

SIX MONTHLY COMPLIANCE STATUS OF
CONDITIONS STIPULATED IN
ENVIRONMENTAL CLEARANCE (EC)
OF
M/S PRAYAGRAJ POWER GENERATION COMPANY
LIMITED
(3X660 MW)
FOR THE PERIOD October 2016 to March 2017

Name of Project: 3x660MW THERMAL POWER PROJECT at BARA, Allahabad, (UP) of M/s Prayagraj Power Generation Co. Ltd (PPGCL)

Project Code: 1 (d) Thermal Power Plants

Clearance letter No: J-13011/60/2008-1A.II (T) 08.09.2009 and Extension of validity letter No J-13011/60/2008 – I A.II (T) dated 23.03.2015

Period of Compliance Report: October 2016 to March 2017

S.No	<u>Stipulated Conditions</u>	<u>Compliance Status</u>
(i)	No additional land in excess of 1468 acres Ha shall be acquired for any activity/facility of this project	No additional land shall be acquired for the project.
(ii)	A certificate from the Tehsildar for the land use of the project area with respect to single crop/double crop shall be furnished within 15 days from the date of the issue of this letter.	Complied, Required certificate for land use, issued by Tehsildar was submitted vide letter No. PPGCL/109 dated 22.8.2009.
(iii)	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.5% and 34% respectively at any given time.	It is ensured that sulphur content in coal will be below 0.5 % and Ash content below 34% respectively.
(iv)	Two stacks (one bi-flue and one single flue) of 275 m height each shall be provided with continuous on line monitoring equipments for SOx and NOx	275 m high stacks (one bi flue and one single flue) have been constructed & Installation of flue structure stack has been completed.

	<p>particulate matter. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack may also be monitored on periodic basis.</p>	<p>The monitoring values for Particulate matter of stack emission are well within the limits. The monitoring values of Particulate Matter, SO₂, NO_x & Hg for the period from October 2016 to March 2017 is enclosed as Annexure No 'A' for reference. Monitoring conducted by M/S Prakriti Consultant Services, Lucknow (An approved Laboratory of MOEF, New Delhi & U.P. Pollution Control Board , Lucknow) results also enclosed as Annexure No. "AA1 - AA4"</p> <p>The continuous on line monitoring equipments are installed and commissioned. These are continuously operational. The data is continuously displayed over screen in main CCR. Online data transfer to CPCB is pending. It will be made available shortly.</p> <p>Average exit velocity of flue gases from stack for the period from October 2016 to March 2017 was 24.89m/s.</p>
(v)	<p>High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³.</p>	<p>Complied.</p> <p>The ESP package awarded to M/S BHEL (A Govt. Of India Undertaking) has been installed, commissioned & continuously operational. Particulate matter emission from stack is well below the prescribed limits i.e. 50 mg/Nm³. The results of same is enclosed as Annexure No "A" & "AA1-AA4"</p>
(vi)	<p>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.</p>	<p>Bag filters at coal crusher house and dust suppression system at wagon tippler & Transfer points have been installed and continuously operational.</p> <p>Dust extraction system has been installed and continuously operational at AHP area.</p>
(vii)	<p>Fly ash shall be collected in dry form and storage facility (silos) shall be provided. 100% fly ash utilization shall be ensured from 4th year onwards. 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 and also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.</p>	<p>RCC Silo's have been constructed for receiving and storage of dry fly ash from ESP hoppers. We are utilizing fly ash for manufacture of Portland Pozzolana Cement to nearby cement plants. One Clinker Grinding Unit is under construction which will utilize the fly ash generated from Thermal Power Plant for manufacturing of Pozzolana Cement.</p> <p>Mercury and other heavy metals monitored in the bottom ash and from the effluents of existing ash pond at "IITR Lucknow". The results</p>

		of same are enclosed as Annexure no B.
(viii)	Ash pond shall be lined with HDP lining. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	Ash pond lined with HDP lining. Adequate safety measures have been adopted to protect the ash dyke from getting breached.
(ix)	Closed cycle cooling system with natural draft cooling towers shall be provided. The effluents shall be treated as per the prescribed norms. COC of 5 shall be adopted.	Complied.
(x)	No ground water shall be extracted for the project work at any stage.	It is being complied with. Water is being taken from Yamuna river through pipe line.
(xi)	The treated effluents conforming to the prescribed standards only 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.	Complied. The plant has been designed with zero discharge concepts. The treated effluent is re-circulated and re-used within the plant. The monitoring conducted by M/S Prakriti Consultant Services , Lucknow (An approved Laboratory of MOEF, New Delhi & U.P. Pollution Control Board , Lucknow) results also enclosed as Annexure No. "CC1-CC3". Total Suspended Solids & BOD of treated effluent is well within the prescribed limits i.e. 100 mg/l & 30 mg/l respectively. The results of same are enclosed as Annexure No "C" .
(xii)	A sewage treatment plant shall be provided and the treated sewage shall be used for raising green belt/plantation.	Complied. The treated sewage water is being used for raising green belt / plantation.
(xiii)	Rain water harvesting should be adopted. Central Ground Water Authority/Board shall be consulted for finalization of appropriate rain water harvesting technology within a period of three months from the date of clearance and details shall be furnished.	Complied. Central Ground Water Authority (CGWA), Allahabad Office has been consulted for appropriate rain water harvesting system. The suggestion of Central Ground Water Authority (CGWA) regarding rain water harvesting has already been submitted vide letter no PPGCL/BARA/MOEF/15/10/169 dated: 27.04.15 As advised by Central Ground Water Authority (CGWA), four no's of Piezometers have been installed for ground water monitoring and water storage facilities have been created for rain

		water storage.
(xiv)	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yards, especially during summer season. Copy of these measures with full details along with location plant lay out shall be submitted to the Ministry as well as to the Regional Office of the Ministry at Lucknow.	<p>Complied.</p> <p>Fire protection system for plant inter-alia includes measure to check / minimize spontaneous fires in coal yard.</p> <p>We have already submitted the details of fire protection system to check / minimize spontaneous fires in coal yard with plant lay out vide our letter no PPGCL/BARA/MOEF/14/05 Date 09.05.2014</p>
(xv)	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 contents 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.	<p>Complied.</p> <p>Explosive License of storage facilities of liquid fuel such as LDO/HFO/LSHS has already been submitted vide letter no PPGCL/BARA/MOEF/15/10/169 dated: 27.04.15</p> <p>Disaster Management Plan has been prepared & submitted to Director of Factories, Govt. of U.P. vide letter no PPGCL/Bara/2015-16/592 dated 08.09.2015</p>
(xvi)	Regular monitoring of ground water in and around ash pond area including heavy metals (Hg, Cr, As, Pb) shall be carried out, records maintained and six monthly reports shall be furnished to the Regional Office of this Ministry. The 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 project.	<p>Will be complied with.</p> <p>The extract of 10 no of ground water quality analysis report of Indian Institute of Toxicology Research, Lucknow for the period of May 2013 has already been submitted along with six monthly compliances status for period of April 2013 to Sept 2013 vide letter no PPGCL/NOIDA/MOEF/13/11 dated 14.11.2013</p> <p>The extract of 10 no of ground water quality analysis report of M/s Ecomen Laboratories Pvt. Ltd. Lucknow (An approved laboratory of Ministry of Environment & Forest, New Delhi) for the period of May 2014 has also been submitted along with six monthly compliances status for the period of April 2014 to Sept 2014 vide letter no PPGCL/BARA/MOEF/14/11 dtd 14.11.2014.</p> <p>The extract of 11 no of dug well & Piezometers (ground water quality) analysis report of Indian Institute of Toxicology Research, Lucknow for the period May 2015(Pre-monsoon) has already been submitted along with six monthly compliances status for the period of April 2015 to Sept 2015 vide our letter no PPGCL / BARA / MOEF / 15 / 10 / 778 dated 31.10.2015</p>

