



PRAYAGRAJ POWER
GENERATION COMPANY LTD.

PPGCL/BARA/MOEF/19/05
Date: 17.05.19

Regional Office (Central Region)
Ministry of Environment Forest & Climate Change (MoEF & CC)
Kendriya Bhawan, 5TH Floor
Sector – H, Aliganj, Lucknow -226024

Kind Attn.: Dy. Director- MOEF & CC

Subject: Six monthly compliance reports for the period of September 2018 to March 2019 of the
Environmental Clearance (EC) granted by MOEF vide letter no J-13011/60/2008-IA.II
(T) Dated 8th Sept. 2009 to M/s Prayagraj Power Generation Company Limited.

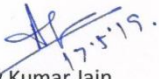
R/Sir,

This has reference to the Environmental Clearance (EC) granted by MOEF vide letter no J-13011 /60 /
2008-IA.II (T) dated 8th Sept. 2009 & subsequent letter no IV/ENV/P/THE/39/311/2009/1173 dtd
16.11.2011 regarding additional conditions and extension of validity letter no J-13011 / 60 /
2008 - IA.II (T) dtd 23.03.2015 in respect of 3x 660 MW Thermal Power Project.

In compliance to the condition no. xxviii of the environmental clearance & additional conditions, six
monthly reports on the status of EC compliance of the conditions stipulated therein is submitted
herewith for your kind information. This report is also being sent by e-mail as advised.

Thanking you

Yours Faithfully
For Prayagraj Power Generation Co Ltd.


Ajay Kumar Jain
Vice President (O&M)

Copy to

1. The Director (Thermal Projects) - for information
Indira Paryavaran Bhawan,
Jor Bagh, Lodi Road, New Delhi – 110003
2. The Chairman - for information
Central Pollution Control Board
Parivesh Bhawan, CBD –cum-Office Complex
East Arjun Nagar, Delhi -110032
3. The Chairman - for information
Uttar Pradesh Pollution Control Board
H.No. TC -12 V
Vibhuti Khand, Gomati Nagar, Lucknow-226010



Office : P.O. Lohgara, Tehsil Bara, District Allahabad - 212107, U.P. (India)
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CIN : U40101UP2007SGC032835

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 2018 to March 2019

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

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 2018 to March 2019

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 has been 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 maintained 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 SO _x and NO _x 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.	275 m high stacks (one bi flue and one single flue) have been constructed & in regular service. 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 is continuously transferring to CPCB. Average exit velocity of flue gases from stack for the period from October 2018 to March 2019 was 23.93 m/s. The monitoring values for Particulate matter of stack emission are well within the limits. The monitoring values of Particulate Matter, SO ₂ , NO _x & Hg for the period from October 2018 to March 2019 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 are also enclosed as Annexure No. "AA1 - AA4"

(v)	High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm ³ .	Complied. 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/Nm ³ . The results of same is enclosed as Annexure No "A" & "AA1-AA4"
(vi)	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.	Bag filters at coal crusher house and dust suppression system at wagon tippler & Transfer points have been installed and continuously operational. Dust extraction system has been installed and continuously operational at AHP area.
(vii)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. 100% fly ash utilization shall be ensured from 4 th 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.	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. Mercury and other heavy metals monitored in the bottom ash and from the effluents of existing ash pond at " Ecomen Laboratory Pvt. Ltd. ". The results of same are enclosed as Annexure no B, B1 . Base line Data comparison table are enclosed as Annexure no BB1 .
(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	Complied.

	within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not get mixed.	The plant has been designed with zero discharge concepts. The treated effluent is re-circulated and re-used within the plant.
(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. 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-CC2". Total Suspended Solids & BOD of sewage treatment 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" .
(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 having 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.	Complied. Fire protection system for plant inter-alia includes measure to check / minimize spontaneous fires in coal yard. 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
(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.	Complied. Explosive License of storage facilities of liquid fuel such as LDO/HFO/LSHS has already been

	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.	submitted vide letter no PPGCL/BARA/MOEF/15/10/169 dated: 27.04.15 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
(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.	Complied. The extract of 11 no of dug well & Piezometers (ground water quality) analysis report of Ecomen Laboratory Pvt. Ltd, Lucknow (An Approved laboratory from MoEF & CC, Govt. of India, New Delhi) is attached as " Annexure no D,D1 to D12 " (samples were collected in August 2018.) The latest monitoring data comparison with baseline data when plant becomes fully operational is attached as " Annexure BB1 ".
(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.	Green belt is being developed simultaneously in phased manner along with completion /commissioning of thermal plant. Up to 31 th March 2019 270173 no's samplings have been planted.
(xviii)	First-Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied One dispensary is in operation. Four doctors along with Para-medical staff are already posted. Two Ambulances and one medical mobile van are deployed at site. Sanitation facility for contract workers has been provided.
(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.	It is being complied with. The equipments have been designed to control noise level below 75 dB (A).For people working in the high noise area, requisite personal protective equipments like ear-plugs/ ear muffs etc are provided. 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. "EE1-EE2"

(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. The data shall also be put on the web site of the company.	<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 data is continuously conveyed to CPCB through server.</p> <p>The monitoring report of ambient air quality for the month of October, 2018 to March 2019 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-FF2".</p>
(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.	<p>Complied.</p> <p>R&R policy 2003 is being implemented as directed by the State Govt. and all necessary facilities/amenities are being developed.</p>
(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.	<p>Complied.</p> <p>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"</p>
(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.	<p>Complied</p> <p>Temporary Housing Facility for labors with necessary arrangements for cooking, toilets, drinking water etc. along with doctor and Para-medical staff has been provided in the plant premises.</p>
(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	<p>Complied.</p> <p>Advertisement was published in the Hindustan Times, The Times of India (English) Daily and Dainik Jagran and Amar Ujala (Hindi Daily) on 7th Oct. 2009 immediately after receipt of EC.</p>

	Board/Committee and may also be seen at the web site of the Ministry of Environment and Forests at http://envfor.nic.in	
(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.	Complied. 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. 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.
(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.	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. We have already submitted the six monthly compliance status of environment clearance report for the period of April 2018 to September 2018 vide our letter no PPGCL/BARA/MOEF/18/11/1068 dated-14.11.2018
(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.	Complied. Environment statement report for FY 2017-2018 has been submitted to respective offices Ref. No. - PPGCL/BARA/Thermal Power/Environment Statement/18/09/780 Dated- 12.09.18.

(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 & ambient levels of NOx) will be displayed at the main gate of the power plant.	Complied. EIA/EMP report, DPR and other relevant documents have already been submitted to the Regional Office of MOEF at Lucknow. Criteria pollutants levels including PM ₁₀ , PM _{2.5} , SO ₂ , and NOx & Hg from stack and Ambient air are monitored regularly, results are continuously displaying at Main gate. Results are also conveyed online to CPCB server.
(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
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 (including bottom ash) shall be put in place.	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
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	It is being complied.

	Pond over and above the Green Belt around the plant boundary.	
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.
xxxixii	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 social impact improvement / mitigations.	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.
xxxixiii	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 & Stack with CPCB & SPCB has been completed and online data is continuously conveyed to CPCB server.</p> <p>However, Stack monitoring, ambient air quality monitoring reports are enclosed for the period of October, 2018 to March 2019 as annexure No 'A' & 'AA1-AA4' and 'F' & 'FF1-FF2' respectively. The results are observed well within the prescribed norms of CPCB / SPCB.</p>
(ii)	Display of monitoring data in public domain (main gate).	Criteria pollutants levels including PM ₁₀ , PM _{2.5} , SO ₂ , NO _x and 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 2018 to September 2018 vide our letter no PPGCL/BARA/MOEF/18/11/1068 dated-14.11.2018. Arrangements are being made to upload the monitoring data and EC compliance report on the Company website.

