



Ref: MOE&F, RNC/HYC/BN/281116 /02

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 II) for the period – April 2016 to September 2016,-,-Reg.

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

Sir,

With reference to the above referred Environmental Clearance, we are pleased to submit herewith the half yearly compliance status report (Unit II) 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

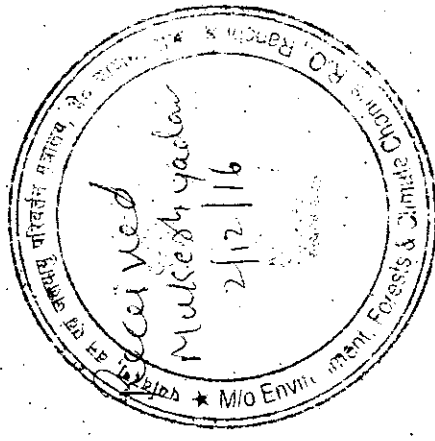
Mukesh Yadav

(Authorized Signatory)

Encl: As Above

Copy to:

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



REPORT

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



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: J13012/8/2009-IA .II (T) dtd 9th May 2011.

Period Of Compliances: April,16-September,16

SI No	EC Conditions	Status as on 30 th September 2016
A. Specific Conditions:		
i.	Environmental clearance for the proposed expansion shall be applicable only for addition of 1x270 MW out of proposed addition of 3x270. However at a later stage when firm coal linkage for second and third units of 270 MW are also available, the project proponent may request the Ministry for inclusion of second and third units i.e. 2x270 MW, which the Ministry shall consider appropriately.	Noted
ii.	The Ministry had issued a draft Notification on 30 th March, 2011 vide S.O. 691(E) under the Environment (Protection) Act, 1986 notifying the areas upto 5 km from the boundary of the protected area of Dalma Wildlife Sanctuary in the State of Jharkhand as the Eco-sensitive Zone. The necessity of obtaining environmental clearance from the National Board for Wild life would arise only if the proposed project area falls within the boundary of the finally notified eco-sensitive zone.	As per notification date 29 th March 2012 project boundary are beyond the stipulated distance from the boundary of the protected area of Dalma Wildlife Sanctuary in the State of Jharkhand as the Eco-sensitive Zone.
iii.	Wildlife conservation plan shall be implemented during the development of project itself and the status of implementation shall be submitted to the Ministry from time to time.	The Wild Life Management Plan (WLMP) has prepared already been approved by PCCF, Ranchi on May'10.2010. 1 st installment already submitted. Complied
iv.	Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry within six months.	Vision document report has submitted at MoEF on 30 th Dec 2011. Complied
v.	Possibility for harnessing solar power within the premises of the plant (particularly at available roof tops) shall be examined and status of implementation shall be submitted.	Noted and marked for feasible implementation.
vi.	Transport of coal shall be by rail only. The project proponent shall accordingly take up the matter with the Railways. Status of implementation shall be submitted to the Regional Office of the Ministry from time to time.	For railway siding transportation clearance has received by from Ministry of Railway date 18.7.2008.
vii.	A study shall be undertaken by an organization of repute such as RIT, Jamshedpur on source sustainability of water, based on the data of the source of water (Subarnarekha River) for the last 50 years and a report submitted within six months.	Water sustainability report has been prepared by IIT Kharagpur. Report was already submitted to MoEF BBS dated 11.11.11. Complied

	Water usage shall be restricted to 30 MCM.	We ensure.
viii. ix.	The project proponent shall seriously undertake rain water harvesting measures and shall develop water storage capacity for a larger period not less than 30 days storage before commissioning of the plant. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology/design within a period of three months from the date of this clearance and details shall be furnished. The design of rain water harvesting shall comprise of rain water collection from the built up and open area in the plant premises. Action plan and road map for implementation shall be submitted to the Ministry within six months.	The Rain water harvesting report has already been submitted and approved from CGA Ranchi. Rain water harvesting structures has constructed in accordance with the approved rain water harvesting plan. Complied
x.	Existing de-generated water bodies (if any) in the study area shall be regenerated at the project proponents expenses in consultation with the state govt.	Noted
xi.	Hydrogeology of the area shall be reviewed annually from an institute/ organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case and deterioration is observed specific mitigation measures shall be undertaken and reports/ data of water quality monitored regularly and maintained shall be submitted to the Regional Office of the Ministry.	The baseline ground water quality of ash pond area is already available with APNRL as part of EIA and ESIA study undertaken. However regular monitoring of ground water in and around ash pond area including heavy metals is being carried out periodically. Monthly monitoring of Water is being undertaken by APNRL engaging Thermax & for 3 rd party Monitoring APNRL engaging NABL accredited M/s Yugantar Bharti (for the month of Aug 2016). Surface Water Analysis report and Ground water analysis report of upstream & Downstream of Ash pond from April,16 to September ,16 enclosed as Annexure I & Annexure II respectively
xii.	Source of water for meeting the requirement during lean season shall be specified and submitted to the Regional Office of the Ministry within three months.	Lean season data has already submitted To MoEF BBS on 19th aug2011. Complied
xiii.	No ground water shall be extracted for use in operation of the power plant even in lean season.	We ensure.
xiv.	No water bodies (including natural drainage system) in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.	We ensure.
xv.	Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel/ Rivers (as applicable) even in lean season.	Noted
xvi.	COC of 5.0 shall be adopted.	COC 5.0 has been considered for cooling tower design.

xvii.	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr,As,Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	Regular monitoring of ground water in and around ash pond area including heavy metals is being carried out & report submitted to MoEF. Data compared with baseline data. Ground water analysis report of upstream & Downstream of Ash pond from April, 16 to Sep,16 enclosed as Annexure II.
xviii.	Monitoring surface water quality in the area shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	Surface Water Analysis report and Ground water analysis report of upstream & Downstream of Ash pond from April,16 to Sep,16 enclosed as Annexure I & Annexure II respectively
xix.	Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved. The leveling in plant area should be minimum with no or minimal disturbance to the natural drainage of the area.	Noted & will be adhering.
xx.	Provision for installation of FGD shall be provided for future use	FGD space is available on site for future use.
xxi.	The project proponent shall undertake measures and ensure that no fugitive fly ash emissions take place at any point of time.	Agreed & strictly complying.
xxii.	Stacks of 275 m height shall be installed and provided with continuous online monitoring equipments for SO _x , NO _x and PM _{2.5} & PM ₁₀ . Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack may also monitored on periodic basis.	Twin flue chimney of 275m height has constructed for proper dispersion of flue gases. Online monitoring equipment has installed at chimney. Stack Monitoring report and Ambient Air Monitoring report from April ,16 to September,16 enclosed as Annexure III & Annexure IV respectively
xxiii.	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³ .	High efficient ESPs of 32 fields have installed to ensure control PM emission in flue gas. Stack Monitoring report from April,16 to September,16 enclosed as Annexure III.
xxiv.	Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas 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.
xxv.	Utilization of 100% Fly Ash generated shall be made from 4 th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	Agreements made with cement plants, brick plants, etc to ensure 100% utilization of fly ash from 4th year onwards.