		<p>The extract of 11 no of dug well & Piezometers (ground water quality) analysis report of Indian Institute of Toxicology Research, Lucknow is attached as "Annexure no D" (samples were collected in June 2016 during pre monsoon season)</p> <p>The monitoring data shall be compared with baseline data when plant becomes fully operational.</p>
(xvii)	A green belt of adequate width and density shall be developed around the plant periphery covering 1/3 of total area preferably with local species.	<p>Green belt is being developed simultaneously in phased manner along with completion /commissioning of thermal plant.</p> <p>Up to 31th March 2017 1,95,722 no's saplings have been planted.</p>
(xviii)	First-Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	<p>Complied</p> <p>One dispensary is in operation. Four doctors along with Para-medical staff are already posted.</p> <p>Two Ambulances and one medical mobile van are deployed at site.</p> <p>Sanitation facility for contract workers has been provided.</p>
(xix)	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited of 75 dB (A). For people working in the high noise area, requisite personal protective equipments like ear-plugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine areas, 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.	<p>It is being complied with.</p> <p>The equipments have been designed to control noise level below 75 dB (A).</p> <p>For people working in the high noise area, requisite personal protective equipments like ear-plugs/ ear muffs etc are provided.</p> <p>The ambient noise monitoring is being done on regular basis. The monitoring results were observed well within the prescribed norms of CPCB and results are enclosed as Annexure No "E". The monitoring conducted by M/S Prakriti Consultant Services , Lucknow (An approved Laboratory of MOEF, New Delhi & U.P. Pollution Control Board , Lucknow) results also enclosed as Annexure No. "EE"</p>
(xx)	Regular monitoring of ground level concentration of SO ₂ , NO _x , RSPM and Hg shall be carried out in the impact zone and records maintained. If at any stage, these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry.	<p>Complied.</p> <p>The locations of the monitoring stations have been approved by U. P. Pollution Control Board (UPPCB) vide our letter no PPGCL / BARA / MOEF / 14 / 05 Dated 09.05.2014.</p> <p>The Ambient air quality monitoring stations have been constructed. Equipments are installed and commissioned at respective sites. Stations are fully operational and the online</p>

	The data shall also be put on the web site of the company.	data is continuously conveyed to CPCB through server. The monitoring report of ambient air quality for the month of April 2016 to September 2016 is enclosed as Annexure No "F" and monitoring conducted by M/S Prakriti Consultant Services, Lucknow (An approved Laboratory of MOEF, New Delhi & U.P. Pollution Control Board, Lucknow) results also enclosed as Annexure No. "FF1-FF3"
(xxi)	A good action plan for R&R with package for the project affected persons be provided as per prevalent R&R policy within three months from the date of issue of this letter.	Complied. R&R policy 2003 is being implemented as directed by the State Govt. and all necessary facilities/amenities are being developed.
(xxii)	An amount of Rs. 32 crores as capital and Rs. 6 crores/annum as recurring should be earmarked for activities to be taken up under CSR by the above proponent. Details of the activities to be undertaken in this regard should be submitted within one month from the date of issue of this letter.	Complied. Details of the CSR activities to be undertaken along with the budgeted provision has already been intimated to MOEF vide our letter No. PPGCL/113 dated 27.10.2009. The present status under CSR activities is attached in Annexure No "G"
(xxiii)	Provision shall be made for the housing of the construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health structures to be removed after the completion of the project.	Complied Temporary Housing Facility for labours with necessary arrangements for cooking, toilets, drinking water etc. along with doctor and Para-medical staff has been provided in the plant premises.
(xxiv)	The project proponent shall be advertised 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 the web site of the Ministry of Environment and Forests at http://envfor.nic.in	Complied. Advertisement was published in the Hindustan Times, The Times of India (English) Daily and Dainik Jagran and Amar Ujala (Hindi Daily) on 7 th Oct. 2009 immediately after receipt of EC.
(xxv)	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 is 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.	Complied Copy of the clearance letter has already been sent to the concerned departments as prescribed.

(xxvi)	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	At present, one G.M. (Chemistry) has been appointed & posted at site. Environment Monitoring cell with a well equipped Environmental Laboratory has been established with qualified manpower.
(xxvii)	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 Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely SPM, RSPM SO ₂ , 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>Shall be complied with.</p> <p>Continuous ambient air quality monitoring equipments have been installed and commissioned. Stations are fully operational and the online data is continuously conveyed to CPCB through server.</p> <p>Criteria pollutants levels including PM₁₀, PM_{2.5}, SO₂, NO_x & Hg from stack and Ambient air are monitored regularly, results are continuously displaying at Main gate.</p>
(xxviii)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well by e-mail) to the respective Regional office of MOEF, the respective Zonal Office of CPCB and the SPCB.	<p>It is being complied with. Six monthly reports on the status of compliance of stipulated EC conditions is being sent as advised on regular basis.</p> <p>We have already submitted the six monthly compliance status of environment clearance report for the period of April 2016 to September 2016 vide our letter no PPGCL / BARA / MOEF / 16 / 10 / dated 24.10.2016.</p>
(xxix)	The environment statement for each financial year ending 31 st 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 EC conditions and shall also be sent to the respective Regional Offices of MOEF by e-mail.	<p>Complied.</p> <p>Environment statement report for FY 2015-2016 has been submitted to respective offices.</p>
(xxx)	Regional office of the Ministry of Forests located at Lucknow will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project Proponent will upload the compliance status in their website and update the same from time to time at least six monthly basis. Criteria pollutants levels (stack &	<p>Complied.</p> <p>EIA/EMP report, DPR and other relevant documents have already been submitted to the Regional Office of MOEF at Lucknow.</p> <p>Criteria pollutants levels including PM₁₀, PM_{2.5}, SO₂, NO_x & Hg from stack and Ambient air are monitored regularly, results are continuously displaying at Main gate. Results are also conveyed online to CPCB server.</p>

	ambient levels of NOx) will be displayed at the main gate of the power plant.	
(xxxi)	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.	Complied. We have earmarked Rs. 300 crores for the environmental protection measures.
(xxxii)	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 dates of start of land development work and commissioning of plant.	Financial closure was obtained on 6.7.2010 and the construction activity for the project has started in Aug. 2010.
(xxxiii)	Full cooperation shall be extended to the Scientists/Officers from the Ministry/Regional Office of the Ministry at Bangalore/the CPCB/the SPCB who would be monitoring the compliance of environmental status.	Agreed.

Status of Compliance conditions stipulated in extension of validity letter no J-13011 / 60 / 2008 - IA.II (T) dtd 23.03.2015 is as under;

S.No	<u>Stipulated Conditions</u>	<u>Compliance Status</u>
xxxiv	Harnessing solar power within the premises of the plant particularly at available rooftops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half –yearly monitoring report.	Shall be complied with
xxxv	A long term study of radio activity and heavy metals contents on coal to be used for the power plant shall be carried through a reputed institute and results thereof analyzed every two years and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash	Analysis report of heavy metals in fly ash and bottom ash is enclosed as “ Annexure B ”. Study of radioactivity and heavy metals in coal Shall be complied with

	(including bottom ash) shall be put in place.	
xxxvi	Space for FGD shall be provided for future installation as may be required.	Complied. Space for FGD has already been provided for future installation.
xxxvii	Fugitive emissions shall be controlled to prevent impact on agricultural or non-agricultural land in the vicinity, if any.	Complied. Dust extraction and suppression system has been installed and continuously operational near coal and Ash handling area.
xxxviii	Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media so that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from a reputed institute and accordingly clay lining of adequate thickness shall be provided. This shall be carried out in close co-ordination with State Pollution Control Board who shall ensure that clay lining of appropriate thickness is provided.	Shall be complied with.
xxxix	No water bodies including natural drainage system in the area shall be disturbed due to activities associated with setting up / operation of the power plant.	Not applicable
xxxx	Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary.	It is being complied.
xxxxi	For proper and periodic monitoring of CSR activities, a CSR Committee or a Social Audit Committee or a credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.	PPGCL has developed a dedicated CSR dept to monitor the CSR activities. However we will engage an external agency for evaluation of CSR activities.
xxxxii	An Environmental Cell comprising of at least one expert in environmental science / engineering, ecology, occupational health and social science, shall be established preferably at the project site itself and shall be headed by an officer of appropriate level and qualification. It shall be ensured that the Head of the cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and	At present, one G.M. (Chemistry) has been appointed & posted at site. Environment Monitoring cell with a well equipped Environmental Laboratory has been established with qualified manpower.

	social impact improvement / mitigations.	
xxxiii	The Project proponent shall formulate a well laid corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	The corporate Environment Policy with responsible officers at all levels for ensuring compliance to the policy and conditions stipulated in environmental clearance has already been submitted to your good office vide our letter no PPGCL / BARA / MOEF / 15 / 10 / 778 dated 31.10.2015

Status of Compliance Additional conditions stipulated vide letter no IV /ENV/P/THE/-39 / 311 / 2009 / 1173 dtd 16.11.2011 is as under;