PRAYAGRAJ POWER GENERATION COMAPNY LIMITED
BARA, DISTRICT – ALLAHABAD

STACK MONITORING (In House)

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
12.10.2018	ESP-1	126 ⁰ C	22.4	40.3	1030	290	
13.10.2018	ESP-3	127 ⁰ C	23.5	38.7	1142	278	
30.10.2018	ESP-1	129 ⁰ C	23.0	37.5	1055	291	
31.10.2018	ESP-3	128 ⁰ C	22.3	38.6	1093	285	
10.11.2018	ESP-1	127 ⁰ C	24.4	37.5	1030	290	
19.11.2018	ESP-3	126 ⁰ C	25.0	35.6	1142	278	
27.11.2018	ESP-1	125 ⁰ C	25.5	38.2	1055	291	
28.11.2018	ESP-3	124 ⁰ C	26.0	37.4	1093	285	
14.12.2018	ESP-1	126 ⁰ C	25.0	36.3	1010	275	
15.12.2018	ESP-3	127 ⁰ C	24.0	36.7	1136	281	
27.12.2018	ESP-1	125 ⁰ C	24.1	38.4	1025	267	
28.12.2018	ESP-3	126 ⁰ C	23.5	38.1	1048	273	
18.01.2019	ESP-1	127 ⁰ C	23.5	39.0	1164	169.2	
18.01.2019	ESP-3	128 ⁰ C	24.0	42.1	960.4	258.3	
29.01.2019	ESP-1	126 ⁰ C	24.6	35.4	1010	254	
29.01.2019	ESP-3	127 ⁰ C	25.0	37.5	1048	258	
15.02.2019	ESP-1	128 ⁰ C	24.5	38.0	916.5	207.6	
15.02.2019	ESP-3	127 ⁰ C	23.0	43.4	960.4	250.1	
28.02.2019	ESP-1	126 ⁰ C	22.8	43.0	806.4	205.2	
28.02.2019	ESP-3	125 ⁰ C	24.0	33.4	747.6	245.6	
08.03.2019	ESP-1	130 ⁰ C	23.5	41.2	809.2	254.5	
08.03.2019	ESP-3	128 ⁰ C	23.4	44.0	814.5	268.8	
29.03.2019	ESP-1	124 ⁰ C	22.5	48.6	842.6	284.3	
29.03.2019	ESP-3	127 ⁰ C	24.5	40.4	925.4	258.6	
Specified Limits				Max. 50 mg/Nm³	200 mg/Nm³	300 mg/Nm³	



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)
Address: 12, Vishnupuri, Church Road, Aliganj, Lucknow-226024
E-mail: prakriti_md@rediffmail.com
Tel: 0522- 4002545, Mobile: 09415518818.

An Approved Laboratory from MoEF vide S.O. No. 1190 (E) dated 01/05/2014 and Valid up to 30/04/2019

Stack Emission Data and Analytical Results Unit -Ist

Report No.	Reference No.	Issue Date
PCS/SE/01/2018	PCS/PPGCL/04/2018	31/12/2018
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 :	Mr Ajay Kumar & Mr Vipin Kannojiya	
4. Weather Condition :	Clear Sky	
5. Method of sampling:	As per standard Method	
6. Date of Monitoring :	27/12/2018	
7. Sample Receipt in Lab:	28/12/2018	
8. Date of Testing:	28/12/2018 – 31/12/2018	
S. No.	Particulars	Value
1	Duct Attached to	ESP Outlet Unit – I st
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	Operating Load (MW)	540
7	Diameter of Stack (m)	7.4
8	Type of fuel used	Coal
9	Atmospheric temperature (°K)	301
10	Fuel Gas temperature (°K)	402
11	Flue Gas Exist Velocity (m/s)	22.1
12	Concentration of Pollutant in fuel Gas and Reference method	
IS-11255 (Part 1), 1985 RA*-2014	PM ₁₀ in mg/Nm ³	42.5
IS-11255 (Part 2), 1985 RA*-2014	SO ₂ in mg/Nm ³	752.4
IS-11255 (Part 7), 2005 RA*-2017	NO _x in mg/Nm ³	265.3
-	Hg in mg/Nm ³	BDL***
-	N ₂ (%)	76.9
-	CO ₂ (%)	12.1
-	O ₂ (%)	6.8
-	CO (%)	BDL****
-	H ₂ O (%)	4.7

*Reaffirmed

** Result calculated at 6% O₂ Correction on Dry basic

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

****BDL-Below Detection Limit for CO is 0.0001 ppm

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

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Managing Director

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Stack Emission Data and Analytical Results Unit –IIIrd

Report No.	Reference No.	Issue Date
PCS/SE/02/2018	PCS/PPGCL/04/2018	31/12/2018
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 :	Mr Ajay Kumar & Mr Vipin Kannojiya	
4. Weather Condition :	Clear Sky	
5. Method of sampling:	As per standard Method	
6. Date of Monitoring :	27/12/2018	
7. Sample Receipt in Lab:	28/12/2018	
8. Date of Testing:	28/12/2018 – 31/12/2018	
S. No.	Particulars	Value
1	Duct Attached to	ESP Outlet Unit -III rd
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	Operating Load (MW)	550
7	Diameter of Stack (m)	7.4
8	Type of fuel used	Coal
9	Atmospheric temperature (^o K)	300
10	Fuel Gas temperature (^o K)	407
11	Flue Gas Exist Velocity (m/s)	22.7
12	Concentration of Pollutant in fuel Gas and Reference method	
IS-11255 (Part 1), 1985 RA*-2014	PM** in mg/Nm ³	41.3
IS-11255 (Part 2), 1985 RA*-2014	SO ₂ ** in mg/Nm ³	788.4
IS-11255 (Part 7), 2005 RA*-2017	NO _x ** in mg/Nm ³	281.9
-	Hg in mg/Nm ³	BDL**
-	N ₂ (%)	76.7
-	CO ₂ (%)	12.2
-	O ₂ (%)	6.9
-	CO (%)	BDL***
-	H ₂ O (%)	5.0

*Reaffirmed

** Result calculated at 6% O₂ Correction on Dry basic

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

****BDL-Below Detection Limit for CO is 0.0001 ppm

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

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"NABL" Accredited Laboratory Certificate No:- TC-8241 Validity 01-01-2019 to 31-12-2020

Stack Emission Data and Analytical Results Unit -Ist

Report No.	Reference No.	Issue Date
PCS/SE/01/2019	PCS/PPGCL/01/2019	06/04/2019
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 :	Mr Ajay Kumar & Mr Asheesh Kushwaha	
4. Weather Condition :	Clear Sky	
5. Method of sampling:	As per standard Method	
6. Date of Monitoring :	29/03/2019	
7. Sample Receipt in Lab:	30/03/2019	
8. Date of Testing:	01/04/2019 – 03/04/2019	
S. No.	Particulars	Value
1	Duct Attached to	ESP Outlet Unit – I st
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	Operating Load (MW)	540
7	Diameter of Stack (m)	7.4
8	Type of fuel used	Coal
9	Atmospheric temperature (^o K)	303
10	Fuel Gas temperature (^o K)	401
11	Flue Gas Exist Velocity (m/s)	22.5
12	Concentration of Pollutant in fuel Gas and Reference method	
IS-11255 (Part 1), 1985 RA*-2014	PM (at 6% O ₂ Correction on Dry basic) in mg/Nm ³	39.2
IS-11255 (Part 2), 1985 RA*-2014	SO ₂ in mg/Nm ³	742.8
IS-11255 (Part 7), 2005 RA*-2017	NO _x in mg/Nm ³	271.3
-	Hg in mg/Nm ³	BDL**
-	N ₂ (%)	75.8
-	CO ₂ (%)	12.4
-	O ₂ (%)	6.5
-	CO (%)	BDL***
-	H ₂ O (%)	4.9

*Reaffirmed

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

***BDL-Below Detection Limit for CO is 0.0001 ppm

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Dr Divya Misra
Managing Director

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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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Stack Emission Data and Analytical Results Unit –IIIrd

Report No.	Reference No.	Issue Date
PCS/SE/02/2019	PCS/PPGCL/01/2019	06/04/2019
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 :	Mr Ajay Kumar & Mr Asheesh Kushwaha	
4. Weather Condition :	Clear Sky	
5. Method of sampling:	As per standard Method	
6. Date of Monitoring :	29/03/2019	
7. Sample Receipt in Lab:	30/03/2019	
8. Date of Testing:	01/04/2019 – 03/04/2019	
S. No.	Particulars	Value
1	Duct Attached to	ESP Outlet Unit –III rd
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	Operating Load (MW)	550
7	Diameter of Stack (m)	7.4
8	Type of fuel used	Coal
9	Atmospheric temperature (⁰ K)	305
10	Fuel Gas temperature (⁰ K)	402
11	Flue Gas Exist Velocity (m/s)	22.8
12	Concentration of Pollutant in fuel Gas and Reference method	
IS-11255 (Part 1), 1985 RA*-2014	PM (at 6% O ₂ Correction on Dry basic) in mg/Nm ³	40.7
IS-11255 (Part 2), 1985 RA*-2014	SO ₂ in mg/Nm ³	761.3
IS-11255 (Part 7), 2005 RA*-2017	NO _x in mg/Nm ³	286.4
-	Hg in mg/Nm ³	BDL **
-	N ₂ (%)	76.1
-	CO ₂ (%)	11.9
-	O ₂ (%)	7.3
-	CO (%)	BDL ***
-	H ₂ O (%)	5.4

*Reaffirmed

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

***BDL-Below Detection Limit for CO is 0.0001 ppm

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Dr Divya Misra
Dr Divya Misra
Managing Director

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Environmental and Safety Audit reports, Commissioning, Erection, Operation and Maintenance of STP/ETP, Clearances from
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LABORATORIES PVT. LTD.