xxvi.	<p>Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (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.</p>	<p>02 No Silos has Constructed to storage of fly ash. 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 analysis report & effluent analysis report of ash pond attached as Annexure V & Annexure VI respectively.</p>
xxvii.	<p>Ash pond shall be lined with HDP/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.</p>	<p>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..</p>
xxviii.	<p>For disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) shall be done after obtaining due permission from DGMS and after ensuring that the bottom and sides of the mined out areas are adequately lined with clay before Bottom Ash is filled up. The project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity</p>	<p>Noted.</p>
xxix.	<p>Sulphur and ash contents in the coal to be used in the project shall not exceed 0.6 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time fresh reference shall be made to MOEF for suitable amendments to environmental clearance condition wherever necessary.</p>	<p>The sulphur and ash content in used coal conforms the limits. Coal Analysis report enclosed as Annexure VII.</p>
xxx.	<p>Green Belt consisting of 3 tiers of plantations of native species around plant and at least 75 m width shall be raised. The density of tree shall not less than 2500 per ha and survival rate not less than 80 %.</p>	<p>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, Relatforum, Seesam, Bakul, Jamun etc. Details of Plantation enclosed as Annexure VIII with photographs</p>
xxxi.	<p>Over and above the green belt, as carbon sink, social forestry shall be carried out in close consultation with the Forests Department. The project proponent shall accordingly identify blocks of land / degraded forests and shall undertake regeneration of degraded forests at a large scale. In pursuance to this the project proponent shall formulate time bound action plan along with financial allocation and shall submit status of implementation to the Ministry within six months.</p>	<p>Noted.</p>

xxxii.	At least three nearest village shall be adopted and basic amenities like development of roads, drinking water supply, primary health centre, primary school etc shall be developed in co-ordination with the district administration.	<p>APNRL has adopted villages</p> <ol style="list-style-type: none"> Baraharharipur Padampur Srirampur <p>CSR is also providing the facilities in following villages</p> <ol style="list-style-type: none"> Pindrabera Chotaharharipur Ramjivanpur Bikanipur etc. <p>Details of CSR activity enclosed as Annexure IX.</p>
xxxiii.	The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for providing potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	<p>Details of CSR activity enclosed as Annexure IX.</p>
xxxiv.	A time bound implementation of the CSR shall be formulated within six months and submitted to the Ministry. CSR schemes shall be undertaken based on need assessment in and around the villages within 5 km of the site and in constant consultation with the village Panchayat and the District Administration. As part of CSR, prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken.	<p>Details of CSR activity enclosed as Annexure IX for the period of April 2016 to September 2016.</p>
xxxv.	For the tribal families (if any) living in the area within 5.0 Km of site, affected directly or indirectly by the proposed project, specific schemes for upliftment of their sustainable livelihood shall be prepared with time bound implementation and in-built monitoring programme. The status of implementation shall be submitted to the Regional Office of the Ministry from time to time.	<p>Survey has been completed; report has been prepared. CSR activities started for upliftment of sustainable livelihood of tribal families in surrounding villages. Details of CSR activity enclosed as Annexure IX for the period of April 2016 to September 2016.</p>
xxxvi.	An amount of Rs 23.70 Crores shall be earmarked as one time capital cost for CSR programme as committed by the project proponent. Subsequently a recurring expenditure of Rs 4.74 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within six month along with road map for implementation.	<p>Details of the activities report has submitted on MoEF on 9th Nov 2011.</p>
xxxvii	It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time	<p>All CSR activities are monitored on weekly and monthly basis.</p>

B. General Conditions:		
i.	The treated effluents conforming to the prescribed standards only shall be recirculated and reused within the plant. Arrangements shall be made that effluents and storm water do not do not get mixed.	The project is designed with zero discharge provisions (except during monsoon) and drains as suggested is being maintained. Treated effluent analysis report of Guard pond from April, 16-September,16 enclosed as Annexure X. Adequate and separate drainage structures has designed to channel storm water generated onsite into rain water harvesting structures constructed in accordance with the approved rain water harvesting plan.
ii.	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation	03 No's 60 KI capacity STP has commissioned at site.
iii.	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in 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 the Regional Office of the Ministry.	The design of coal yard along with provision of fire safety measures viz. fire hydrants, water sprinklers has installed. The details of the same along with plant lay out will be submitted to the Ministry.
iv.	Storage facilities for auxiliary liquid fuel such as LDO and/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of 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 to be supplied by IOCL has obtained to check conformance with sulfur limits prescribed regularly. Emergency Response Plan (ERP) has prepared as part of the project ESMS to cater to potential emergencies/risks identified.
v.	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	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. Further APNRL has also tied up with nearby private hospitals viz. SAI nursing home, Tata Main Hospital etc. to provide critical health care services to contract workers
vi.	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 85 dBA from source. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs 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,16 to September, 16 enclosed As Annexure XI.

vii.	<p>Regular monitoring of ambient air ground level concentration of SO₂, NO_x, PM_{2.5} & PM₁₀ 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 the Regional Office of this Ministry. The data shall also be put on the website of the company.</p>	<p>Monthly monitoring of Air quality is being undertaken by APNRL engaging Thermax & through NABL Accredited M/s Yuganthar Bharti in the month of Aug 2016. Review of air quality monitoring results revealed compliance to NAAQS. Realtime data of CAAQMS has been uploaded at CPCB & JSPCB website. Ambient Air monitoring reports from April,16 to September, 16 is enclosed as Annexure IV.</p>
viii.	<p>Provision shall be made for the housing of construction labor (as applicable) 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 structures to be removed after the completion of the project.</p>	<p>Plant is in operational condition and local labors are coming from nearby villages.</p>
ix.	<p>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, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in.</p>	<p>Complied</p>
x.	<p>A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.</p>	<p>Complied</p>
xi.	<p>An Environmental Cell comprising of at least one expert in environmental science / engineering, occupational health and social scientist, shall be created at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the head of the organization and he shall be held responsible for implementation of environmental regulations and social impact improvement/mitigation measures.</p>	<p>A Environmental Management Cell consist high qualified environmental professionals are being operational onsite to ensure effective implementation of specific EMPs. Organization chart of Environmental Management Cell enclosed as Annexure XII</p>