S.No	<u>Stipulated Conditions</u>	<u>Compliance Status</u>
(i)	Continuous monitoring of stack and ambient air to be carried out.	<p>Continuous ambient air quality monitoring equipments have been installed and commissioned.</p> <p>The continuous on line monitoring equipments are installed and in regular operation. The results are being continuously displayed at plant gate. Connectivity of CAAQMS with CPCB & SPCB has been completed and online data is continuously conveyed to CPCB server.</p> <p>Continuous stack monitoring results are being displayed in control room. Connectivity of CAAQMS with CPCB & SPCB is under progress.</p>

		However, Stack monitoring, ambient air quality monitoring reports are enclosed for the period of October 2016 to March 2017 as annexure No 'A' & 'AA1-AA4' and 'F' & 'FF1-FF3' respectively. The results are observed well within the prescribed norms of CPCB / SPCB.
(ii)	Display of monitoring data in public domain (main gate).	Criteria pollutants levels including PM ₁₀ , PM _{2.5} , SO ₂ , NO _x & Hg from stack and Ambient air are monitored regularly, results are continuously displaying at Main gate.
(iii)	To put up monitoring data and six monthly monitoring report on their website	We have already submitted the six monthly compliance status of environment clearance report for the period of April 2016 to September 2016 vide our letter no PPGCL / BARA / MOEF / 16 / 10 dated 24.10.2016. Arrangements are being made to upload the monitoring data and EC compliance report on the website.

Annexure No G

Detail of CSR activities done along with action plan for implementation

a) ADOPTION OF VILLAGE :

Surrounding five villages i.e. (I) **BEMRA** (II) **BERUI** (III) **KHAN-SEMRA** (IV) **KAPARI** (V) **JORWAT** have been identified for development.

b) COMPREHENSIVE RURAL DEVELOPMENT PROGRAM (CRDP) :

This program will comprise of Health care, Education, Vocational Training, Provision of drinking water, Sanitation and Social activities.

c) CSR ACTIVITIES

<u>Sr. No.</u>	<u>Proposed CSR Plan</u>	<u>Action Plan</u>	<u>Estimated Expenditure</u>	<u>Expenditure incurred</u>	<u>Time Schedule</u>
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				<u>up to 31st March 2016</u>	
1.	School Building (Hindi Medium)	A School building (Hindi Medium) shall be constructed up to class 12 th .	Rs. 500.00 Lacs + Annapurna Rs. 150 Lacs	Rs 535.00 Lacs	Up to 10 th Class – Classes started.
2	School Building (English Medium)	A School building (English Medium) shall be constructed up to class 12 th .	Rs. 500.00 Lacs	Rs 405.00 Lacs	LG & Ist to Vth standard classes started.
3	I.T.I. Building	An I.T.I. building is under construction for technical training having 12 trades.	Rs. 200.00 Lacs	Rs 195.00 Lacs	Likely to be start from next session.
4	Hospital	A 30 bed Hospital is under construction for medical check-up and treatment to the local habitants.	Rs. 200.00 Lacs on building & Furniture	Rs 180.00 Lacs	Likely to be functional by the end of year 2016.
5	Mobile Medical Van	A Mobile Medical Van is already functioning providing free diagnostics & treatment under the guidance of qualified and experienced doctors.	Rs. 16.00 Lacs on Van, Monthly expenditure Rs. 30000 on medicine	Total Cumulative Rs 67.63 Lacs on Van and medicine etc	Functional
6.	Shopping Complex	A shopping complex is under construction stage which has 18 shops.	Rs 60.00 Lacs.	Rs 60.00 Lacs	Likely to be made functional by end of year 2016
7.	Drinking Water	To provide drinking water facilities i.e. 95 hand-pumps have been installed in project affected villages and same is maintained by regular check up and repairs.	Rs 1.65 Lacs have been spent on maintenance and repairing works	Rs 47.20 Lacs	Already functioning.
8.	Villages Roads (Cement concrete Road)	To improve transportation facilities in the adopted villages.	Rs. 100 Lacs	Rs 90.00 Lacs	-
9.	Villages Roads (Black top	12 km long road had been constructed	Rs 164 Lacs	Rs 164 Lacs	Completed.

	Road)	along boundary wall for better connectivity to main road (N.H.)			
10.	Panchayat-Ghar	A Panchayat Ghar/Barat Ghar is to be constructed in each project affected village.	Rs. 40.00 Lacs	-	Location being finalized by Tehsil staff, work to start thereafter.
11.	Sanitation	A Sulabh -Shauchalay is to be constructed in each project affected village.	Rs. 22.50 Lacs.	-	Location being finalized by Tehsil staff, work to start thereafter.

The company has already been provided the following social assistance in the adopted five villages up to 31st March 2016

12.	Incentives for education (1-8 th Standard)	To encourage the students towards education, 500 school-bags with school uniforms, notebooks and pencil boxes were distributed in adopted villages.	Total amount Rs. 2.5 Lacs had been spent on education in the beginning of academic session-2011.	Rs 2.5 Lacs	Distributed during 2011-12
13.	Sports activities	Cricket tournaments were organized by the company and sports – kits were also distributed.	Total amount approx. Rs 1.00 Lacs were spent each year.	Rs 2.45 Lacs	Sponsoring of sports activities is being done every year on regular basis.
14.	Distribution of Blankets	i) The company distributed 7000 pieces of blankets to the poor villagers to get relief from cold. ii) The company	Rs 10.50 Lacs have been spent in the year 2010-11 Rs 0.75 Lacs	Rs 12.35 Lacs	Such social activities being done regularly.

		<p>distributed 500 pieces of blanket to the poor villagers to get relief from cold during 2011-12</p> <p>iii) The company distributed 200 pieces of blankets through Tehsil officials to poor villagers to get relief from cold.</p> <p>iv) The company distributed 500 pieces of blankets through Tehsil officials to poor villagers to get relief from cold.</p>	<p>have been spent in the year 2011-12</p> <p>Rs 0.30 Lacs have been spent in the year 2012-13</p> <p>Rs 0.80 Lacs have been spent in the year 2013-14</p>		
15.	Other Social Activities	<p>i) Other social activities as distribution of ration & daily use domestic commodities to villagers who were affected due to outbreak of fire.</p> <p>ii) Other social activities as Ramlila , Wrestling competition etc were also organized during 2011-12, 2012-13, 2013-14 & 2014-15</p> <p>iii) To support the needy villagers financially in marriage & medical facilities.</p> <p>iv) Construction of temple for worship of villagers</p>	<p>Rs 2.66 Lacs have been spent during 2010-2011, 2011-12 & 2012-13</p> <p>Rs 1.0 Lacs have been spent 2011-12, 2012-13 & 2014-15 Rs 0.10 lacs have been spent during 2015-16</p> <p>Rs 1.25 Lacs have been spent up to March 2014</p> <p>1.21 Lacs have been spent during 2013-14</p>	Rs 13.18 Lacs till 2016-2017	These activities were started in year 2010-2011 and are continued then.

			1.36 lacs have been spent during 2014-15		
		v) Stationeries & almirahs expenditure	0.55 Lacs have been spent during 2013-14		
		vi) Provide the Beds, gaddas etc to Kasturba Gandhi Balika Vidhalaya, Jasra	5.0 Lakhs have been spent during 2015-16		
		vii) Celebration of U.P. Gorla Diwas	Distributed the Goshla's of rupees 0.05 lakhs value during 2015-16		
		viii) Flood relief fund during rainy season to nearby area.	Distribution of 1.0 lakh Rupees to fulfill daily needs during 2016-17		
		ix) Donation during Magh Mela.	3.0 lakh Rupees has been spent for fire relief during 2016-17		