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/Ash/17/08/17

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF ASH*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
 Address of the Customer : P.O. Lohgara, Tehsil – Bara,
 Distt. Allahabad – 212 107 (U.P.)
 Sample Collected by : Mr. Ramjeet
 Date of Sampling : 10.08.2018
 Date of Sample Receiving : 13.08.2018
 Packing of Sample : As per requirement
 Date of Analysis : 13.08.2018 to 22.08.2018
 Sample Type : Fly Ash
 Sample ID Code : ELS- 102

Sl. No.	Tests	Result
1.	Mercury as Hg (mg/kg)	BDL
2.	Arsenic as As (mg/kg)	BDL
3.	Lead as Pb (mg/kg)	1.2
4.	Total Chromium as Cr (mg/kg)	2.5

*The result are related only to item tested.

BDL = Below Detection Limit

Archana
Analyst

Authorized Signatory
 Ecomen Laboratories Pvt. Ltd.
 Flat No.-8 2nd Floor, Arif Chamber-V
 Sector-H, Aliganj, Lucknow-226024
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Reeng
Quality Manager

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FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/Ash/17/08/17

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF ASH*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
Address of the Customer : P.O. Lohgara, Tehsil – Bara,
Distt. Allahabad – 212 107 (U.P.)
Sample Collected by : Mr. Ramjeet
Date of Sampling : 10.08.2018
Date of Sample Receiving : 13.08.2018
Packing of Sample : As per requirement
Date of Analysis : 13.08.2018 to 22.08.2018
Sample Type : Bottom Ash
Sample ID Code : ELS-103

Sl. No.	Tests	Result
1.	Mercury as Hg (mg/kg)	BDL
2.	Arsenic as As (mg/kg)	BDL
3.	Lead as Pb (mg/kg)	1.8
4.	Total Chromium as Cr (mg/kg)	3.2

*The result are related only to item tested.

BDL = Below Detection Limit

Anchana
Analyst*Reeng*
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FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/WW1/647/08/18

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF WASTE WATER*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
 Address of the Customer : P.O. Lohgara, Tehsil – Bara,
 Distt. Allahabad – 212 107 (U.P.)
 Sampling Method : APHA/ IS: 3025
 Sample Collected by : Mr. Ramjeet
 Date of Sampling : 10.08.2018
 Date of Sample Receiving : 13.08.2018
 Packing of Sample : As per requirement
 Date of Analysis : 13.08.2018 to 22.08.2018
 Sample Type : Sample - 12
 Sample ID Code : ELW- 8282

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	G.S.R 422(E)
					Desirable Limit
1.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-2	0.01
2.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.08-2	0.2
3.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-5	0.1
4.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-50	2.0

*The result are related only to item tested.

BDL = Below Detection Limit

Archana
Analyst

[Signature]
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Reena
Quality Manager

Annexure BB1

Prayagraj Power Generation Company Ltd													
Heavy Metal analysis report from Year 2011 to Year 2018													
	Heavy metals→	Mercury analysis						Arsenic analysis					
	Year→	2013	2014	2015	2016	2017	2018	2013	2014	2015	2016	2017	2018
	Unit→	mg/l	mg/l	µg/ml	mg/l	mg/l	mg/l	mg/l	mg/l	µg/ml	mg/l	mg/l	mg/l
Sr.No.	Sample detail ↓												
	1 Mishrapur Dugwell (towards Lohgara)	NT	<0.001	<0.001	0.0033	<0.0002	BDL**	NT	<0.008	<0.005	0.0073	<0.0002	BDL**
	2 Jorvat Dugwell	NT	<0.001	<0.001	0.0025	0.0008	BDL**	NT	<0.008	<0.005	0.0017	<0.0002	BDL**
	3 Berui Dugwell	NT	<0.001	<0.001	0.0024	0.0006	BDL**	NT	<0.008	<0.005	0.0007	<0.0002	BDL**
	4 Bemra Dugwell	NT	<0.001	<0.001	0.0017	<0.0002	BDL**	NT	<0.008	<0.005	0.0004	<0.0002	BDL**
	5 Khansemra	NT	NT	<0.001	0.0047	<0.0002	BDL**	NT	NT	<0.005	0.0004	0.0003	BDL**
	6 Lohgara	NT	NT	<0.001	0.0008	NT	BDL**	NT	NT	<0.005	0.0023	NT	BDL**
	7 Mishrapur Dugwell (Near plant Boundary	NT	NT	NT	NT	NT	BDL**	NT	NT	NT	NT	NT	BDL**
	8 Near Shivrajpur Dugwell	NT	NT	NT	NT	NT	BDL**	NT	NT	NT	NT	NT	BDL**
	9 Piezometer-1	NT	<0.001	<0.001	0.0006	<0.0002	BDL**	NT	<0.008	<0.005	0.0005	0.0007	BDL**
	10 Piezometer-2	NT	<0.001	<0.001	0.0004	0.0006	BDL**	NT	<0.008	<0.005	0.0003	<0.0002	BDL**
	11 Piezometer-3	NT	NT	<0.001	<0.0002	<0.0002	BDL**	NT	NT	<0.005	0.0004	0.0004	BDL**
	12 Piezometer-4	NT	NT	<0.001	<0.0002	NT	NT	NT	NT	<0.005	0.0032	NT	NT
	13 Ash effluent discharge water	NT	NT	NT	<0.0002	<0.0002	BDL**	NT	NT	NT	0.0025	55.00	BDL**
	Abbreviation												
	*NT - Not Tested												
	BDL**- Below Detection Limit												
	Heavy metals→	Chromium analysis						Lead analysis					
	Year→	2013	2014	2015	2016	2017	2018	2013	2014	2015	2016	2017	2018
	Unit→	mg/l	mg/l	µg/ml	mg/l	mg/l	mg/l	mg/l	mg/l	µg/ml	mg/l	mg/l	mg/l
Sr.No.	Sample detail ↓												
	1 Mishrapur Dugwell (towards Lohgara)	<0.025	<0.006	<0.025	<0.025	<0.025	BDL**	0.235	<0.009	NT	<0.01	<0.01	BDL**
	2 Jorhat Dugwell	<0.025	<0.006	<0.025	<0.025	<0.025	BDL**	0.018	<0.009	NT	<0.01	0.0200	BDL**
	3 Berui Dugwell	<0.025	<0.006	<0.025	<0.025	<0.025	BDL**	<0.01	<0.009	NT	<0.01	<0.01	BDL**
	4 Bemra Dugwell	<0.025	<0.006	<0.025	<0.025	<0.025	BDL**	<0.01	<0.009	NT	<0.01	0.0360	BDL**
	5 Khansemra	NT	NT	<0.025	<0.025	<0.025	BDL**	NT	NT	NT	<0.01	<0.01	BDL**
	6 Lohgara	NT	NT	<0.025	<0.025	NT	BDL**	NT	NT	NT	<0.01	NT	BDL**
	7 Mishrapur Dugwell (Near plant Boundary	NT	NT	NT	NT	NT	BDL**	NT	NT	NT	NT		BDL**
	8 Near Shivrajpur Dugwell	NT	NT	NT	NT	NT	BDL**	NT	NT	NT	NT		BDL**
	9 Piezometer-1	<0.025	<0.006	<0.025	<0.025	<0.025	BDL**	0.019	<0.009	NT	0.012	0.0420	BDL**
	10 Piezometer-2	<0.025	<0.006	<0.025	<0.025	<0.025	BDL**	<0.01	<0.009	NT	0.113	0.0410	BDL**
	11 Piezometer-3	NT	NT	<0.025	<0.025	<0.025	BDL**	NT	NT	NT	0.118	0.0150	BDL**
	12 Piezometer-4	NT	NT	<0.025	<0.025	NT	NT	NT	NT	NT	0.05	NT	NT
	13 Ash effluent discharge water	NT	NT	NT	<0.025	<0.025	BDL**	NT	NT	NT	0.018	<0.01	BDL**
	Abbreviation												
	*NT - Not Tested												
	BDL**- Below Detection Limit												

*Ash effluent discharge water is completely recycled in the Ash handling system.