xii.	<p>The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM_{2.5} & PM₁₀), SO₂, NO_x (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.</p>	<p>The updated compliance status of the stipulated EC conditions along with monitored data has been uploaded on the company website. The monitoring data (SPM, RSPM, SO₂, 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: http://www.adhunikgroup.com/uploads/ec_pdf/1466406587.pdf</p>
xiii.	<p>The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board 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 compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.</p>	<p>The last environmental statement for financial year (2015-16) in Form V has submitted to JSPCB vide letter No : APNRL/JSPCB/ES/2015-16/02 dated 14th Sep 2016. Acknowledgement copy of same attached as Annexure XIII.</p>
xiv.	<p>The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests</p>	<p>Last six monthly reports for the project along with environmental monitoring data submitted to MoEF RO at Ranchi office vide letter No MOE&F,RNC/HYC/PKB/5616/02 ,dated 05TH June 2016. Acknowledgement copy of same attached as Annexure XIV.</p>
xv.	<p>Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants levels including NO_x (from stack & ambient air) shall be displayed at the main gate of the power plant.</p>	<p>A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information already submitted to the Board.</p> <p>The updated compliance status of the stipulated EC conditions along with monitored data has been uploaded on the company website. The monitoring data (SPM, RSPM, SO₂, NO_x) 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 on regular basis as per the requirement.</p>

xvi.	<p>Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These 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 2016-17 (April 2016- Sep 2016) attached as Annexure XV.</p>
xvii.	<p>The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant</p>	<p>Complied</p>
xviii.	<p>Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bangalore / CPCB/ SPCB who would be monitoring the compliance of environmental status</p>	<p>We ensure</p>

Adhunik Power & Natural Resources Limited, Padam

SURFACE WATER SAMPLE ANALYSIS RESULTS FOR BADAHARIHARPUR PO

Sr. No	Parameters	Unit	April	May	June	July
1	Colour	Hazen	2016 <5	2016 <5	2016 <5	2016 <5
2	Odour		Odouless	Odouless	Odouless	Odouless
3	pH	mg/l	6.5	7.1	7.2	7.3
4	Temperature	°C	24.6	26.4	22.6	25.4
5	Oil & Grease	mg/l	ND	ND	ND	ND
6	Electrical Conductivity		412	451	461	452
7	Dissolved Oxygen	mg/l	6.8	6.8	6.1	6.4
8	BOD at 270C (3days)	mg/l	3.1	3.8	3.6	3.9
9	Total Coliforms	mg/l	Nil	Nil	Nil	Nil
10	Total Dissolve Solids	mg/l	175	194	299.65	293.8
11	Total Hardness as CaCO ₃	mg/l	236.1	251.6	563.1	491
12	Chloride as Cl	mg/l	125.6	125.4	131.4	129.4
13	Sulphate as SO ₄	mg/l	56.4	82.4	78.4	75.4
14	Nitrate as NO ₃	mg/l	9.23	9.61	8.61	7.94
15	Free CO2	mg/l	1.6	1.6	1.2	1.1
16	Free NH3	mg/l	0.0133	0.0139	0.0138	0.0133
17	Fluoride as F	mg/l	0.0412	0.0478	0.0416	0.0418
18	Calcium Hardness	mg/l	54.2	52.4	267.4	256.7
19	Magnesium as Mg	mg/l	18.6	19.4	295.7	234.3
20	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
21	Iron (fe)	mg/l	0.198	0.198	0.193	0.183
22	Manganese (Mn)	mg/l	0.125	0.132	0.136	0.133
23	Zinc as Zn	mg/l	<0.01	0.0114	0.0113	0.0119
24	Boron (B)	mg/l	<0.01	<0.01	<0.01	<0.01
25	Arsenic (As)	mg/l	<0.01	<0.01	<0.01	<0.01
26	Mercury (Hg)	mg/l	<0.01	<0.01	<0.01	<0.01
27	Lead (Pb)	mg/l	<0.01	<0.01	<0.01	<0.01
28	Cadmium (Cd)	mg/l	ND	ND	ND	ND
	Hexavalent					
29	Chromium(Cr+6)	mg/l	<0.01	<0.01	<0.01	<0.01
30	Selenium(Se)	mg/l	<0.01	<0.01	<0.01	<0.01
31	Cyanide (CN)	mg/l	<0.002	<0.002	<0.002	<0.002
32	Phenol (C6H5OH)	mg/l	<0.002	<0.002	<0.002	<0.002
33	Anionic detergents (MBAS)	mg/l	<0.005	<0.005	<0.005	<0.005
34	Sodium(Na)	mg/l	84	88	81	84

Adhunik Power & Natural Resources Limited, Padampur
STACK EMISSION MONITORING REPORT

Sl.No.	PARAMETERS	UNIT-2					Hg
		PM	SO2	NOX			
	AS PER CONSENTED NORMS	50 mg/Nm ³	600 mg/Nm ³	300 mg/Nm ³			0.03 mg/Nm ³
1	Apr-16	32.9	323.4	171.6			<0.01
2	May-16	32.8	315.9	188.7			<0.01
3	Jun-16	36.4	355.1	165.4			<0.01
4	Jul-16	31.9	345.6	188.9			<0.01
5	Aug-16	35.9	381.4	166.8			<0.01
6	Sep-16	36.4	371.5	175.4			<0.01

**Adhunik Power & Natural Resources Limited, Padampur
 AMBIENT AIR QUALITY MONITORING REPORT (Core Zone)**

SI.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	80 µg/m3	60 µg/m3	80 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		



YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited By **National Accreditation Board for Testing & Calibration Laboratory (NABL)** (T 2932, T-2918)
(C-1874)
Jharkhand State Pollution Control Board (JSPCB)

Issued to :- M/s ADHUNIK POWER & NATURAL RESOURCES LIMITED Vill: Padampur, Behind P.G.C.I.I. Substation, Jamshedpur-832105, Jharkhand	Sample Code: - 160829-BA-E01 Report ID :- YBAEEL/JSR/16-08-29/BA/01 Date of Issue: - 15.09.16 Reference :- YBAEEL/AW/JC/AUG-16
Sample Name/Description: - Bottom Ash Sample Quantity: - 10 kg Sample pkg. Condition: - Sealed in plastic bottle	Details of Sampling 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 :-	30 th August 2016	Test completed on :-	13 th 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.

Bajrang Kumar
15/9/16

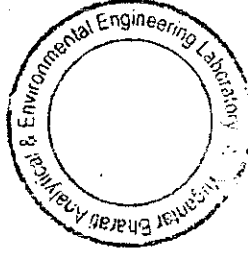
Tested by
(Bajrang Kumar)
Analyst

Sunil Singh

Verified by
(Sunil Singh)
Authorised Signatory

Umesh Das
15/9/16

Issued by
(Umesh Das)
Technical Manager
Technical Manager
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)

Issued to :- MISADHUNIK POWER & NATURAL RESOURCES LIMITED Vill: Padampur, Behind P.G.C.I.L Substation, Jamshedpur-832105, Jharkhand	Sample Code :- 160830-WW-E03 Report ID :- YBAEELJSR/16-08-029/MW/03 Date of Issue: 15.09.16 Reference :- YBAEEL/WAL/CI/Aug-16/09
Sample Name/Description :- Waste Water Sample Quantity :- One litre Sample pkg. Condition :- Sealed in plastic bottle	Details of Sampling 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 :-	30 th August 2016	Test completed on :-	10 th September 2016		
Sl. No.	Tested Parameter	Unit	Results	Method (APHA 22 ND Edition 2012)	Permissible Limit
1.	pH	—	7.75	4500 H+B	5.5-9
2.	Temperature	%	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.