PRAYAGRAJ POWER GENERATION COMAPNY LIMITED
BARA, DISTRICT – ALLAHABAD

STACK MONITORING

Date	Stack attached to	Stack Temperature	Stack Velocity m/Sec	Particulate Matter mg/Nm ³	SO ₂ mg/Nm ³	NO _x mg/Nm ³	Remarks
20.10.16	ESP-1	126 ⁰ C	27.3	32.6	140	132	
28.10.16	ESP-1	131 ⁰ C	28.4	34.2	136	124	
18.11.16	ESP-2	128 ⁰ C	26.7	31.8	145	135	
25.11.16	ESP-2	134 ⁰ C	27.3	35.0	150	140	
10.12.16	ESP-1	131 ⁰ C	22.5	29.5	148	140	
17.12.16	ESP-2	130 ⁰ C	24.0	35.1	149	137	
07.01.17	ESP-1	126 ⁰ C	25.6	29.5	148	133	
16. 01.17	ESP-2	130 ⁰ C	20.9	30.4	145	141	
08. 02.17	ESP-2	129 ⁰ C	24.4	28.7	136	125	
20. 02.17	ESP-1	125 ⁰ C	25.5	35.6	128	133	
10.03.17	ESP-1	132 ⁰ C	23.7	30.1	131	124	
18. 03.17	ESP-2	135 ⁰ C	22.4	32.5	134	130	
Minimum		125⁰ C	20.9	28.7	128	124	
Maximum		135⁰ C	28.4	35.6	150	140	
Specified Limits			22.0 m/Sec	Max. 50 mg/Nm³	200 mg/Nm³	300 mg/Nm³	



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STACK EMISSION DATA AND ANALYTICAL RESULTS

Report No.	Reference No.	Issue Date
PCS/SE/01/2016	PCS/PPG/02/2016	27/09/2016
1. Name & Address of Industry:	M/s Prayagraj Power Generation Corporation Limited P.O. Lohgara, Tehsil- Bara , District – Allahabad – 212107 , (U.P.)	
2. Type of Industry:	Thermal Power Plant	
3. Monitoring done by :	Dr V. K. Awasthi, Mr.Mahendra Pal & Mr. Asheesh Khuswaha	
4. Date of Monitoring :	22/09/2016	
5. Sample Receipt in Lab:	23/09/2016	
S. No.	Particulars	Value
1	Duct Attached to	ESP Outlet
2	Type of Stack	Circular
3	Stack height from Ground (m)	275
4	Type of Duct	Circular
5	Material of Construction of duct	MS
6	Diameter of Stack (m)	7.4
7	Type of fuel used	Pulverized Coal
8	Atmospheric temperature ($^{\circ}$ K)	305
9	Fuel Gas temperature ($^{\circ}$ K)	405
10	Flue Gas Exist Velocity (m/s)	24.80
11	Concentration of	PM in mg/Nm ³
	Pollutant in fuel Gas	SO ₂ in mg/Nm ³
		NO _x in ppm
		Hg in mg/Nm ³
		*BDL

*BDL-Below Detection Limit for Hg is 0.009 mg/Nm³

Note: 1.The results in the Test Report relate only to the items tested.

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Kaushal Kishorey

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Stack Emission Data and Analytical Results of Boiler Stack No-1

Report No. PCS/SE/1/2016	Reference No. PCS/PPGCL/02/2016	Issue Date 23/12/2016
1. Name & Address of Industry:	M/s Prayagraj Power Generation Corporation Limited P.O. Lohgara, Tehsil- Bara, District – Allahabad – 212107, (U.P.)	
2. Type of Industry:	Power Plant	
3. Sample Collected by:	Mr. Mahendra Pal, Mr. Asheesh Kushwaha & Nav Pawan Yadav	
4. Date of Sample Collection:	12/12/2016 -13/12/2016	
5. Sample Receipt in Laboratory:	13/12/2016	
Sl. No.	Particulars	Stack-1
1.	Duct Attached to	ESP Outlet
2.	Type of Stack	Circular
3.	Stack Height from Ground(m)	270
4.	Type of Duct	Circular
5.	Material of Construction of Duct	Mild Steel (MS)
6.	Height of Sampling Point from Ground (m)	80
7.	Diameter of Duct (m)	7.4
8.	Type of Fuel Used	Pulverized Coal
9.	Atmospheric Pressure (mm Hg)	752.0
10.	Atmospheric Temperature ($^{\circ}$ K)	291.0
11.	Flue Gas Temperature ($^{\circ}$ K)	388.0
12.	Sampling Period (min)	30.0
13.	Flue Gas Exit Velocity (m/sec)	23.8
14.	Concentration of Pollutant in Flue Gas	SPM
	(mg/Nm ³)	44.5
		SO ₂
		183.0
		NO _x
		82.2
		Hg (mg/Nm ³)
		0.002

Note: 1. The results in the Test Report related only to the items tested.
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Stack Emission Data and Analytical Results of Boiler Stack No-2

Report No.	Reference No.	Issue Date
PCS/SE/2/2016	PCS/PPGCL/02/2016	23/12/2016
1. Name & Address of Industry:	M/s Prayagraj Power Generation Corporation Limited P.O. Lohgara, Tehsil- Bara, District – Allahabad – 212107, (U.P.)	
2. Type of Industry:	Power Plant	
3. Sample Collected by:	Mr. Mahendra Pal, Mr. Asheesh Kushwaha & Nav Pawan Yadav	
4. Date of Sample Collection:	12/12/2016 -13/12/2016	
5. Sample Receipt in Laboratory:	13/12/2016	
Sl. No.	Particulars	Stack No-2
1.	Duct Attached to	ESP Outlet
2.	Type of Stack	Circular
3.	Stack Height from Ground(m)	270
4.	Type of Duct	Circular
5.	Material of Construction of Duct	Mild Steel (MS)
6.	Height of Sampling Point from Ground (m)	80
7.	Diameter of Duct (m)	7.4
8.	Type of Fuel Used	Pulverized Coal
9.	Atmospheric Pressure (mm Hg)	752.0
10.	Atmospheric Temperature ($^{\circ}$ K)	291
11.	Flue Gas Temperature ($^{\circ}$ K)	390.0
12.	Sampling Period (min)	30.0
13.	Flue Gas Exit Velocity (m/sec)	24.1
14.	Concentration of Pollutant in Flue Gas	SPM
	(mg/Nm ³)	46.2
		SO ₂
		193.1
		NO _x
		75.6
		Hg (mg/Nm ³)
		0.004

Note: 1. The results in the Test Report related only to the items tested.
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STACK EMISSION DATA AND ANALYTICAL RESULTS

Report No.	Reference No.	Issue Date
PCS/SE/01/2017	PCS/PPG/02/2017	04/04/2017
1. Name & Address of Industry: M/s Prayagraj Power Generation Corporation Limited P.O. Lohgara, Tehsil- Bara, District – Allahabad – 212107, (U.P.)		
2. Type of Industry: Thermal Power Plant		
3. Monitoring done by : Dr V. K. Awasthi, Mr. Mahendra Pal & Mr. Asheesh Khuswaha		
4. Date of Monitoring : 20/03/2017-21/03/2017		
5. Sample Receipt in Lab: 22/03/2017		
S. No.	Particulars	Value
1	Duct Attached to	ESP Outlet
2	Type of Stack	Circular
3	Stack height from Ground (m)	270
4	Type of Duct	Circular
5	Material of Construction of duct	Mild Steel (MS)
6	Height of sampling point from ground (m)	80
7	Diameter of Duct (m)	7.4
8	Type of fuel used	Pulverized Coal
9	Atmospheric Pressure (mm Hg)	752
10	Atmospheric temperature ($^{\circ}$ K)	310
11	Fuel Gas temperature ($^{\circ}$ K)	407
12	Sampling period (min)	30
13	Flue Gas Exist Velocity (m/s)	24.4
14	Concentration of	PM in mg/Nm ³ 45.18
	Pollutant in fuel Gas	SO ₂ in mg/Nm ³ 178.69
		NO _x in ppm 63.74
		Hg in mg/Nm ³ 0.0034

*BDL-Below Detection Limit for Hg is 0.009 mg/Nm³

Note: 1. The results in the Test Report relate only to the items tested.

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Annexure B



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(Formerly Industrial Toxicology Research Centre)
 VISHVIGYAN BHAWAN, 31 MAHATMA GANDHI MARG, POST
 BOX NO. 80 LUCKNOW-226001 U.P. (INDIA)
 (Constituent Laboratory of C.S.I.R.)