PRAYAGRAJ POWER GENERATION COMAPNY LIMITED

BARA, DISTRICT – ALLAHABAD

Sewage Treatment Plant Effluent Monitoring for the period of October 2018 to March 2019

Name of Month		p H	Total Suspended Solids mg/l	BOD mg/l	Remarks
October-18	Minimum	7.3	25	16.7	
	Maximum	7.5	38	25.5	
November-18	Minimum	7.1	30	17.1	
	Maximum	7.4	60	22.5	
December-18	Minimum	7.3	31	11.6	
	Maximum	7.4	41	25.2	
January-19	Minimum	7.1	33	14.3	
	Maximum	7.4	70	18.7	
February-19	Minimum	7.1	35	16.5	
	Maximum	7.4	60	22.8	
March-19	Minimum	7.2	45	15.3	
	Maximum	7.7	54	20	
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/01/2019	PCS/PPGCL/01/2019	11/01/2019
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 Ajay Kumar & Mr Vipin Kannojiya	
4. Weather Condition	: Clear Sky	
5. Method of sampling	: As per standard Method	
6. Quantity of Sample	: 2 Lt. Water Sample Collected in Bottle	
7. Date of Sample Collection	: 03/01/2019	
8. Sample Receipt in Laboratory	: 04/01/2019	
9. Date of Testing	: 04/01/2019 - 10/01/2019	

S. No.	Parameter	Units	Reference Method*	STP Outlet	Standard**
1.	pH	-	4500 H	7.62	5.5-9.0
2.	TSS	mg/l	2540 D	58.9	100
3.	BOD (3 days at 27°C)	mg/l	5210 A	9.0	30
4.	COD	mg/l	5220 B	56.0	250
5.	Oil & Grease	mg/l	5520 B	2.4	10

*As per APHA/AWWA; 23rd Ed. (2017)

**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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"NABL" Accredited Laboratory Certificate No:- TC-8241 Validity 01-01-2019 to 31-12-2020

Test Report for STP Wastewater

Report No.	Reference No.	Issue Date			
PCS/STP/01/2019	PCS/PPGCL/02/2019	06/04/2019			
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 Ajay Kumar & Mr Asheesh Kushwaha				
4. Weather Condition	: Clear Sky				
5. Method of sampling	: As per standard Method				
6. Quantity of Sample	: 2 Lt. Water Sample Collected in Bottle				
7. Date of Sample Collection	: 30/03/2019				
8. Sample Receipt in Laboratory	: 30/03/2019				
9. Date of Testing	: 1/04/2019 - 05/04/2019				
S. No.	Parameter	Units	Reference Method*	STP Outlet	Standard**
1.	pH	-	4500 H	7.56	5.5-9.0
2.	TSS	mg/l	2540 D	41.8	100
3.	BOD (3 days at 27 ⁰ C)	mg/l	5210 A	12.0	30
4.	COD	mg/l	5220 B	84.0	250
5.	Oil & Grease	mg/l	5520 B	2.0	10

*As per APHA/AWWA; 23rd Ed. (2017)

**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

- Note:** 1. The results in the Test Report related only to the items tested.
2. The report shall not be reproduced-except in full without the written permission of laboratory.
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Dr Divya Misra
Managing Director

-----End of this Report-----

Water sample details are-

Sample code	Sample taken from
I.	Mishrapur (towards Lohgara)
II.	Jorvat Dugwell
III.	Berui Dugwell
IV.	Bemra Dugwell
V.	Khansemra Dugwell
VI.	Lohgara Dugwell
VII.	Mishrapur Dugwell (Near plant Boundary)
VIII.	Near Shivraipur Dugwell
IX.	Piezo-1
X.	Piezo-2
XI.	Piezo-3

ANALYSIS REPORT

PRAYAGRAJ POWER GENERATION CO. LTD.

P.O. Lohgara, Tehsil – Bara,

Distt. Allahabad – 211 008 (U.P.)

of

for

August - 2018

Prepared by :

ecoMen

(An Approved Laboratory by MoEF and CC)

Ecomen Laboratories Pvt. Ltd.

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LABORATORIES PVT. LTD.

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/GW1/647/08/18

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF GROUND WATER*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
 Address of the Customer : P.O. Lohgara, Tehsil - Bara,
 Distt. Allahabad - 212 107 (U.P.)
 Sampling Method : APHA/ IS: 3025
 Sample Collected by : Mr. Ramjeet
 Date of Sampling : 10.08.2018
 Date of Sample Receiving : 13.08.2018
 Packing of Sample : As per requirement
 Date of Analysis : 13.08.2018 to 22.08.2018
 Sample Type : Sample - 1 Dug well
 Sample ID Code : ELW- 8271

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Renff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	6.65	2-12	6.5-8.5	No Relax.
4.	Turbidity as (NTU)	APHA, 23rd Ed. 2017, 2130-A+B	1.53	1-100	1.0	5.0
5.	Total Solids as TS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	292.0	5-5000	-	-
6.	Total Dissolved Solids as TDS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	290.0	5-5000	500	2000
7.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	140.0	5-1500	200	600
8.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	152.0	5-1500	200	600
9.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	70.0	5-1000	250	1000
10.	Sulfate as SO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-SO ₄ -E	31.87	1-250	200	400
11.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23rd Ed. 2017, 4500-NO ₃ - B	5.23	5-100	45	No Relax
12.	Total Nitrogen as N (mg/l)	APHA, 23rd Ed. 2017, 4500 N A+C	BDL	1-100	-	-
13.	Ammonical Nitrogen as NH ₃ -N (mg/l)	APHA, 23rd Ed. 2017, 4500 NH ₃ A+F	BDL	0.5-100	-	-
14.	Silicates as SiO ₂ (mg/l)	APHA, 23rd Ed. 2017, 4500 SiO ₂ A+F	BDL	0.5-50	-	-
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500F-C	0.20	0.05-10	1	1.5
16.	Phosphate as PO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-PD	BDL	0.1-50	-	-
17.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax
18.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
19.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax
20.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-10	0.05	No Relax
21.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23rd Ed. 2017, 5530 C+D	BDL	0.05-10	0.001	No Relax
22.	Chemical Oxygen Demand as COD (mg/l)	APHA, 23rd Ed. 2017, 5220 A+C	BDL	5-50000	-	-

*The result are related only to item tested.
 BDL = Below Detection Limit

Archana
 Analyst

[Signature]
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An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/GW2/647/08/18

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF GROUND WATER*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
Address of the Customer : P.O. Lohgara, Tehsil – Bara,
 Distt. Allahabad – 212 107 (U.P.)
Sampling Method : APHA/ IS: 3025
Sample Collected by : Mr. Ramjeet
Date of Sampling : 10.08.2018
Date of Sample Receiving : 13.08.2018
Packing of Sample : As per requirement
Date of Analysis : 13.08.2018 to 22.08.2018
Sample Type : Sample –2 Dug well
Sample ID Code : ELW- 8272

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	7.08	2-12	6.5-8.5	No Relax.
4.	Turbidity as (NTU)	APHA, 23rd Ed. 2017, 2130-A+B	1.42	1-100	1.0	5.0
5.	Total Solids as TS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	454.0	5-5000	-	-
6.	Total Dissolved Solids as TDS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	451.0	5-5000	500	2000
7.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	176.0	5-1500	200	600
8.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	240.0	5-1500	200	600
9.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	88.0	5-1000	250	1000
10.	Sulfate as SO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-SO ₄ - E	24.12	1-250	200	400
11.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23rd Ed. 2017, 4500-NO ₃ - B	17.66	5-100	45	No Relax
12.	Total Nitrogen as N (mg/l)	APHA, 23rd Ed. 2017, 4500 N A+C	BDL	1-100	-	-
13.	Ammonical Nitrogen as NH ₃ -N (mg/l)	APHA, 23rd Ed. 2017, 4500 NH ₃ A+F	BDL	0.5-100	-	-
14.	Silicates as SiO ₂ (mg/l)	APHA, 23rd Ed. 2017, 4500 SiO ₂ A+F	BDL	0.5-50	-	-
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500F-C	0.74	0.05-10	1	1.5
16.	Phosphate as PO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-PD	BDL	0.1-50	-	-
17.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax
18.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
19.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax
20.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-10	0.05	No Relax
21.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23rd Ed. 2017, 5530 C+D	BDL	0.05-10	0.001	No Relax
22.	Chemical Oxygen Demand as COD (mg/l)	APHA, 23rd Ed. 2017, 5220 A+C	BDL	5-50000	-	-

*The result are related only to item tested.

BDL = Below Detection Limit

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LABORATORIES PVT. LTD.