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.

B. Kumar
15/9/16

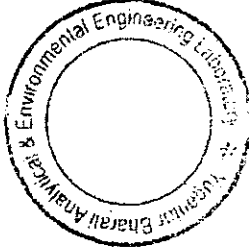
Tested by
(Bajrang Kumar)
Analyst

Sunil Singh
Verified by
(Sunil Singh)

Authorised Signatory

Umesh Das
Issued by
(Umesh Das)
Technical Manager

Technical Manager
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

Adhunik Power & Natural Resource Limited

COAL QUALITY ANALYSIS REPORT ON AS RECEIVED BASIS

31/10/2016

Date	Source	Transporter & DO	LOT	Qty. MT	ARB				GCV kCal/Kg
					ASH%	VM%	S(%)	FC%	
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

Green Belt Development

GREEN BELT DEVELOPMENT	
01	<p>Afforestation</p> <p>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% .</p>
02	<p>Landscape & Gardening</p> <p>We develop world class landscape and garden inside and outside of plant premises to control soil erosion and making healthy working environment</p>



Chota Gamharia, 7. Birbas The detailed social performance report on above development activities is attached as Annexure-1.

Project Highlights for the month of April 2016

1. Ambulance Services: 24 X 7 ambulance facility has been providing to the villagers of peripheral village for better treatment. 15 Nos. of villagers' availed ambulance facilitates during the month.
2. Safe drinking water under project Amrit Dhara: Project Amrit Dhara is especially designed under PPP mode for serving those poorest of poor people of Gamharia Block, Saraikela who are our fellow citizens. Total members are 882 and consumed 132644 liters of safe drinking water in the month of April 2016.
3. Bus facilities: Bus facility has been providing to girls students of peripheral village for higher education at Jamshedpur. About 40 girls' students availed the Bus facilities.
4. Sarana Mahila Samiti initiate spice production at Pindrabera: 14- members of Sarana Mahila Samiti (SHG) at Pindrabera engaged in spice making as their livelihood.
5. Jahir Ayo Mahila Samiti: 15 - members of Jahir Ayo Mahila Samiti Self-help group of Rapcha engaged in Murhi packaging and selling (trading).
6. Tailoring center: Adhunik Power & Natural Resources Limited, Padampur and Nav Nirmla Sansthan have jointly taken up sewing & tailoring training center at Badahariharpur for the village youths under the project Gram Kaushal Vikas on 1st April 2016 for sewing & tailoring training to develop our society which will further help them in pursuing their career.

Report on Corporate Social Responsibility Initiatives

Month: May 2016

**Adhunik Power & Natural Resource Limited (APNRL), Padampur
(Block-Gamharla, District-Saralkela-Kharsawan, Jharkhand)**

Adhunik Power & Natural Resource Limited (APNRL), Padampur, in partnership with Rapcha Gram Panchayat, Dugdha Gram Panchayat, Gamharla Panchayat Samiti / Block and Nav Nirman Sanstha, Jamshedpur had taken up community development projects as a part of corporate social responsibility and executed the development projects in partnership approach in the month of May 2016. The focus areas of development projects were Health, Education, Women Empowerment, Sports, Culture and Infrastructure Development. The community development initiatives were implemented in the villages of Srirampur, Pindrabera, Baraharharpur, Chotaharharpur, Padampur, Bikanipur, Ghutbera, Ramjivanpur, Barkatand, Dhatkidih, Rapcha, Ramchandrapur, Shankerpur, Upperbera, Kandra, Gamharla of Dugdha, Kalikapur, Kandra, Chamaru & Rapcha Gram-Panchayats during the above said month. A total of 8568 Villagers (with the repetitive chance for the same person to benefit from the various activities as mentioned below) from 18 villages of 7 Gram Panchayats reaped developmental benefits through the following developmental initiatives:

Focus Area(s)	ACTIVITIES	No. of Villagers Benefited			No. of Camp(s)	No. of Centre(s)	No. of Unit(s)	No. Villages	No. of Gram Panchayats(s)	Water (liter in Lakh)
		Male	Female	Total						
Health & Sanitation	1. Ambulance services availed by villagers	9	3	12	-	-	-	4	2	-
	2. Safe drinking water under project Amrit Dhara	House hold-911		5466	2	1	15	5	1	1.5
	3. Supply of clean & safe water at govt. school, Badaharharpur	45	40	85	1	-	-	1	1	.01
	4. Drinking Water Supply through tankers	House hold-400		2000	0	0	8	7	3	.4
EDUCATION	1. Project CYBER VILLAGE	59	41	100	-	3	-	17	3	-
	2. Regular Bus facilities for Girls student	-	40	40	-	1	-	6	2	-
	1. SHG group meeting	-	97	97	-	1	-	7	4	-
	2. Spice production	-	14	14	-	-	1	1	1	-
	3. Vermin Compost	-	11	11	-	-	1	1	1	-
WOMEN EMPOWERMENT & Livelihood	4. Murhri packaging	-	15	15	-	1	-	1	1	-
	5. Tailoring Center	-	37	37	-	1	-	3	1	-
SPORTS & Culture	1. Kho-Kho Training	3	5	8	-	1	-	2	1	-
	1. Construction of Bathroom at Badaharharpur	House hold-41		205	-	-	1	1	1	-
Infrastructure Development	2. Construction of Boundary wall of school, Pindrabera	Students		190	-	1	1	3	1	-
	3. Construction of Boundary wall of Graveyard, Badaharharpur	House hold-40		250	-	1	1	3	1	-
	Certificate distribution on 31.5.2016	Rapcha		38	-	1	-	2	1	-
Others Initiatives										
Total								18	7	-
										8568

(i) 18 villages: Srirampur, Pindrabera, Baraharharpur, Chotaharharpur, Padampur, Bikanipur, Ghutbera, Ramjivanpur, Barkatand, Dhatkidih, Rapcha, Ramchandrapur, Shankerpur, Upperbera, Gamharla, Kandra, Virbas, Chota Gamharla, Virbhavajpur (ii) 7 Gram Panchayats: 1. Rapcha, 2. Dugdha, 3. Kandra 4. Kalikapu 5. Chamaru 6.