Date: August 31, 2016

ANALYSIS REPORT

1. Sample Registry No. : SP-192 (XII-XXII)
2. Nature of Sample : Water
3. Sealed/Unsealed : Sealed
4. Date of Receipt : 18.07.2016
5. Date of Analysis : 09.08.2016
6. Results :

Sample code	Concentration			
	Arsenic* (mg/L)	Mercury* (mg/L)	Chromium** (mg/L)	Lead** (mg/L)
XII	0.0073	0.0033	<0.025	<0.01
XIII	0.0017	0.0025	<0.025	<0.01
XIV	0.0007	0.0024	<0.025	<0.01
XV	0.0004	0.0047	<0.025	<0.01
XVI	0.0004	0.0017	<0.025	<0.01
XVII	0.0007	0.0011	<0.025	0.035
XVIII	0.0023	0.0008	<0.025	<0.01
XIX	0.0005	0.0006	<0.025	0.012
XX	0.0003	0.0004	<0.025	0.113
XXI	0.0004	<0.0002	<0.025	0.118
XXII	0.0032	<0.0002	<0.025	0.050

Instruments used: *Analysis performed on Atomic Fluorescence Spectrometer (PG, AF420).
 **Analysis performed on Atomic Absorption Spectrometer (Perkin Elmer PinAAcle 900 F)

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 (Dr. D. K. Patel)
 Principal Scientist
 Analytical Chemistry Section

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(Constituent Laboratory of C.S.I.R.)



Date: August 31, 2016

ANALYSIS REPORT

1. Sample Registry No. : SP-192 (XXIII)
2. Nature of Sample : Ash water
3. Sealed/Unsealed : Unsealed
4. Date of Receipt : 18.07.2016
5. Date of Analysis : 09.08.2016
6. Results :

Sample code	Concentration			
	Arsenic* (mg/L)	Mercury* (mg/L)	Chromium** (mg/L)	Lead** (mg/L)
XXIII	0.0025	<0.0002	<0.025	0.018

Instruments used: *Analysis performed on Atomic Fluorescence Spectrometer (PG, AF420).
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 (Constituent Laboratory of C.S.I.R.)



Date: August 31, 2016

ANALYSIS REPORT

1. Sample Registry No. : SP-192 (XXIV)
2. Nature of Sample : Fly ash
3. Sealed/Unsealed : Unsealed
4. Date of Receipt : 18.07.2016
5. Date of Analysis : 09.08.2016
6. Results :

Sample code	Concentration			
	Arsenic* (mg/kg)	Mercury* (mg/kg)	Chromium** (mg/kg)	Lead** (mg/kg)
XXIV	0.1936	<0.0002	1.689	3.454

Instruments used: *Analysis performed on Atomic Fluorescence Spectrometer (PG, AF420).
 **Analysis performed on Atomic Absorption Spectrometer (Perkin Elmer PinAAcle 900 F)

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 (Constituent Laboratory of C.S.I.R.)



Date: August 31, 2016

ANALYSIS REPORT

1. Sample Registry No. : SP-192 (XXV)
2. Nature of Sample : Bottom ash
3. Sealed/Unsealed : Unsealed
4. Date of Receipt : 18.07.2016
5. Date of Analysis : 09.08.2016
6. Results :

Sample code	Concentration			
	Arsenic* (mg/kg)	Mercury* (mg/kg)	Chromium** (mg/kg)	Lead** (mg/kg)
XXV	0.0217	<0.0002	<0.025	2.040

Instruments used: *Analysis performed on Atomic Fluorescence Spectrometer (PG, AF420).
 **Analysis performed on Atomic Absorption Spectrometer (Perkin Elmer PinAAcle 900 F)

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 Analytical Chemistry Section

PRAYAGRAJ POWER GENERATION COMAPNY LIMITED
BARA, DISTRICT – ALLAHABAD

Sewage Treatment Plant Effluent Monitoring for the period of October 2016 to March 2017

Name of Month		p H	Total Suspended Solids mg/l	BOD mg/l	Remarks
October 2016	Minimum	6.8	20	15.0	
	Maximum	7.6	35	18.2	
November 2016	Minimum	6.9	34	12.0	
	Maximum	7.2	42	18.2	
December 2016	Minimum	7.0	36	12.8	
	Maximum	7.5	43	19.4	
January 2017	Minimum	7.1	21	14.6	
	Maximum	7.5	31	15.9	
February 2017	Minimum	6.9	17	11.8	
	Maximum	7.5	37	18.7	
March 2017	Minimum	7.1	21	14.3	
	Maximum	7.4	40	19.7	
Specified Norms		5.5-9.0	Max. 100	Max 30	



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TEST REPORT FOR STP WASTEWATER

Report No.	Reference No.	Issue Date
PCS/STP/01/2016	PCS/PPG/01/2016	27/09/2016
1. Name & Address of Industry: M/s Prayagraj Power Generation Corporation Limited P.O. Lohgara, Tehsil-Bara, Allahabad-212107, (U.P.)		
2. Type of Industry: Power Plant		
3. Sample Collected by: Dr V. K. Awasthi, Mr. Mahendra Pal & Mr. Asheesh Khuswaha		
4. Date of Sample Collection: 22/09/2016		
5. Sample Receipt in Laboratory: 23/09/2016		

S. No.	Parameter	Units	Reference Method*	STP Outlet	Standard**
1	pH	-	4500 H	7.80	5.5-9.0
2	TSS	mg/l	2540 D	22.0	100
3	BOD (3 days at 27°C)	mg/l	5210 A	21.0	30
4	COD	mg/l	5220 B	58.5	-
5	Oil & Grease	mg/l	5520 B	<0.01	10

*As per APHA/AWWA; 22nd Ed. (2012)

**Standard as per Schedule VI inserted by Rule 2(d) of the Environment (Protection) Second Amendment Rules, 1993 notified vide G.S.R. 422(E) dated 19.05.1993, published in the Gazette No. 174 dated 19.05.1993

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Sanjay Kumar
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TEST REPORT FOR WASTEWATER (STP)

Report No.	Reference No.	Issue Date			
PCS/STP/01/2016	PCS/PPGCL/02/2016	23/12/2016			
1. Name & Address of Industry:	M/s Prayagraj Power Generation Company Limited P.O. Lohgara , Tehsil-Bara, Allahabad-212107, (U.P.)				
2. Type of Industry:	Thermal Power Plant				
3. Sample Collected by:	Mr. Mahendra Pal & Mr. Pushpendra Maurya				
4. Date of Sample Collection:	14/12/2016				
5. Sample Receipt in Laboratory:	14/12/2016				
S. No.	Parameter	Units	Reference Method*	STP Outlet	Standard**
1	pH	-	4500 H	6.51	5.5-9.0
2	TSS	mg/l	2540 D	86.4	100
3	BOD (3 days at 27 ⁰ C)	mg/l	5210 A	28.0	30
4	COD	mg/l	5220 B	128	-
5	Oil & Grease	mg/l	5520 B	1.8	10

*As per APHA/AWWA; 22nd Ed. (2012).

**As per APHA/AWWA; 22nd Ed. (2012) **Standard as per Schedule VI inserted by Rule 2(d) of the Environment

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TEST REPORT FOR STP WASTEWATER

Report No.	Reference No.	Issue Date			
PCS/STP/01/2017	PCS/PPG/01/2017	04/04/2017			
1. Name & Address of Industry:	M/s Prayagraj Power Generation Corporation Limited P.O. Lohgara Tehsil-Bara, Allahabad 212107,(U.P.)				
2. Type of Industry:	Power Plant				
3. Sample Collected by:	Mr.Mahendra Pal & Mr. Asheesh Kushwaha				
4. Date of Sample Collection:	24/03/2017				
5. Sample Receipt in Lab:	24/03/2017				
S. No.	Parameter	Units	Reference Method*	STP Outlet	Standard**
1	pH	-	4500 H	7.50	5.5-9.0
2	TSS	mg/l	2540 D	65	100
3	BOD (3 days at 27 ⁰ C)	mg/l	5210 A	24.6	30
4	COD	mg/l	5220B	75.0	-
5	Oil & Grease	mg/l	5520 B	4.1	10

*As per APHA/AWWA; 22nd Ed. (2012)

**Standard as per Schedule VI inserted by Rule 2(d) of the Environment (Protection) Second Amendment Rules, 1993 notified vide G.S.R. 422(E) dated 19.05.1993, published in the Gazette No. 174 dated 19.05.1993

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M. Singh
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सीएसआईआर-भारतीय विषविज्ञान अनुसंधान संस्थान
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Annexure D

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दिनांक 8.9.2016

श्री ए० के० जैन

वाइस प्रेसीडेंट (ओ एवं एम)

प्रयागराज पावर जनरेसन कंपनी लिमिटेड

पी ओ - लोहगरा, तहसील- बारा

जिला- इलाहाबाद-212107

विषय: विप्लेषण प्रतिवेदन (रिपोर्ट) संलग्न।

महोदय,

आपके पत्र संख्या पीपीजीसीएल/बारा/एनवायरनमेंट/16/17 दिनांक 13.7.2016 के साथ 25 Dugwell and Piezometer water के नमूने विप्लेषण के लिए भेजे गए थे। उनकी विप्लेषण प्रतिवेदन (रिपोर्ट) आपके सूचनार्थ हेतु प्रेषित की जा रही है। कृपया पावती की सूचना इस कार्यालय को अवगत करने का कष्ट करें।