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/GW3/647/08/18

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF GROUND WATER*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
 Address of the Customer : P.O. Lohgara, Tehsil - Bara,
 Distt. Allahabad - 212 107 (U.P.)
 Sampling Method : APHA/ IS: 3025
 Sample Collected by : Mr. Ramjeet
 Date of Sampling : 10.08.2018
 Date of Sample Receiving : 13.08.2018
 Packing of Sample : As per requirement
 Date of Analysis : 13.08.2018 to 22.08.2018
 Sample Type : Sample - 3 Dug well
 Sample ID Code : ELW- 8273

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991 (Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	7.37	2-12	6.5-8.5	No Relax.
4.	Turbidity as (NTU)	APHA, 23rd Ed. 2017, 2130-A+B	1.11	1-100	1.0	5.0
5.	Total Solids as TS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	351.0	5-5000	-	-
6.	Total Dissolved Solids as TDS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	348.0	5-5000	500	2000
7.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	168.0	5-1500	200	600
8.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	216.0	5-1500	200	600
9.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	50.0	5-1000	250	1000
10.	Sulfate as SO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-SO42- E	32.5	1-250	200	400
11.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23rd Ed. 2017, 4500-NO3- B	9.12	5-100	45	No Relax
12.	Total Nitrogen as N (mg/l)	APHA, 23rd Ed. 2017, 4500 N A+C	BDL	1-100	-	-
13.	Ammonical Nitrogen as NH ₃ -N (mg/l)	APHA, 23rd Ed. 2017, 4500 NH ₃ A+F	BDL	0.5-100	-	-
14.	Silicates as SiO ₂ (mg/l)	APHA, 23rd Ed. 2017, 4500 SiO ₂ A+F	BDL	0.5-50	-	-
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500F-C	0.47	0.05-10	1	1.5
16.	Phosphate as PO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-PD	BDL	0.1-50	-	-
17.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax
18.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
19.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax
20.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-10	0.05	No Relax
21.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23rd Ed. 2017, 5530 C+D	BDL	0.05-10	0.001	No Relax
22.	Chemical Oxygen Demand as COD (mg/l)	APHA, 23rd Ed. 2017, 5220 A+C	BDL	5-50000	-	-

*The result are related only to item tested.

BDL = Below Detection Limit

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Analyst

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An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/GW4/647/08/18

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF GROUND WATER*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
 Address of the Customer : P.O. Lohgara, Tehsil – Bara,
 Distt. Allahabad – 212 107 (U.P.)
 Sampling Method : APHA/ IS: 3025
 Sample Collected by : Mr. Ramjeet
 Date of Sampling : 10.08.2018
 Date of Sample Receiving : 13.08.2018
 Packing of Sample : As per requirement
 Date of Analysis : 13.08.2018 to 22.08.2018
 Sample Type : Sample –4 Dug well
 Sample ID Code : ELW- 8274

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	7.55	2-12	6.5-8.5	No Relax.
4.	Turbidity as (NTU)	APHA, 23rd Ed. 2017, 2130-A+B	1.02	1-100	1.0	5.0
5.	Total Solids as TS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	182.0	5-5000	-	-
6.	Total Dissolved Solids as TDS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	179.8	5-5000	500	2000
7.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	80.0	5-1500	200	600
8.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	104.0	5-1500	200	600
9.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	16.0	5-1000	250	1000
10.	Sulfate as SO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-SO ₄ - E	20.62	1-250	200	400
11.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23rd Ed. 2017, 4500-NO ₃ - B	15.29	5-100	45	No Relax
12.	Total Nitrogen as N (mg/l)	APHA, 23rd Ed. 2017, 4500 N A+C	BDL	1-100	-	-
13.	Ammonical Nitrogen as NH ₃ -N (mg/l)	APHA, 23rd Ed. 2017, 4500 NH ₃ A+F	BDL	0.5-100	-	-
14.	Silicates as SiO ₂ (mg/l)	APHA, 23rd Ed. 2017, 4500 SiO ₂ A+F	BDL	0.5-50	-	-
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500F-C	0.16	0.05-10	1	1.5
16.	Phosphate as PO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-PD	BDL	0.1-50	-	-
17.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax
18.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
19.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax
20.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-10	0.05	No Relax
21.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23rd Ed. 2017, 5530 C+D	BDL	0.05-10	0.001	No Relax
22.	Chemical Oxygen Demand as COD (mg/l)	APHA, 23rd Ed. 2017, 5220 A+C	BDL	5-50000	-	-

*The result are related only to item tested.

BDL = Below Detection Limit

Archana
Analyst

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FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/GW5/647/08/18

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF GROUND WATER*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
 Address of the Customer : P.O. Lohgara, Tehsil – Bara,
 Distt. Allahabad – 212 107 (U.P.)
 Sampling Method : APHA/ IS: 3025
 Sample Collected by : Mr. Ramjeet
 Date of Sampling : 10.08.2018
 Date of Sample Receiving : 13.08.2018
 Packing of Sample : As per requirement
 Date of Analysis : 13.08.2018 to 22.08.2018
 Sample Type : Sample – 5 Dug well
 Sample ID Code : ELW- 8275

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	7.45	2-12	6.5-8.5	No Relax.
4.	Turbidity as (NTU)	APHA, 23rd Ed. 2017, 2130-A+B	1.32	1-100	1.0	5.0
5.	Total Solids as TS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	1040.0	5-5000	-	-
6.	Total Dissolved Solids as TDS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	1032.0	5-5000	500	2000
7.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	296.0	5-1500	200	600
8.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	424.0	5-1500	200	600
9.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	314.0	5-1000	250	1000
10.	Sulfate as SO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-SO ₄ -E	135.25	1-250	200	400
11.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23rd Ed. 2017, 4500-NO ₃ -B	37.19	5-100	45	No Relax
12.	Total Nitrogen as N (mg/l)	APHA, 23rd Ed. 2017, 4500 N A+C	BDL	1-100	-	-
13.	Ammonical Nitrogen as NH ₃ -N (mg/l)	APHA, 23rd Ed. 2017, 4500 NH ₃ A+F	BDL	0.5-100	-	-
14.	Silicates as SiO ₂ (mg/l)	APHA, 23rd Ed. 2017, 4500 SiO ₂ A+F	BDL	0.5-50	-	-
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500F-C	0.35	0.05-10	1	1.5
16.	Phosphate as PO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-PD	BDL	0.1-50	-	-
17.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax
18.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
19.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax
20.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-10	0.05	No Relax
21.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23rd Ed. 2017, 5530 C+D	BDL	0.05-10	0.001	No Relax
22.	Chemical Oxygen Demand as COD (mg/l)	APHA, 23rd Ed. 2017, 5220 A+C	BDL	5-50000	-	-

*The result are related only to item tested.

BDL = Below Detection Limit

Archana
Analyst

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LABORATORIES PVT. LTD.

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/GW6/647/08/18

TEST REPORT ISSUE DATE:27.08.2018

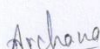
TEST REPORT OF GROUND WATER*

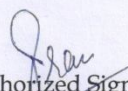
Name of the Customer : Prayagraj Power Generation Co. Ltd.
 Address of the Customer : P.O. Lohgara, Tehsil – Bara,
 Distt. Allahabad – 212 107 (U.P.)
 Sampling Method : APHA/ IS: 3025
 Sample Collected by : Mr. Ramjeet
 Date of Sampling : 10.08.2018
 Date of Sample Receiving : 13.08.2018
 Packing of Sample : As per requirement
 Date of Analysis : 13.08.2018 to 22.08.2018
 Sample Type : Sample –6 Dug well
 Sample ID Code : ELW- 8276

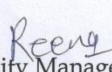
Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	7.41	2-12	6.5-8.5	No Relax.
4.	Turbidity as (NTU)	APHA, 23rd Ed. 2017, 2130-A+B	1.56	1-100	1.0	5.0
5.	Total Solids as TS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	520.0	5-5000	-	-
6.	Total Dissolved Solids as TDS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	517.0	5-5000	500	2000
7.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	168.0	5-1500	200	600
8.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	260.0	5-1500	200	600
9.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	84.0	5-1000	250	1000
10.	Sulfate as SO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-SO ₄ - E	80.25	1-250	200	400
11.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23rd Ed. 2017, 4500-NO ₃ - B	35.27	5-100	45	No Relax
12.	Total Nitrogen as N (mg/l)	APHA, 23rd Ed. 2017, 4500 N A+C	BDL	1-100	-	-
13.	Ammonical Nitrogen as NH ₃ -N (mg/l)	APHA, 23rd Ed. 2017, 4500 NH ₃ A+F	BDL	0.5-100	-	-
14.	Silicates as SiO ₂ (mg/l)	APHA, 23rd Ed. 2017, 4500 SiO ₂ A+F	BDL	0.5-50	-	-
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500F-C	0.48	0.05-10	1	1.5
16.	Phosphate as PO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-PD	BDL	0.1-50	-	-
17.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax
18.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
19.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax
20.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-10	0.05	No Relax
21.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23rd Ed. 2017, 5530 C+D	BDL	0.05-10	0.001	No Relax
22.	Chemical Oxygen Demand as COD (mg/l)	APHA, 23rd Ed. 2017, 5220 A+C	BDL	5-50000	-	-

*The result are related only to item tested.