Chota Gamharia, 7. Birbas The **detailed social performance report** on above development activities is attached as

Project Highlights for the month of May 2016

1. **Ambulance Services:** 24 X 7 ambulance facility has been providing to the villagers of peripheral village for better treatment. 12 Nos. of villagers' availed ambulance facilitates during the month.
2. **Safe drinking water under project Amrit Dhara:** Project Amrit Dhara is especially designed under PPP mode for serving those poorest of poor people of Gamharia Block, Saraikela who are our fellow citizens. Total members are 911 and consumed 146503 liters of safe drinking water in the month of May2016.
3. **Bus facilities:** Bus facility has been providing to girls students of peripheral village for higher education at Jamshedpur. About 40 girls' students availed the Bus facilities.
4. **Sarana Mahila Samiti initiate spice production at Pindrabera:** 14- members of Sarana Mahila Samiti (SHG) at Pindrabera engaged in spice making as their livelihood.
5. **Jahir Ayo Mahila Samiti:** 15 - members of Jahir Ayo Mahila Samiti Self-help group of Rapcha engaged in Murthi packaging and selling (trading).
6. **Tailoring center:** On 27.5.2016, conducted theory and practical exam of tailoring at sewing & tailoring training center, Rapcha. Total 19 students appeared in the examination.

Report on Corporate Social Responsibility Initiatives

Month: June 2016

**Adhunik Power & Natural Resource Limited (APNRL), Padampur
(Block-Gamharia, District-Saraikela-Kharsawan, Jharkhand)**

Adhunik Power & Natural Resource Limited (APNRL), Padampur, in partnership with Rapcha Gram Panchayat, Dugdha Gram Panchayat, Gamharia Panchayat Samiti / Block and Nav Nirman Sanstha, Jamshedpur had taken up community development projects as a part of corporate social responsibility and executed the development projects in partnership approach in the month of June 2016. The focus areas of development projects were Health, Education, Women Empowerment, Sports, Culture and Infrastructure Development. The community development initiatives were implemented in the villages of Srirampur, Pindrabera, Baraharharpur, Chotaharharpur, Padampur, Bikanipur, Ghutbera, Ramjivanpur, Barkatand, Dhatkidih, Rapcha, Ramchandrapur, Shankerpur, Upperbera, Kandra, Gamharia of Dugdha, Kalikapur, Kandra, Chamaru & Rapcha Gram-Panchayats during the above said month. A total of 8737 Villagers (with the repetitive chance for the same person to benefit from the various activities as mentioned below) from 18 villages of 7 Gram Panchayats reaped developmental benefits through the following developmental initiatives:

Focus Area(s)	ACTIVITIES	No. of Villagers Benefited			No. of Camp(s)	No. of Centre(s)	No. of Unit(s)	No. Villages	No. of Gram Panchayats(s)	(Liter in Lakh) Water
		Male	Female	Total						
Health & Sanitation	1. Ambulance services availed by villagers	08	6	14	-	-	-	4	2	-
	2. Safe drinking water under project Amrit Dhara	House hold-942		5652	2	1	15	5	1	1.6
	3. Supply of clean & safe water at govt. school, Badaharharpur	45	40	85	1	-	-	1	1	.01
	4. Drinking Water Supply through tankers	House hold-400		2000	0	0	10	5	2	.4
EDUCATION	1. Project CYBER VILLAGE	59	41	100	-	3	-	17	3	-
	2. Regular Bus facilities for Girls student	-	40	40	-	1	-	6	2	-
	1. SHG group meeting	-	98	98	-	1	-	7	4	-
	2. Spice production	-	14	14	-	-	1	1	1	-
	3. Vermin Compost	-	11	11	-	-	1	1	1	-
WOMEN EMPOWERMENT & Livelihood	4. Murhri packaging	-	15	15	-	1	-	1	1	-
	5. Tailoring Center	-	19	19	-	1	-	3	1	-
	1. Kho-Kho Training	3	5	8	-	1	-	2	1	-
SPORTS & Culture	1. Construction of Bathroom at Badaharharpur	House hold-41		205	-	-	1	1	1	-
	2. Construction of Boundary wall of school, Pindrabera	Students		190	-	1	1	3	1	-
	3. Construction of Boundary wall of Graveyard, Badaharharpur	House hold-40		250	-	1	1	3	1	-
Others Initiatives	Certificate distribution on 30.6.2016	Rapcha		36	-	1	-	2	1	-
	Total			8737	-	-	-	18	7	-

(i) 18 villages: Srirampur, Pindrabera, Baraharharpur, Chotaharharpur, Padampur, Bikanipur, Ghutbera, Ramjivanpur, Barkatand, Dhatkidih, Rapcha, Ramchandrapur, Shankerpur, Upperbera, Gamharia, Kandra, Virbas, Chota Gamharia, Virbhavajpur (ii) 7 Gram Panchayats: 1. Rapcha, 2. Dugdha, 3. Kandra 4. Kalikapu 5. Chamaru 6.

Chota Gamharia, 7. Birbas The **detailed social performance report** on above development activities is attached as

Project Highlights for the month of June 2016

1. **Ambulance Services:** 24 X 7 ambulance facility has been providing to the villagers of peripheral village for better treatment. 14 Nos. of villagers' availed ambulance facilitates during the month.
2. **Safe drinking water under project Amrit Dhara:** Project Amrit Dhara is especially designed under PPP mode for serving those poorest of poor people of Gamharia Block, Saraikela who are our fellow citizens. Total members are 942 and consumed 161869 liters of safe drinking water in the month of June 2016.
3. **Bus facilities:** Bus facility has been providing to girls students of peripheral village for higher education at Jamshedpur. About 40 girls' students availed the Bus facilities.
4. **Jahir Ayo Mahila Samiti:** 15 - members of Jahir Ayo Mahila Samiti Self-help group of Rapcha engaged in Murhri packaging and selling (trading).
5. **Certificate Distribution Function:** The students of 5th batch of Project Cyber Village, Rapcha has completed their 6 months computer course and qualified the final examination.

Report on Corporate Social Responsibility Initiatives

Month: July 2016

**Adhunik Power & Natural Resource Limited (APNRL), Padampur
(Block-Gamharria, District-Saraikeila-Kharsawan, Jharkhand)**

Adhunik Power & Natural Resource Limited (APNRL), Padampur, in partnership with Rapcha Gram Panchayat, Dugdha Gram Panchayat, Gamharria Panchayat Samiti / Block and Nav Nirman Sanstha, Jamshedpur had taken up community development projects as a part of corporate social responsibility and executed the development projects in partnership approach in the month of July 2016. The focus areas of development projects were Health, Education, Women Empowerment, Sports, Culture and Infrastructure Development. The community development initiatives were implemented in the villages of Srirampur, Pindrabera, Barahariharpur, Chotahariharpur, Padampur, Bikanipur, Ghutbera, Ramjivanpur, Barkatand, Dhatkidih, Rapcha, Ramchandrapur, Shankerpur, Upperbera, Kandra, Gamharria of Dugdha, Kalikapur, Kandra, Chamara & Rapcha Gram-Panchayats during the above said month. A total of 7879 Villagers (with the repetitive chance for the same person to benefit from the various activities as mentioned below) from 18 villages of 7 Gram Panchayats reaped developmental benefits through the following developmental initiatives:

Focus Area(s)	ACTIVITIES	No. of Villagers Benefited			No. of Camps)	No. of Centre(s)	No. of Unit(s)	No. Villages	No. of Gram Panchayts(s)	Water (Liter in Lakh)
		Male	Female	Total						
Health & Sanitation	1. Ambulance services availed by villagers	09	13	22	-	-	-	3	2	-
	2. Safe drinking water under project Amrit Dhara	House hold-962		5772	2	1	15	5	1	1.3
	3. Supply of clean & safe water at govt. school, Badahariharpur	45	40	85	1	-	-	1	1	.01
	4. Drinking Water Supply through tankers	House hold-200		1000	0	0	10	5	2	2
EDUCATION	1. Project CYBER VILLAGE	59	41	100	-	3	-	17	3	-
	2. Regular Bus facilities for Girls student	-	40	40	-	1	-	6	2	-
	1. SHG group meeting	-	98	98	-	1	-	7	4	-
	2. Spice production	-	14	14	-	-	1	1	1	-
	3. Vermin Compost	-	11	11	-	-	1	1	1	-
SPORTS & Culture	4. Murhri packaging	-	15	15	-	1	-	1	1	-
	5. Tailoring Center	-	19	19	-	1	-	3	1	-
	1. Kho-Kho Training	3	5	8	-	1	-	2	1	-
	1. Construction of Bathroom at Badahariharpur	House hold-41		205	-	-	1	1	1	-
	2. Construction of Boundary wall of school, Pindrabera	Students		190	-	1	1	3	1	-
Others Initiatives	3. Construction of Boundary wall of Graveyard, Badahariharpur	House hold-40		250	-	1	1	3	1	-
	Certificate distribution on 23.7.2016	Dugdha		50	-	1	-	2	1	-
Total				7879				18	7	

(i) 18 villages: Srirampur, Pindrabera, Barahariharpur, Chotahariharpur, Padampur, Bikanipur, Ghutbera, Ramjivanpur, Barkatand, Dhatkidih, Rapcha, Ramchandrapur, Shankerpur, Upperbera, Gamharria, Kandra, Virbas, Chota Gamharria, Virdhavajpur (ji) 7 Gram Panchayats: 1. Rapcha, 2. Dugdha, 3. Kandra 4 Kalikapu 5 Chamaur 6.

Chota Gamharia, 7. Birbas The **detailed social performance report** on above development activities is attached as

Project Highlights for the month of July 2016

1. **Ambulance Services:** 24 X 7 ambulance facility has been providing to the villagers of peripheral village for better treatment. 22 Nos. of villagers' availed ambulance facilitates during the month.
2. **Safe drinking water under project Amrit Dhara:** Project Amrit Dhara is especially designed under PPP mode for serving those poorest of poor people of Gamharia Block, Saraikela who are our fellow citizens. Total members are 962 and consumed 136649 liters of safe drinking water in the month of July 2016.
3. **Bus facilities:** Bus facility has been providing to girls students of peripheral village for higher education at Jamshedpur. About 40 girls' students availed the Bus facilities.
4. **Jahir Ayo Mahila Samiti:** 15 - members of Jahir Ayo Mahila Samiti Self-help group of Rapcha engaged in Murthi packaging and selling (trading).
5. **Certificate Distribution Function:** The students of Project Cyber Village, Dugdha has completed their 6 months computer course and qualified the final examination.

Report on Corporate Social Responsibility Initiatives

Month: August 2016

**Adhunik Power & Natural Resource Limited (APNRL), Padampur
(Block-Gamharia, District-Saraikela-Kharsawan, Jharkhand)**

Adhunik Power & Natural Resource Limited (APNRL), Padampur, in partnership with Rapcha Gram Panchayat, Dugdha Gram Panchayat, Gamharia Panchayat Samiti / Block and Nav Nirman Sanstha, Jamshedpur had taken up community development projects as a part of corporate social responsibility and executed the development projects in partnership approach in the month of August 2016. The focus areas of development projects were Health, Education, Women Empowerment, Sports, Culture and Infrastructure Development. The community development initiatives were implemented in the villages of Srirampur, Pindrabera, Baraharharpur, Chotahariharpur, Padampur, Bikanipur, Ghutbera, Ramjivanpur, Barkatand, Dhatkidih, Rapcha, Ramchandrapur, Shankerpur, Upperbera, Kandra, Gamharia of Dugdha, Kalikapur, Kandra, Chamaru & Rapcha Gram-Panchayats during the above said month. A total of 7486 Villagers (with the repetitive chance for the same person to benefit from the various activities as mentioned below) from 18 villages of 7 Gram Panchayats reaped developmental benefits through the following developmental initiatives:

Focus Area(s)	ACTIVITIES	No. of Villagers Benefited			No. of Camp(s)	No. of Centre(s)	No. of Unit(s)	No. Villages	No. of Gram Panchayts(s)	Water (Liter in Lakh)
		Male	Female	Total						
Health & Sanitation	1. Ambulance services availed by villagers	11	13	24	-	-	-	3	2	-
	2. Safe drinking water under project Amrit Dhara	House hold-981		5886	2	1	15	5	1	1.3
	3. Supply of clean & safe drinking water at govt. school, B'harharpur	45	40	85	1	-	-	1	1	.01
	4. Drinking Water Supply through tankers	House hold-100		500	0	0	2	1	1	1
EDUCATION	1. Project CYBER VILLAGE	45	36	81	-	3	-	17	3	-
	2. Regular Bus facilities for Girls student	-	40	40	-	1	-	6	2	-
	1. SHG group meeting	-	98	98	-	1	-	7	4	-
	2. Spice production	-	14	14	-	-	1	1	1	-
	3. Vermin Compost	-	11	11	-	-	1	1	1	-
WOMEN EMPOWERMENT & Livelihood	4. Murhri packaging	-	15	15	-	1	-	1	1	-
	5. Tailoring Center	-	19	19	-	1	-	3	1	-
	1. Kho-Kho Training	3	5	8	-	1	-	2	1	-
	1. Construction of Bathroom at Badahariharpur	House hold-41		205	-	-	1	1	1	-
	2. Construction of Boundary wall of school, Pindrabera	Students		190	-	1	1	3	1	-
Infrastructure Development	3. Construction of Boundary wall of Graveyard, Badahariharpur	House hold-40		250	-	1	1	3	1	-
	Mahila Samelan on 20.8.2016	Dugdha		60	-	1	-	1	1	-
	Total			7486	-	-	-	18	7	-

(i) 18 villages: Srirampur, Pindrabera, Baraharharpur, Chotahariharpur, Padampur, Bikanipur, Ghutbera, Ramjivanpur, Barkatand, Dhatkidih, Rapcha, Ramchandrapur, Shankerpur, Upperbera, Gamharia, Kandra, Virbas, Chota Gamharia, Virbhavajpur (ii) 7 Gram Panchayats: 1. Rapcha, 2. Dugdha, 3. Kandra 4 Kalikapu 5 Chamaur 6.