धन्यवाद।

संलग्न: विप्लेषण प्रतिवेदन (रिपोर्ट)

भवदीय,

प्रभारी, आरपीवीडी

पुनस्त्य: कृपया संलग्न कस्टमर फीडबैक फार्म आप पूरी तरह से भरकर हमें भेज दें।

विषयविज्ञान भवन, 31, महात्मा गाँधी मार्ग
पोस्ट बॉक्स नं० 80, लखनऊ, उ.प्र., भारत
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IITR Report Code: SP – 192 (SSP-313)
Date of Preparation: Sept. 05, 2016
Total No. of Pages: 6

Analysis of Groundwater Samples

(Dugwell and Piezometer Water)

Final Report

CSIR-Indian Institute of Toxicology Research

P.B. No. 80, M.G. Marg, Lucknow-226001, India

Telephone: 0522-2627586, 2613786; Fax: 0522-2628227, 2611547

Email: rpbdiitr@yahoo.com

05 September 2016

No. of copies : 3

Test Report

1. Project Code: SP- 192(SSP-313)
2. Test Material Code No.: SP-192 (I-XI)
3. Date sample received: 19/07/2016
4. Physico-chemical characteristics of the test material:
 - (i) As described by sponsor: NA
 - (ii) As seen in the laboratory: Clear
5. Test performed:
 1. pH
 2. Conductivity
 3. Total Solids
 4. Dissolve Solids
 5. Suspended Solids
 6. Chloride
 7. Total Hardness
 8. Calcium Hardness
 9. Magnesium Hardness
 10. Phosphate
 11. Nitrate
 12. Fluoride
 13. Sulphate
 14. Ammonical Nitrogen
 15. Total Alkalinity
 16. Residual Chlorine
 17. Silica
6. Standard methodologies and reference standards used for testing:

SOP/WAL/001; Standard Methods for the Examination of Water and Wastewater (APHA, AWWA, WPCF), 22nd ed. 2012.
7. Amendments to Standard Operating Procedure (SOPs) if any: None

TABLE-1: PHYSICO-CHEMICAL PARAMETERS

Annexure D

S. No.	Sample Code	Sample Location	pH	Conductivity (µS/cm)	Total Solids (mg/L)	Dissolve Solids (mg/L)	Suspended Solids (mg/L)	Chloride (mg/L)
1	I	Dugwell water, Mishrapur (Towards L&T Yard)	7.39	412.0	284.0	252.0	32.0	46.88
2	II	Dugwell water, Village-Jorhat	7.73	468.0	308.0	288.0	20.0	15.99
3	III	Dugwell water of Berui Village	8.21	486.0	312.0	296.0	16.0	24.99
4	IV	Dugwell water of Khansemra Village	7.25	261.0	164.0	142.0	22.0	17.99
5	V	Dugwell water of Bemra Village	8.01	1730.0	1292.0	1250.0	42.0	314.9
6	VI	Dugwell water of Mishrapur Village (towards Lohgara)	7.83	532.0	300.0	290.0	10.0	60.98
7	VII	Dugwell water of Lohgara Village	8.08	479.0	432.0	388.0	44.0	39.98
8	VIII	Piezometer water no. 1	7.79	529.0	328.0	306.0	22.0	29.99
9	IX	Piezometer water no. 2	7.53	857.0	638.0	570.0	68.0	179.94
10	X	Piezometer water no. 3	7.58	400.0	230.0	210.0	20.0	21.99
11	XI	Piezometer water no. 4	8.31	616.0	420.0	376.0	44.0	83.97

Note-Values marked with < (less then) sign are the minimum detection limit for the corresponding parameters.

Page No. 3 of 6

TABLE-1: PHYSICO-CHEMICAL PARAMETERS

Annexure D

S. No.	Sample Code	Sample Location	Total Hardness (mg/L)	Calcium Hardness (mg/L)	Magnesium Hardness (mg/L)	Phosphate as P (mg/L)	Nitrate (mg/L)	Fluoride (mg/L)
1	I	Dugwell water, Mishrapur (Towards L&T Yard)	170.0	82.0	88.0	<0.003	2.09	1.01
2	II	Dugwell water, Village-Jorhat	190.0	94.0	96.0	<0.003	7.87	1.01
3	III	Dugwell water of Berui Village	200.0	98.0	102.0	<0.003	21.38	0.89
4	IV	Dugwell water of Khansemra Village	98.0	66.0	32.0	<0.003	14.9	0.29
5	V	Dugwell water of Bemra Village	330.0	148.0	182.0	<0.003	15.65	0.99
6	VI	Dugwell water of Mishrapur Village (towards Lohgara)	152.0	120.0	32.0	<0.003	4.66	0.51
7	VII	Dugwell water of Lohgara Village	176.0	140.0	36.0	<0.003	10.9	0.63
8	VIII	Piezometer water no. 1	176.0	102.0	74.0	<0.003	<1.0	0.68
9	IX	Piezometer water no. 2	266.0	120.0	146.0	<0.003	8.69	0.47
10	X	Piezometer water no. 3	160.0	126.0	34.0	<0.003	1.98	0.68
11	XI	Piezometer water no. 4	166.0	82.0	84.0	<0.003	2.17	0.67

Note-Values marked with < (less then) sign are the minimum detection limit for the corresponding parameters.

Page No. 4 of 6

TABLE-1: PHYSICO-CHEMICAL PARAMETERS

Annexure D

S. No.	Sample Code	Sample Location	Sulphate (mg/L)	Ammonical Nitrogen (mg/L)	Total Alkalinity (mg/L)	Residual Chlorine (mg/L)	Silica (mg/L)
1	I	Dugwell water, Mishrapur (Towards I&T Yard)	22.18	<0.1	160.0	<0.11	12.36
2	II	Dugwell water, Village-Jorhat	8.51	<0.1	228.0	<0.11	7.13
3	III	Dugwell water of Berui Village	13.46	<0.1	202.0	<0.11	1.95
4	IV	Dugwell water of Khansemra Village	13.86	<0.1	86.0	<0.11	1.81
5	V	Dugwell water of Bemra Village	130.69	<0.1	310.0	<0.11	8.37
6	VI	Dugwell water of Mishrapur Village (towards Lohgara)	45.64	<0.1	114.0	<0.11	2.04
7	VII	Dugwell water of Lohgara Village	31.78	<0.1	100.0	<0.11	3.7
8	VIII	Piezometer water no. 1	<1.0	<0.1	234.0	<0.11	7.45
9	IX	Piezometer water no. 2	42.27	<0.1	160.0	<0.11	4.5
10	X	Piezometer water no. 3	44.26	<0.1	170.0	<0.11	6.04
11	XI	Piezometer water no. 4	4.75	<0.1	190.0	<0.11	1.81

Note-Values marked with < (less then) sign are the minimum detection limit for the corresponding parameters.

Annexure D

TABLE-2: BIS LIMITS (IS 10500: 2012) FOR DRINKING WATER

Parameter	Requirement (Desirable limit)
pH	6.5-8.5
Conductivity	NS
Total Solids	NS
Dissolve Solids	500
Suspended Solids	NS
Chloride	250
Total Hardness	200
Calcium Hardness	NS
Magnesium Hardness	NS
Phosphate	NS
Nitrate	45
Fluoride	1.0
Sulphate	200
Ammonical Nitrogen	0.5
Total Alkalinity	200
Residual Chlorine	0.2
Silica	NS

Satyran Padrao
5/9/16

Name, Designation and Signature with date
(Scientist, In-Charge)

Notes:

1. The above results relate only to the test material indicated in item 1 and to the extent received and analyzed in the laboratory.
2. The report shall not be reproduced in fragments without the written approval of IITR.
3. This report shall not be used for any purpose other than declared by the sponsorer.