BDL = Below Detection Limit


 Analyst


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FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/GW7/647/08/18

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF GROUND WATER*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
 Address of the Customer : P.O. Lohgara, Tehsil – Bara,
 Distt. Allahabad – 212 107 (U.P.)
 Sampling Method : APHA/ IS: 3025
 Sample Collected by : Mr. Ramjeet
 Date of Sampling : 10.08.2018
 Date of Sample Receiving : 13.08.2018
 Packing of Sample : As per requirement
 Date of Analysis : 13.08.2018 to 22.08.2018
 Sample Type : Sample – 7 Dug well
 Sample ID Code : ELW- 8277

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	6.72	2-12	6.5-8.5	No Relax.
4.	Turbidity as (NTU)	APHA, 23rd Ed. 2017, 2130-A+B	1.42	1-100	1.0	5.0
5.	Total Solids as TS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	235.0	5-5000	-	-
6.	Total Dissolved Solids as TDS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	234.0	5-5000	500	2000
7.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	96.0	5-1500	200	600
8.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	112.0	5-1500	200	600
9.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	28.0	5-1000	250	1000
10.	Sulfate as SO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-SO ₄ -E	54.12	1-250	200	400
11.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23rd Ed. 2017, 4500-NO ₃ - B	14.03	5-100	45	No Relax
12.	Total Nitrogen as N (mg/l)	APHA, 23rd Ed. 2017, 4500 N A+C	BDL	1-100	-	-
13.	Ammonical Nitrogen as NH ₃ -N (mg/l)	APHA, 23rd Ed. 2017, 4500 NH ₃ A+F	BDL	0.5-100	-	-
14.	Silicates as SiO ₂ (mg/l)	APHA, 23rd Ed. 2017, 4500 SiO ₂ A+F	BDL	0.5-50	-	-
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500F-C	0.43	0.05-10	1	1.5
16.	Phosphate as PO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-PD	0.58	0.1-50	-	-
17.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax
18.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
19.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax
20.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-10	0.05	No Relax
21.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23rd Ed. 2017, 5530 C+D	BDL	0.05-10	0.001	No Relax
22.	Chemical Oxygen Demand as COD (mg/l)	APHA, 23rd Ed. 2017, 5220 A+C	BDL	5-50000	-	-

*The result are related only to item tested.

BDL = Below Detection Limit

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Analyst

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FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/GW8/647/08/18

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF GROUND WATER*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
 Address of the Customer : P.O. Lohgara, Tehsil - Bara,
 Distt. Allahabad - 212 107 (U.P.)
 Sampling Method : APHA/ IS: 3025
 Sample Collected by : Mr. Ramjeet
 Date of Sampling : 10.08.2018
 Date of Sample Receiving : 13.08.2018
 Packing of Sample : As per requirement
 Date of Analysis : 13.08.2018 to 22.08.2018
 Sample Type : Sample - 8 Dug well
 Sample ID Code : ELW- 8278

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	7.06	2-12	6.5-8.5	No Relax.
4.	Turbidity as (NTU)	APHA, 23rd Ed. 2017, 2130-A+B	1.22	1-100	1.0	5.0
5.	Total Solids as TS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	271.0	5-5000	-	-
6.	Total Dissolved Solids as TDS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	269.0	5-5000	500	2000
7.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+B	152.0	5-1500	200	600
8.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	176.0	5-1500	200	600
9.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	20.0	5-1000	250	1000
10.	Sulfate as SO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-SO42- E	12.33	1-250	200	400
11.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23rd Ed. 2017, 4500-NO3- B	6.01	5-100	45	No Relax
12.	Total Nitrogen as N (mg/l)	APHA, 23rd Ed. 2017, 4500 N A+C	BDL	1-100	-	-
13.	Ammonical Nitrogen as NH ₃ -N (mg/l)	APHA, 23rd Ed. 2017, 4500 NH ₃ A+F	BDL	0.5-100	-	-
14.	Silicates as SiO ₂ (mg/l)	APHA, 23rd Ed. 2017, 4500 SiO ₂ A+F	BDL	0.5-50	-	-
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500F-C	0.60	0.05-10	1	1.5
16.	Phosphate as PO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-PD	BDL	0.1-50	-	-
17.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax
18.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
19.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax
20.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-10	0.05	No Relax
21.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23rd Ed. 2017, 5530 C+D	BDL	0.05-10	0.001	No Relax
22.	Chemical Oxygen Demand as COD (mg/l)	APHA, 23rd Ed. 2017, 5220 A+C	BDL	5-50000	-	-

*The result are related only to item tested.

BDL = Below Detection Limit

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Analyst

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FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO: ECO LAB/GW9/647/08/18

TEST REPORT ISSUE DATE: 27.08.2018

TEST REPORT OF GROUND WATER*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
 Address of the Customer : P.O. Lohgara, Tehsil - Bara,
 Distt. Allahabad - 212 107 (U.P.)
 Sampling Method : APHA/ IS: 3025
 Sample Collected by : Mr. Ramjeet
 Date of Sampling : 10.08.2018
 Date of Sample Receiving : 13.08.2018
 Packing of Sample : As per requirement
 Date of Analysis : 13.08.2018 to 22.08.2018
 Sample Type : Sample -9 Piezometer-1
 Sample ID Code : ELW- 8279

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	7.21	2-12	6.5-8.5	No Relax.
4.	Turbidity as (NTU)	APHA, 23rd Ed. 2017, 2130-A+B	1.62	1-100	1.0	5.0
5.	Total Solids as TS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	306.0	5-5000	-	-
6.	Total Dissolved Solids as TDS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	302.0	5-5000	500	2000
7.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+B	188.0	5-1500	200	600
8.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	208.0	5-1500	200	600
9.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	24.0	5-1000	250	1000
10.	Sulfate as SO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-SO ₄ -E	18.75	1-250	200	400
11.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23rd Ed. 2017, 4500-NO ₃ -B	8.39	5-100	45	No Relax
12.	Total Nitrogen as N (mg/l)	APHA, 23rd Ed. 2017, 4500 N A+C	BDL	1-100	-	-
13.	Ammonical Nitrogen as NH ₃ -N (mg/l)	APHA, 23rd Ed. 2017, 4500 NH ₃ A+F	BDL	0.5-100	-	-
14.	Silicates as SiO ₂ (mg/l)	APHA, 23rd Ed. 2017, 4500 SiO ₂ A+F	BDL	0.5-50	-	-
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500F-C	0.63	0.05-10	1	1.5
16.	Phosphate as PO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-PD	0.29	0.1-50	-	-
17.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax
18.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
19.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax
20.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-10	0.05	No Relax
21.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23rd Ed. 2017, 5530 C+D	BDL	0.05-10	0.001	No Relax
22.	Chemical Oxygen Demand as COD (mg/l)	APHA, 23rd Ed. 2017, 5220 A+C	BDL	5-50000	-	-

*The result are related only to item tested.

BDL = Below Detection Limit

Archana
Analyst

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FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/GW10/647/08/18

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF GROUND WATER*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
 Address of the Customer : P.O. Lohgara, Tehsil - Bara,
 Distt. Allahabad - 212 107 (U.P.)
 Sampling Method : APHA/ IS: 3025
 Sample Collected by : Mr. Ramjeet
 Date of Sampling : 10.08.2018
 Date of Sample Receiving : 13.08.2018
 Packing of Sample : As per requirement
 Date of Analysis : 13.08.2018 to 22.08.2018
 Sample Type : Sample -10 Piezometer-2
 Sample ID Code : ELW- 8280

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	6.81	2-12	6.5-8.5	No Relax.
4.	Turbidity as (NTU)	APHA, 23rd Ed. 2017, 2130-A+B	6.08	1-100	1.0	5.0
5.	Total Solids as TS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	526.0	5-5000	-	-
6.	Total Dissolved Solids as TDS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	505.0	5-5000	500	2000
7.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	224.0	5-1500	200	600
8.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	260.0	5-1500	200	600
9.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	100.0	5-1000	250	1000
10.	Sulfate as SO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-SO ₄ -E	47.49	1-250	200	400
11.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23rd Ed. 2017, 4500-NO ₃ - B	15.26	5-100	45	No Relax
12.	Total Nitrogen as N (mg/l)	APHA, 23rd Ed. 2017, 4500 N A+C	BDL	1-100	-	-
13.	Ammonical Nitrogen as NH ₃ -N (mg/l)	APHA, 23rd Ed. 2017, 4500 NH ₃ A+F	BDL	0.5-100	-	-
14.	Silicates as SiO ₂ (mg/l)	APHA, 23rd Ed. 2017, 4500 SiO ₂ A+F	BDL	0.5-50	-	-
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500F-C	0.52	0.05-10	1	1.5
16.	Phosphate as PO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-PD	BDL	0.1-50	-	-
17.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax
18.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
19.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax
20.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-10	0.05	No Relax
21.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23rd Ed. 2017, 5530 C+D	BDL	0.05-10	0.001	No Relax
22.	Chemical Oxygen Demand as COD (mg/l)	APHA, 23rd Ed. 2017, 5220 A+C	BDL	5-50000	-	-

*The result are related only to item tested.
 BDL = Below Detection Limit

Archana
 Analyst

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LABORATORIES PVT. LTD.

