ash disposal system	0.00	193.46	193.46
9	Rain water harvesting system	0.00	0.15	0.15
10	CAAQMS & CEMS Operation & Maintenance	0.38	0.75	1.13
		145.14	264.31	409.45