PRAYAGRAJ POWER GENERATION COMPANY LIMITED
BARA, DISTRICT – ALLAHABAD

AMBIENT NOISE LEVEL MONITORING

Date	Time		Near Horticulture Dept	Behind BHEL Yard	Behind CHP Area	Near Canal Area
18.10.2016	Day Time		45.45	45.95	48.2	46.6
	Night Time		42.55	41.3	41.3	39.45
18.11.2016	Day Time		50.60	53.45	52.45	53.55
	Night Time		44.85	46.30	46.30	43.95
20.12.2016	Day Time		54.85	52.85	57.9	52.95
	Night Time		43.3	46.35	47.35	43.95
18.01.2017	Day Time		53.5	53.4	56.5	57.8
	Night Time		42.0	43.1	45.0	47.0
25.02.2017	Day Time		53.2	49.8	53.5	52.8
	Night Time		43.7	41.7	44.8	44.7
22.03.2017	Day Time		49.2	51.0	52.0	54.5
	Night Time		43.0	40.8	43.6	42.6
	Day Time	Minimum	49.2	49.8	48.2	46.6
		Maximum	54.85	53.4	56.5	57.8
	Night Time	Minimum	42.0	40.8	41.3	39.45
		Maximum	44.85	46.35	47.35	47.0

Unit – d B (A)

Standards norms of Ambient Noise as per CPCB

Area	Day Time	Night Time
Industrial area	75	70
Commercial area	65	55
Residential	55	45
Silence zone	50	40

Unit – d B (A)



Prakriti Consultants Services

An Approved Laboratory From MoEF & Uttar Pradesh Pollution Control Board
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An Approved Laboratory from MoEF vide S.O. No. 1190 (E) dated 01/05/2014 and Valid up to 30/04/2019

TEST REPORT FOR AMBIENT NOISE MONITORING

Report No.	Reference No.	Issue Date	
PCS/AN/01/2016	PCS/PPGCL/02/2016	03/07/2016	
1.Name of Proponent:	M/s Prayagraj Power Generation Company Limited P.O. Lohgara , Tehsil- Bara, District- Allahabad – 212107 (U.P.)		
2.Type of Industry:	Thermal Power Plant		
3.Monitoring done by:	Mr. Mahendra Pal & Mr. Pushpendra Maurya		
4.Date of Monitoring :	24/06/2016		
5.Sample Receipt in Lab:	25/06/2016		
S. No.	Location	Noise Level leq dB(A) Day Time*	Noise Level leq dB(A) Night Time**
1.	Near Horticulture Dept.	52.6	36.2
2.	Behind BHEL Yard	51.7	35.2
3.	Behind CHP Area	49.8	37.6
4.	Near Canal Area	47.3	36.0
Standard (Ambient Noise)			
	Industrial area	75	70
	Commercial area	65	55
	Residential area	55	45
	Silence Zone	50	40

*The Noise Pollution (Regulation and Control) Rules, 2000

Note: - 1. Day time shall mean from 6.00 a.m. to 10.00 p.m.

2. Night time shall mean from 10.00 p.m. to 6.00 a.m.

3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority

4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A "decibel" is a unit in which noise is measured.

"A", in dB (A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is energy mean of the noise level over a specified period.

Checked By:

Analyzed By:

for Prakriti Consultants Services

Services Available

Environmental Monitoring, Preparation of EIA/EMP, Baseline data generation for Air, Water, Soil, Noise & Meteorology
Environmental and Safety Audit reports, Commissioning, Erection, Operation and Maintenance of STP/ETP, Clearances from
Ground Water Board, Compliance of E.C., NOC from UP PCB, MoEF

PRAYAGRAJ POWER GENERATION COMPANY LIMITED
BARA , DISTRICT – ALLAHABAD

AMBIENT AIR QUALITY MONITORING

Locations	Near Horticulture Dept				Behind BHEL Yard				
Date of Samplings	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	Date of Samplings	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³
03.10.2016	20.2	50.3	14.1	21.3	04.10.2016	30.1	50.1	12.3	14.2
10.10.2016	20.9	52.1	15.5	22.1	12.10.2016	30.6	51.2	11.9	15.3
17.10.2016	21.1	51.6	16.8	21.5	21.10.2016	32.2	52.3	12.9	16.8
27.10.2016	20.4	50.7	16.2	21.8	28.10.2016	32.4	51.5	13.4	18.2
05.11.2016	48.2	89.2	19.3	11.5	04.11.2016	48.6	88.6	19.2	11.6
12.11.2016	49.3	90.1	21.3	12.4	11.11.2016	49.7	89.5	21.6	12.7
19.11.2016	50.1	88.6	20.6	11.8	18.11.2016	47.9	90.5	20.8	12.7
26.11.2016	48.1	88.6	22.4	13.5	25.11.2016	50.1	91.4	22.1	13.8
03.12.2016	47.4	88.5	18.2	10.2	05.12.2016	45.7	87.4	19.6	10.4
10.12.2016	48.5	89.5	22.0	09.5	12.12.2016	48.4	88.2	18.5	11.5
17.12.2016	49.3	87.1	19.6	12.7	19.12.2016	49.0	91.7	21.0	13.6
24.12.2016	48.4	85.4	21.2	11.2	26.12.2016	52.5	92.6	20.8	12.5
02.01.2017	46.7	86.3	17.2	11.7	04.01.2017	46.6	72.0	18.5	09.9
10.01.2017	45.4	85.4	22.4	10.6	12.01.2017	47.2	80.4	19.4	12.8
19.01.2017	49.8	86.7	20.1	13.8	21.01.2017	44.4	76.4	21.8	12.7
25.01.2017	44.1	83.6	21.4	12.4	27.01.2017	50.1	81.2	22.3	11.8
01.02.2017	48.0	84.2	14.2	10.9	03.02.2017	45.2	75.5	17.3	11.5
11.02.2017	46.3	86.1	21.1	11.2	13.02.2017	46.3	76.3	18.4	11.4
17.02.2017	49.2	83.4	22.4	13.4	20.02.2017	46.8	75.8	20.6	13.1
25.02.2017	47.8	87.2	19.3	14.6	27.02.2017	49.2	80.3	21.8	10.7
01.03.2017	49.1	81.2	13.1	11.1	02.03.2017	47.4	78.7	18.4	12.5

08.03.2017	47.2	87.1	20.5	12.7	10.03.2017	45.7	77.6	15.5	12.0
18.03.2017	49.3	85.1	21.3	15.5	20.03.2017	43.9	79.8	20.8	14.7
25.03.2017	50.7	88.6	22.4	13.8	27.03.2017	48.5	81.4	19.7	11.3
Minimum	20.2	50.3	13.1	9.5	Minimum	30.1	50.1	11.9	9.9
Maximum	50.7	90.1	22.4	22.1	Maximum	52.5	92.6	22.1	18.2
Specified Norms	Max 60	Max 100	Max 80	Max 80	Specified Norms	Max 60	Max 100	Max 80	Max 80

AMBIENT AIR QUALITY MONITORING

Locations	Behind CHP Area				Near Canal Area				
Date of Samplings	PM2.5 µg/m3	PM10 µg/m3	SO2 µg/m3	NO2 µg/m3	Date of Samplings	PM2.5 µg/m3	PM10 µg/m3	SO2 µg/m3	NO2 µg/m3
05.10.2016	33.6	58.3	14.3	13.6	09.10.2016	42.6	58.3	12.6	16.8
15.10.2016	40.2	59.1	12.6	15.9	17.10.2016	45.6	59.2	15.6	18.6
24.10.2016	41.1	60.1	16.5	18.4	26.10.2016	48.2	56.8	16.8	19.3
29.10.2016	43.5	58.4	18.3	19.1	31.10.2016	42.7	60.1	18.2	20.1
07.11.2016	49.2	88.9	20.1	11.4	02.11.2016	49.3	87.3	19.6	11.2
14.11.2016	51.2	89.2	21.4	12.3	09.11.2016	48.2	89.1	20.3	11.9
21.11.2016	48.4	90.3	20.6	13.4	16.11.2016	48.8	90.2	21.6	13.0
28.11.2016	50.3	91.0	21.8	13.2	23.11.2016	50.3	89.6	20.9	13.8
06.12.2016	47.7	89.8	22.1	12.1	30.11.2016	51.0	88.3	21.8	12.8
13.12.2016	55.4	88.6	20.2	10.6	09.12.2016	50.1	90.1	17.2	10.1
20.12.2016	51.5	92.3	21.5	11.8	16.12.2016	48.9	89.4	18.4	12.9
27.12.2016	54.2	93.5	19.5	09.4	23.12.2016	51.2	91.1	22.5	08.7
06. 01.2017	48.4	87.6	20.5	11.4	30.12.2016	50.5	89.7	19.0	13.7
14. 01.2017	57.6	89.7	28.3	13.2	07. 01.2017	53.8	92.4	16.3	12.2
22. 01.2017	54.3	92.9	22.6	11.7	17. 01.2017	49.0	88.6	20.5	11.6