Chota Gamharia, 7. Birbas The *detailed social performance report* on above development activities is attached as

Project Highlights for the month of August 2016

1. **Ambulance Services:** 24 X 7 ambulance facility has been providing to the villagers of peripheral village for better treatment. 24 Nos. of villagers' availed ambulance facilitates during the month.
2. **Safe drinking water under project Amrit Dhara:** Project Amrit Dhara is especially designed under PPP mode for serving those poorest of poor people of Gamharia Block, Saraikeela who are our fellow citizens. Total members are 981 and consumed 130332 liters of safe drinking water in the month of August 2016.
3. **Bus facilities:** Bus facility has been providing to girls students of peripheral village for higher education at Jamshedpur. About 40 girls' students availed the Bus facilities.
4. **Jahir Ayo Mahila Samiti:** 15 - members of Jahir Ayo Mahila Samiti Self-help group of Rapcha engaged in Murhi packaging and selling (trading).
5. **Mahila Sammelan :** On 20th August 2016, a **Mahila Sammelan** was organized at **Dugdha Gram Panchayat** with few objectives as follows:
 - ✦ To learn cum sharing of experiences through Peer learning process.
 - ✦ To strengthen the SHG groups at village level and link them with different livelihood opportunities.60 Women from the periphery villages like Dugdha, Haredih, Kuchidih, Aamdih, pratapur, Barahariharpur, Ramjivanpur and Barkatarh participated in this workshop.

Report on Corporate Social Responsibility Initiatives

Month: September 2016

**Adhunik Power & Natural Resource Limited (APNRL), Padampur
(Block-Gamharlia, District-Saralkela-Kharsawan, Jharkhand)**

Adhunik Power & Natural Resource Limited (APNRL), Padampur, in partnership with Rapcha Gram Panchayat, Dugdha Gram Panchayat, Gamharlia Panchayat Samiti / Block and Nav Nirman Sanstha, Jamshedpur had taken up community development projects as a part of corporate social responsibility and executed the development projects in partnership approach in the month of September 2016. The focus areas of development projects were Health, Education, Women Empowerment, Sports, Culture and Infrastructure Development. The community development initiatives were implemented in the villages of Srirampur, Pindrabera, Barahariharpur, Chotahariharpur, Padampur, Bikanipur, Ghutbera, Ramjivanpur, Barkatand, Dhatkidih, Rapcha, Ramchandrapur, Shankerpur, Upperbera, Kandra, Gamharlia of Dugdha, Kalikapur, Kandra, Chamaru & Rapcha Gram-Panchayats during the above said month. A total of 7136 Villagers (with the repetitive chance for the same person to benefit from the various activities as mentioned below) from 18 villages of 7 Gram Panchayats reaped developmental benefits through the following developmental initiatives:

Focus Area(s)	ACTIVITIES	No. of Villagers Benefited			No. of Camps)	Centre(s)	No. of Unit(s)	No. Villages	No. of Gram Panchayts(s)	Water (Liter In Lakh)
		Male	Female	Total						
Health & Sanitation	1.Ambulance services availed by villagers	10	13	23	-	-	-	4	2	-
	2.Health Check-up of Villagers,OHC	48	92	140	-	-	-	6	2	-
	3. Safe drinking water under project Amrit Dhara	House hold-998		5988	2	1	15	5	1	1.3
	4. Supply of clean & safe water at govt. school, Badahariharpur	45	40	85	1	-	-	1	1	.01
EDUCATION	1. Project CYBER VILLAGE	45	36	81	-	3	-	17	3	-
	2. Regular Bus facilities for Girls student	-	40	40	-	1	-	6	2	-
WOMEN EMPOWERMENT & Livelihood	1. SHG group meeting	-	81	81	-	1	-	7	4	-
	2. Vermin Compost	-	11	11	-	-	1	1	1	-
	3. Murchri packaging	-	15	15	-	1	-	1	1	-
	4. Tailoring Center	-	19	19	-	1	-	3	1	-
SPORTS & Culture	1. Kho-Kho Training	3	5	8	-	1	-	2	1	-
Infrastructure Development	1. Construction of Bathroom at Badahariharpur	House hold-41		205	-	-	1	1	1	-
	2.Constrction of Boundary wall of school, Pindrabera	Students		190	-	1	1	3	1	-
	3. .Construction of Boundary wall of Graveyard, Badahariharpur	House hold-40		250	-	1	1	3	1	-
Total			7136				18	7		

(i) 18 villages: Srirampur, Pindrabera, Barahariharpur, Chotahariharpur, Padampur, Bikanipur, Ghutbera, Ramjivanpur, Barkatand, Dhatkidih, Rapcha, Ramchandrapur, Shankerpur, Upperbera, Gamharlia ,Kandra, Virbas, Chota Gamharlia, Virdhavajpur (ii) 7 Gram Panchayats: 1. Rapcha, 2. Dugdha, 3. Kandra 4 Kalikapu 5 Chamaur 6. Chota Gamharlia, 7. Birbas.

Project Highlights for the month of September 2016

1. **Ambulance Services:** 24 X 7 ambulance facility has been providing to the villagers of peripheral village for higher treatment. 23 Nos. of villagers' availed ambulance facilitates during the month.
2. **Health check-up & Treatment:** A total of **140 village patients** including **48 males** and **92 females** underwent health check-up and received medical treatment.
3. **Project CYBER VILLAGE:** 81 students are attending classes under Project Cyber Village in three centers namely Badaharharpur, Dugdha & Rapcha.
4. **Safe drinking water under project Amrit Dhara:** Project Amrit Dhara is especially designed under PPP mode for serving those poorest of poor people of Gamharia Block, Saraikela who are our fellow citizens. Total members are 981 and consumed 127315liters of safe drinking water in the month of September2016.
5. **Bus facilities:** Bus facility has been providing to girls students of peripheral village for higher education at Jamshecpur. About 40 girls' students availed the Bus facilities.
6. **Jahir Ayo Mahila Samiti:** 15 - members of Jahir Ayo Mahila Samiti Self-help group of Rapcha engaged in Murhi packaging and selling (trading).