An approved Laboratory from Ministry of Environment, Forest and Climate Change, Govt. of India, New Delhi (Valid Upto 02.01.19)

FORMAT NO. ECO/QS/FORMAT/09

TEST REPORT NO:ECO LAB/GW11/647/08/18

TEST REPORT ISSUE DATE:27.08.2018

TEST REPORT OF GROUND WATER*

Name of the Customer : Prayagraj Power Generation Co. Ltd.
Address of the Customer : P.O. Lohgara, Tehsil – Bara,
Distt. Allahabad – 212 107 (U.P.)
Sampling Method : APHA/ IS: 3025
Sample Collected by : Mr. Ramjeet
Date of Sampling : 10.08.2018
Date of Sample Receiving : 13.08.2018
Packing of Sample : As per requirement
Date of Analysis : 13.08.2018 to 22.08.2018
Sample Type : Sample – 11 Piezometer-3
Sample ID Code : ELW- 8281

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23rd Ed. 2017, 4500H+ A+B	6.85	2-12	6.5-8.5	No Relax.
4.	Turbidity as (NTU)	APHA, 23rd Ed. 2017, 2130-A+B	4.56	1-100	1.0	5.0
5.	Total Solids as TS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	201.0	5-5000	-	-
6.	Total Dissolved Solids as TDS (mg/l)	APHA, 23rd Ed. 2017, 2540-C	196.0	5-5000	500	2000
7.	Alkalinity (mg/l)	APHA, 23rd Ed. 2017, 2320 A+ B	148.0	5-1500	200	600
8.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23rd Ed. 2017, 2340 A+C	178.0	5-1500	200	600
9.	Chloride as Cl (mg/l)	APHA, 23rd Ed. 2017, 4500 Cl A+B	24.0	5-1000	250	1000
10.	Sulfate as SO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-SO42- E	21.5	1-250	200	400
11.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23rd Ed. 2017, 4500-NO ₃ - B	5.50	5-100	45	No Relax
12.	Total Nitrogen as N (mg/l)	APHA, 23rd Ed. 2017, 4500 N A+C	BDL	1-100	-	-
13.	Ammonical Nitrogen as NH ₃ -N (mg/l)	APHA, 23rd Ed. 2017, 4500 NH ₃ A+F	BDL	0.5-100	-	-
14.	Silicates as SiO ₂ (mg/l)	APHA, 23rd Ed. 2017, 4500 SiO ₂ A+F	BDL	0.5-50	-	-
15.	Fluorides as F (mg/l)	APHA, 23rd Ed. 2017, 4500F-C	0.31	0.05-10	1	1.5
16.	Phosphate as PO ₄ (mg/l)	APHA, 23rd Ed. 2017, 4500-PD	BDL	0.1-50	-	-
17.	Mercury as Hg (mg/l)	APHA, 23rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax
18.	Arsenic as As (mg/l)	APHA, 23rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
19.	Lead as Pb (mg/l)	APHA, 23rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax
20.	Total Chromium as Cr (mg/l)	APHA, 23rd Ed. 2017, 3111A+B	BDL	0.05-10	0.05	No Relax
21.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23rd Ed. 2017, 5530 C+D	BDL	0.05-10	0.001	No Relax
22.	Chemical Oxygen Demand as COD (mg/l)	APHA, 23rd Ed. 2017, 5220 A+C	BDL	5-50000	-	-

*The result are related only to item tested.

BDL = Below Detection Limit

Archana
Analyst

Authorized Signatory
Ecomen Laboratories Pvt. Ltd.
Flat No.-8 2nd Floor, Arif Chamber-V
Sector-H, Aliganj, Lucknow-226024
Ph.-2746282, Fax:2745726

Reena
Quality Manager

Annexure No E

PRAYAGRAJ POWER GENERATION COMAPNY LIMITED

BARA, DISTRICT – ALLAHABAD

AMBIENT NOISE LEVEL MONITORING (In House)

Date	Time		Near Horticulture Dept	Behind BHEL Yard	Behind CHP Area	Near Canal Area
10.10.2018	Day Time		42.55	44.45	43.5	45.45
	Night Time		37.15	38.65	38.65	41.05
26.11.2018	Day Time		45.1	43.2	43.75	43.25
	Night Time		35.05	36.95	38.0	33.75
10.12.2018	Day Time		38.7	40.7	42.85	34.8
	Night Time		34.2	35.75	37.65	31.9
21.01.2019	Day Time		30.5	32.5	31.5	32
	Night Time		27.5	30	30	29.5
26.02.2019	Day Time		31.5	33.5	32.5	33
	Night Time		29	31.3	31	30
14.03.2019	Day Time		45	42.5	44	42
	Night Time		42.5	37	40	40
	Day Time	Minimum	30.5	32.5	31.5	32
		Maximum	45.1	44.45	44	45.45
	Night Time	Minimum	27.5	30	30	29.5
		Maximum	42.5	38.65	40	41.05

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
(An ISO 14001:2004, ISO 9001:2008 and OHSAS-18001:2007 Certified Organization)
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Tel: 0522-4002545, Mobile: 09415518818.

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 Noise Monitoring

Report No.	Reference No.	Issue Date	
PCS/AN/01/2019	PCS/PPGCL/01/2019	11/01/2019	
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 Ajay Kumar & Mr Vipin Kannojiya		
4. Weather Condition:	Clear Sky		
5. Method of sampling:	As per standard Method		
6. Date of Monitoring :	01/01/2019 - 03/01/2019		
S. No.	Location	Noise Level leq dB(A) Day Time*	Noise Level leq dB(A) Night Time**
1.	Near Horticulture Dept.	59.2	47.1
2.	Behind BHEL Yard	54.3	45.6
3.	Behind CHP Area	58.9	47.8
4.	Near Canal Area	56.7	44.5
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

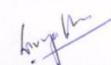
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

* 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.


Dr Divya Misra
Managing Director

-----End of this Report-----



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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

"NABL" Accredited Laboratory Certificate No:- TC-8241 Validity 01-01-2019 to 31-12-2020

Test Report for Noise Monitoring

Report No.	Reference No.	Issue Date	
PCS/AN/01/2019	PCS/PPGCL/02/2019	06/04/2019	
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 Ajay Kumar & Mr Asheesh Kushwaha		
4. Weather Condition:	Clear Sky		
5. Method of sampling:	As per standard Method		
6. Date of Monitoring :	29/03/2019 - 30/03/2019		
S. No.	Location	Noise Level leq dB(A) Day Time*	Noise Level leq dB(A) Night Time**
1.	Near Horticulture Dept.	61.3	43.5
2.	Behind BHEL Yard	56.3	41.4
3.	Behind CHP Area	62.3	45.3
4.	Near Canal Area	52.4	39.8
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.

Dr Divya Misra

Dr Divya Misra
Managing Director

-----End of this Report-----

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 COMAPNY LIMITED
BARA, DISTRICT – ALLAHABAD

AMBIENT AIR QUALITY MONITORING (In House)