30. 01.2017	56.8	94.8	20.0	12.5	24. 01.2017	55.7	92.3	21.6	10.5
07. 02.2017	47.5	86.1	21.1	12.9	31. 01.2017	48.2	90.9	22.5	12.3
15. 02.2017	55.4	88.2	27.5	15.1	09. 02.2017	52.2	94.5	17.2	13.4
22. 02.2017	56.6	93.8	29.8	10.5	16. 02.2017	50.4	85.2	19.6	12.8
28. 02.2017	52.5	90.1	21.5	13.4	24. 02.2017	56.6	91.5	22.5	11.7
04. 03.2017	47.4	88.0	20.7	11.0	07. 03.2017	50.6	91.4	15.5	15.7
14. 03.2017	55.7	87.2	25.6	18.4	17. 03.2017	55.1	87.3	18.1	13.5
22. 03.2017	57.5	90.4	30.4	12.7	23. 03.2017	54.4	80.8	25.4	10.5
29. 03.2017	54.2	91.3	22.0	15.5					
Minimum	33.6	58.3	12.6	9.4	Minimum	42.6	56.8	12.6	8.7
Maximum	57.6	94.8	30.4	19.1	Maximum	56.6	94.5	25.4	20.1
Specified Norms	Max 60	Max 100	Max 80	Max 80	Specified Norms	Max 60	Max 100	Max 80	Max 80



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TEST REPORT FOR AMBIENT AIR QUALITY

Report No.		Reference No.				Issue Date	
PCS/AAQ/01/2016		PCS/PPG/02/2016				27/09/2016	
1. Name of Proponent:		M/s Prayagraj Power Generation Corporation Limited P.O. Lohgara , Tehsil- Bara, District- Allahabad – 212107 (U.P.)					
2. Type of Industry:		Thermal Power Plant					
3. Monitoring done by:		Dr V. K. Awasthi, Mr.Mahendra Pal & Mr. Asheesh Khuswaha					
4. Date of Monitoring :		22/09/2016 - 23/09/2016					
5. Sample Receipt in Lab:		23/09/2016					
S. No	Location	Pollutants Concentration $\mu\text{g}/\text{m}^3$					
		RSPM (PM_{10}) $\mu\text{g}/\text{m}^3$	RSPM ($\text{PM}_{2.5}$) $\mu\text{g}/\text{m}^3$	SO_2 $\mu\text{g}/\text{m}^3$	NO_2 $\mu\text{g}/\text{m}^3$	CO mg/m^3	Hg ng/m^3
1.	Near Horticulture Dept.	98.2	50.4	19.5	10.2	0.09	ND**
2.	Behind BHEL Yard	92.3	52.4	24.2	11.6	0.08	ND**
3.	Behind CHP Area	96.5	58.7	30.6	12.4	0.1	ND**
4.	Near Canal Area	86.7	48.9	08.3	14.2	0.02	ND**
Standards*		100	60	80	80	02	No Specific Norms
Method		IS:5182 Part (23) 2006	APHA (Gravimetric)	IS:5182 (Part-2) 2001	IS:5182 (Part- 6) 2006	IS:5182 (Part 10)	-
Range of Detection		05-1000 $\mu\text{g}/\text{m}^3$	-	04- 1050 $\mu\text{g}/\text{m}^3$	9-750 $\mu\text{g}/\text{m}^3$	-	-

* CPCB Notification, dated 18.11.2009, **ND- Not Detected

- Note:
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Analyzed By
Kavita K. Sharma

Checked By
[Signature]

for Prakriti Consultants Services
[Signature]

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Environmental and Safety Audit reports, Commissioning, Erection, Operation and Maintenance of STP/ETP, Clearances from
Ground Water Board, Compliance of E.C., NOC from UPPCB, MoEF



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TEST REPORT FOR AMBIENT AIR QUALITY

Report No.	Reference No.	Issue Date					
PCS/AAQ/01/2016	PCS/PPGCL /02/2016	23/12/2016					
1. Name of Proponent:	M/s Prayagraj Power Generation Corporation Limited P.O. Lohgara , Tehsil- Bara, District- Allahabad – 212107 (U.P.)						
2. Type of Industry:	Power Plant						
3. Monitoring done by:	Mr. Mahendra Pal, Mr. Asheesh Kushwaha & Mr. Naw Pawan Yadav						
4. Date of Monitoring :	12/12/2016 - 13/12 /2016						
5. Sample Receipt in Lab:	14/12/2016						
S.No.	Location	Pollutants Concentration $\mu\text{g}/\text{m}^3$					
		RSPM (PM_{10}) $\mu\text{g}/\text{m}^3$	RSPM ($\text{PM}_{2.5}$) $\mu\text{g}/\text{m}^3$	SO_2 $\mu\text{g}/\text{m}^3$	NO_2 $\mu\text{g}/\text{m}^3$	CO mg/m^3	Hg ng/m^3
1.	Near Horticulture	102.0	54.4	32.4	7.6	0.08	ND**
2.	Behind BHEL Yard	132.5	52.6	27.7	7.8	0.09	ND**
	Behind CHP Area	136.6	55.7	34.6	8.3	0.11	ND**
4.	Near Canal Area	104.8	49.3	26.8	6.2	0.03	ND**
	Standards*	100	60	80	80	02	No Specific Norms
Method		IS:5182 Part (23) 2006	APHA (Gravimetric)	IS:5182 (Part-2) 2001	IS:5182 (Part- 6) 2006	IS:5182 (Part 10)	-
Range of Detection		05-1000 $\mu\text{g}/\text{m}^3$	-	04-1050 $\mu\text{g}/\text{m}^3$	9-750 $\mu\text{g}/\text{m}^3$	-	-

* CPCB Notification, dated 18.11.2009, ** ND- Not Detected

- Note:
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Environmental and Safety Audit reports, Commissioning, Erection, Operation and Maintenance of STP/ETP, Clearances from
Ground Water Board, Compliance of E.C., NOC from UPPCB, MoEF



Prakriti Consultants Services

An Approved Laboratory From MoEF & Uttar Pradesh Pollution Control Board
(An ISO 14001:2004, ISO 9001-2008 and OHSAS-18001-2007 Certified Organization)
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An Approved Laboratory from MoEF vide S.O. No. 1190 (E) dated 01/05/2014 and Valid up to 30/04/2019

TEST REPORT FOR AMBIENT AIR QUALITY

Report No.	Reference No.	Issue Date					
PCS/AAQ/01/2017	PCS/PPG/02/2017	04/04/2017					
1. Name of Proponent:	M/s Prayagraj Power Generation Corporation Limited						
	P.O. Lohgara , Tehsil- Bara, District- Allahabad – 212107 (U.P.)						
2. Type of Industry:	Thermal Power Plant						
3. Monitoring done by:	Dr V. K. Awasthi, Mr.Mahendra Pal & Mr. Asheesh Khuswaha						
4. Date of Monitoring :	22/03/2017 - 23/03/2017						
5. Sample Receipt in Lab:	24/03/2017						
S. No	Location	Pollutants Concentration $\mu\text{g}/\text{m}^3$					
		RSPM (PM ₁₀) $\mu\text{g}/\text{m}^3$	RSPM (PM _{2.5}) $\mu\text{g}/\text{m}^3$	SO ₂ $\mu\text{g}/\text{m}^3$	NO ₂ $\mu\text{g}/\text{m}^3$	CO mg/m^3	Hg ng/m^3
1.	Near Horticulture Dept.	103.3	65.4	22.2	14.4	0.10	ND**
2.	Behind BHEL Yard	121.4	61.8	19.4	12.4	0.07	ND**
3.	Behind CHP Area	132.6	63.0	23.6	16.7	0.02	ND**
4.	Near Canal Area	133.0	58.6	25.7	14.9	0.04	ND**
Standards*		100	60	80	80	02	No Specific Norms
Method		IS:5182 Part (23) 2006	APHA (Gravimetric)	IS:5182 (Part-2) 2001	IS:5182 (Part- 6) 2006	IS:5182 (Part 10)	-
Range of Detection		05-1000 $\mu\text{g}/\text{m}^3$	-	04- 1050 $\mu\text{g}/\text{m}^3$	9-750 $\mu\text{g}/\text{m}^3$	-	-

* CPCB Notification, dated 18.11.2009, **ND- Not Detected

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