Adhunik Power & Natural Resources Ltd, Padampur

WATER SAMPLE ANALYSIS RESULT OF GUARD POND

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

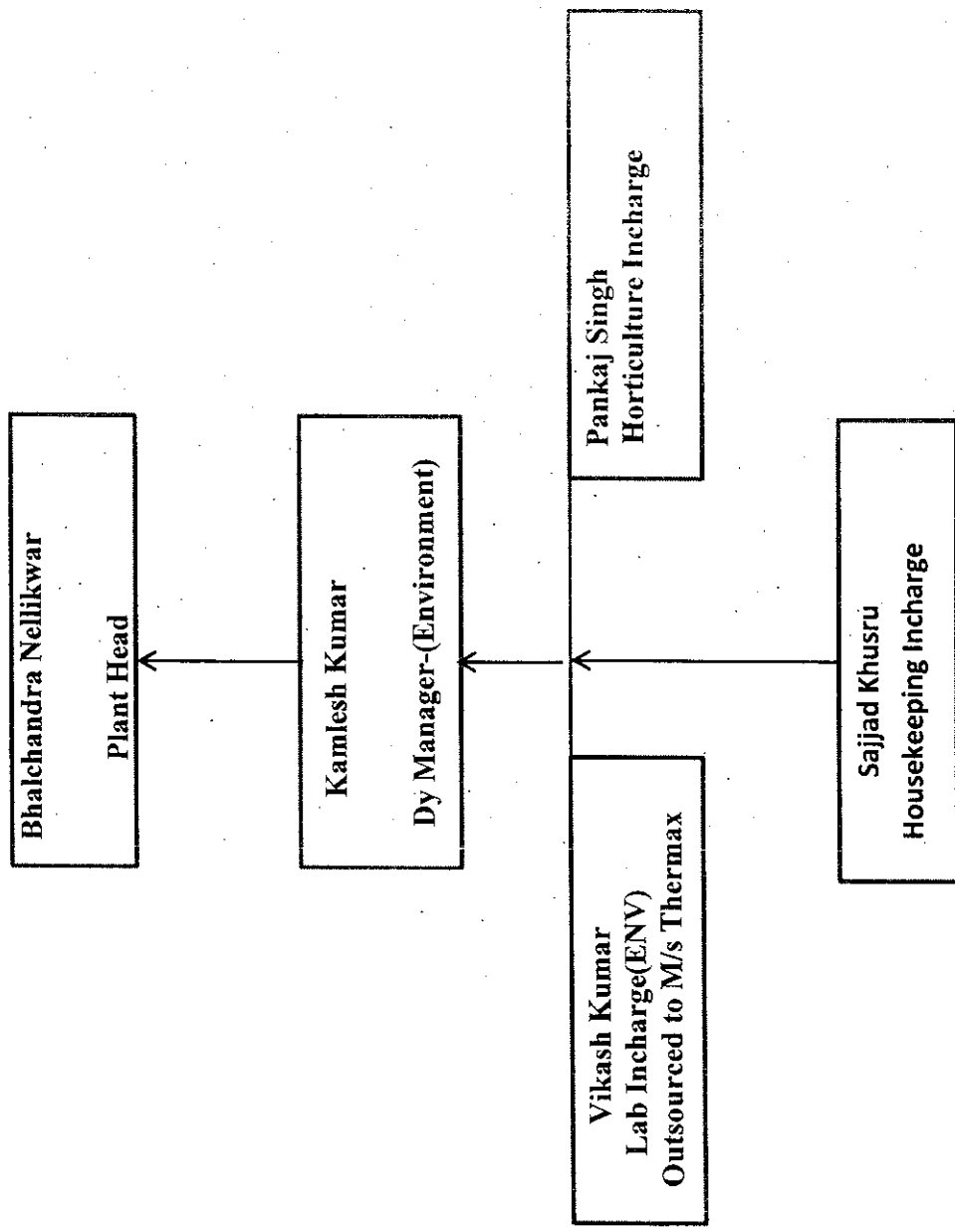
* Treated Water used for dust suppression & Horticulture work.

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	85 dBA		
		75 dBA	70 dBA	75 dBA	70 dBA	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

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 No APNRL/JSPCB/ES/2015-16/02

Date: 14th Sep 2016

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
2015-16.

This is for your kind information & record please.

Thanking You

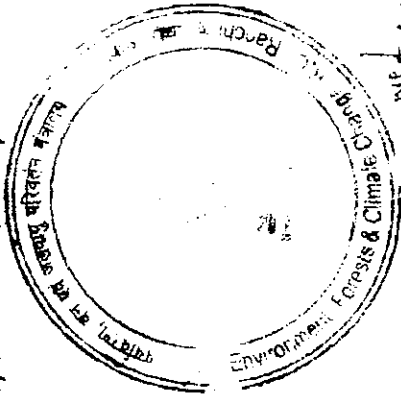
Your's faithfully



Bhalchandra Nellikwar
(Plant Head)

Encl: As mentioned above

CC: 1. The Regional Office(ECZ)
Ministry of Environment & Forest & Climate Change,
Buggalow No. A-2, Shyamali Colony, Ranchi-834002

2. The Regional Officer
Jharkhand Pollution Control Board
Jamshedpur




15.9.16

9/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 /02

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 II) for the period –
October 2015 to March 2016,-Reg.

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

Sir,

With reference to the above referred Environmental Clearance, we are pleased to submit
herewith the half yearly compliance status report (Unit II) 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

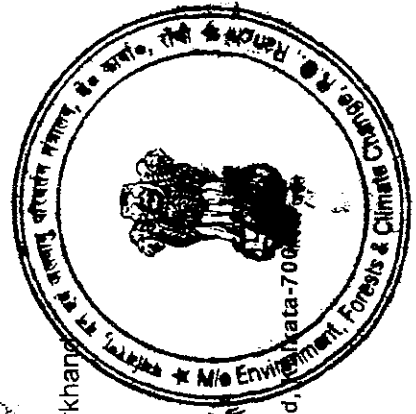
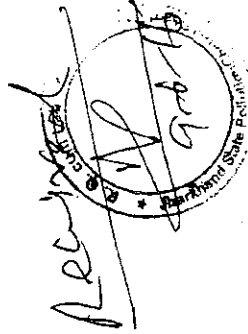
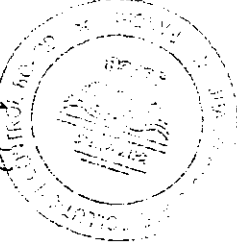
(Authorized Signatory)

Encl: As Above

Copy to:

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

Recd
Book 10
9/6/16



Received
Book 10
9/6/16

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

**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		
		Energy	Other cost	Total Cost
1	ESP operation & Maintenance	111.73	4.33	116.06
2	ETP & STP operation & Maintenance	14.66	9.26	23.92
3	Plant Housekeeping	0.00	36.44	36.44
4	DE System Operation & Maintenance	21.96	2.23	24.19
5	DS operation & Maintenance	0.25	2.84	3.09
6	Green Belt development	0.10	6.89	6.99
7	Environment Management system(Monitoring, Equipment Calibration, Clebration of Environment Programmes & Preparation of Environment Audit, ESMS report)	0.68	4.63	5.31
8	Ash disposal system	0.00	247.03	247.03
9	Rain water harvesting system	0.00	0.15	0.15
10	CAAQMS & CEMS Operation & Maintenance	0.00	0.75	0.75
		149.38	314.55	463.93