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
03.10.2018	45.3	82.5	12.5	10.2	05.11. 2018	46.3	85.7	12.3	11.7
12.10.2018	42.3	75.3	11.2	13.1	16.11. 2018	55.6	87.5	11.2	11.5
24.10.2018	43.2	87.2	10.2	15.2	26.11. 2018	47.2	79.5	11.2	10.2
01.11. 2018	44.2	81.3	11.2	10.6	05.12. 2018	45.5	80.5	11.3	11.5
14.11. 2018	49.3	82.2	12.0	13.3	14.12. 2018	47.2	83.1	14.0	10.5
23.11. 2018	45.2	80.1	12.5	10.3	24.12. 2018	50.5	95.5	17.2	11.6
03.12. 2018	47.2	108	12.5	10.6	04.01. 2019	45.2	78.5	13.2	11.3
12.12. 2018	48.7	112	12.4	11.7	16.01. 2019	55.6	89.7	13.3	13.2
21.12. 2018	47.7	93.3	14.6	13.6	25.01. 2019	47.2	80.2	13.7	10.3
31.12. 2018	51.2	90.5	13.5	12.0	04.02. 2019	48.3	87.3	12.5	14.5
02.01.2019	47.3	81.2	12.5	10.3	13.02. 2019	46.3	91.5	11.6	11.8
14.01. 2019	51.4	88.4	15.2	11.6	22.02. 2019	52.1	81.0	10.5	12.3
23.01. 2019	48.3	89.5	11.6	13.2	04.03. 2019	45.6	80.7	10.2	12.5
01.02. 2019	47.3	93.7	11.5	9.5	13.03. 2019	44.3	85.3	13.6	12.7
11.02. 2019	53.6	96.4	14.2	15.4	25.03. 2019	43.1	75.6	13.5	11.4
20.02. 2019	44.5	80.7	13.2	10.2	-	-	-	-	-
01.03. 2019	47.8	82.3	13.1	12.5	-	-	-	-	-
11.03. 2019	41.5	82.2	11.5	13.0	-	-	-	-	-
22.03. 2019	45.3	87.4	14.4	12.3	-	-	-	-	-
Minimum	41.5	75.3	10.2	9.5	Minimum	43.1	75.6	10.2	10.2
Maximum	53.6	112	15.2	15.4	Maximum	55.6	95.5	17.2	14.5
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
08.10. 2018	46.3	87.4	11.3	12.5	10.10. 2018	41.0	80.3	12.4	14.2
18.10. 2018	48.2	85.3	12.6	17.2	22.10. 2018	45.7	86.1	13.1	18.2
29.10. 2018	46.9	92.3	12.2	11.0	31.10. 2018	44.0	90.6	14.1	13.5
09.11. 2018	52.3	88.9	12.5	10.7	12.11. 2018	50.3	83.2	11.7	12.0
19.11. 2018	53.2	88.0	10.5	11.2	21.11. 2018	48.3	82.2	11.2	12.3
28.11. 2018	52.4	81.2	10.2	13.1	30.11. 2018	48.3	74.5	11.4	10.2
07.12. 2018	47.3	106	13.1	12.0	10.12. 2018	44.3	83.2	12.5	13.0
17.12. 2018	52.4	91.5	15.7	10.6	19.12. 2018	43.1	89.2	13.4	11.7
26.12. 2018	53.2	96.7	10.5	10.8	28.12. 2018	48.8	87.2	11.5	14.1
08.01. 2019	44.3	82.5	12.6	10.1	10.01. 2019	47.3	93.7	11.5	9.5
18.01. 2019	54.7	95.3	13.7	16.0	21.01. 2019	53.6	96.4	14.2	15.4
28.01. 2019	47.6	84.6	12.5	11.7	30.01. 2019	44.5	80.7	13.2	10.2
06.02. 2019	54.2	89.6	13.2	12.4	08.02. 2019	50.0	87.3	12.8	08.6
15.02. 2019	51.9	96.5	10.6	11.0	18.02. 2019	46.3	85.2	12.6	11.8
25.02. 2019	48.6	92.7	09.6	13.2	27.02. 2019	51.4	86.7	10.5	10.5
06.03. 2019	48.4	87.9	13.4	14.8	08.03. 2019	40.3	72.5	12.0	11.3
15.03. 2019	54.4	89.3	14.4	12.3	18.03. 2019	48.4	85.3	15.3	14.3
27.03. 2019	42.4	84.3	13.2	10.4	29.03. 2019	45.1	80.3	12.0	11.5
Minimum	42.4	81.2	9.6	10.1	Minimum	40.3	72.5	10.5	8.6
Maximum	54.7	106	15.7	17.2	Maximum	53.6	96.4	15.3	18.2
Specified Norms	Max 60	Max 100	Max 80	Max 80	Specified Norms	Max 60	Max 100	Max 80	Max 80



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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/01/2019		PCS/PPGCL/01/2019				11/01/2019	
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		: Mr Ajay Kumar & Mr Vipin Kannojiya					
4. Weather Condition :		: Clear Sky					
5. Method of sampling:		: As per standard Method					
6. Date of Monitoring		: 01/01/2019 - 03/01/2019					
7. Sample Receipt in Lab		: 04/01/2019					
8. Date of Testing		: 04/01/2019 - 05/01/2019					
Pollutants Concentration $\mu\text{g}/\text{m}^3$							
S. No	Location	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.	88	45	15.4	26.4	0.17	ND***
2.	Behind BHEL Yard	92	48	16.3	27.2	0.12	ND***
3.	Behind CHP Area	97	52	18.2	30.7	0.2	ND***
4.	Near Canal Area	84	43	12.1	22.4	0.1	ND***
Standards*		100	60	80	80	02**	No Specific Norms
Method		IS:5182 Part (23) 2006 RA-2017	APHA (Gravimetric)	IS:5182 (Part-2) 2001 RA-2017	IS:5182 (Part- 6) 2006 RA-2017	IS:5182 (Part 10) 1999 RA-2014	-
Range of Detection		05-1000 $\mu\text{g}/\text{m}^3$	-	04-1050 $\mu\text{g}/\text{m}^3$	9-750 $\mu\text{g}/\text{m}^3$	-	-

* National Ambient Air Quality Standards-2009 (24 Hourly)

** 8 Hourly Standards

***ND- Not Detected

- Note:**
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 2. The report shall not be reproduced-except in full, without the written permission of laboratory.
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Dr Divya Misra
Managing Director

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"NABL" Accredited Laboratory Certificate No:- TC-8241 Validity 01-01-2019 to 31-12-2020

Test Report for Ambient Air Quality

Report No.	Reference No.	Issue Date
PCS/AAQ/01/2019	PCS/PPGCL/02/2019	06/04/2019

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 : Mr Ajay Kumar & Mr Asheesh Kushwaha
4. Weather Condition : Clear Sky
5. Method of sampling: As per standard Method
6. Date of Monitoring : 28/03/2019 - 30/03/2019
7. Sample Receipt in Lab : 30/03/2019
8. Date of Testing : 01/04/2019 - 03/04/2019

S. No	Location	Pollutants Concentration $\mu\text{g}/\text{m}^3$					
		(PM ₁₀) $\mu\text{g}/\text{m}^3$	(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.	91	46	13.6	30.5	0.27	ND***
2.	Behind BHEL Yard	93	50	15.4	31.7	0.19	ND***
3.	Behind CHP Area	98	54	17.8	32.4	0.23	ND***
4.	Near Canal Area	82	42	11.3	24.5	0.12	ND***
Standards*		100	60	80	80	02**	No Specific Norms
Method		IS:5182 Part (23) 2006 RA-2017	APHA (Gravimetric)	IS:5182 (Part-2) 2001 RA-2017	IS:5182 (Part- 6) 2006 RA-2017	IS:5182 (Part 10) 1999 RA-2014	-
Range of Detection		05-1000 $\mu\text{g}/\text{m}^3$	-	04-1050 $\mu\text{g}/\text{m}^3$	9-750 $\mu\text{g}/\text{m}^3$	-	-

* National Ambient Air Quality Standards-2009 (24 Hourly)

** 8 Hourly Standards

***ND- Not Detected

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Dr Divya Misra
Managing Director

-----End of this Report-----

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** has 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 up to 31st March 19</u>	<u>Time Schedule</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 12 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	LKG & 1 st to 8 th 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.
5	Mobile Medical Van	A Mobile Medical Van is already functioning providing free diagnostics &	Rs. 16.00 Lacs on Van, Monthly expenditure	Total Cumulative Rs 67.63 Lacs on Van and	Functional

		treatment under the guidance of qualified and experienced doctors.	Rs. 30000 on medicine	medicine etc	
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 2018
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 Road)	12 km long road had been constructed along boundary wall for better connectivity to main road (N.H.)	Rs 164 Lacs	Rs 164 Lacs	Completed.
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 30th March 2019

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	<p>i) The company distributed 7000 pieces of blankets to the poor villagers to get relief from cold.</p> <p>ii) The company 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>Rs 10.50 Lacs have been spent in the year 2010-11</p> <p>Rs 0.75 Lacs 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>	Rs 12.35 Lacs	Such social activities being done regularly.
15.	Other Social Activities	i) Other social activities as distribution of ration & daily use domestic commodities to villagers who were affected due to	Rs 2.66 Lacs have been spent during 2010-2011, 2011-12 & 2012-13	Rs 13.18 Lacs till 2016-2017	These activities were started in year 2010-2011 and are continued then.

		<p>outbreak of fire.</p> <p>ii) Other social activities as Ramleela , 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>v) Stationeries & almirahs expenditure</p> <p>vi) Provide the Beds, gaddas etc to Kasturba Gandhi Balika Vidhalaya, Jasra</p> <p>vii) Celebration of U.P. Gorla Diwas</p> <p>viii) Flood relief fund during rainy season to nearby area.</p> <p>ix) Donation during Magh Mela.</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> <p>1.36 lacs have been spent during 2014-15</p> <p>0.55 Lacs have been spent during 2013-14 5.0 Lakhs have been spent during 2015-16</p> <p>Distributed the Goshla's of rupees 0.05 lakhs value during 2015-16</p> <p>Distribution of 1.0 lakh Rupees to fulfill daily needs during 2016-17</p> <p>3.0 lakh Rupees has been spent for fire relief during 2016-17</p> <p>Rs- 21000/- 2018-19</p>		
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