

**SIX MONTHLY COMPLIANCE REPORT OF  
ENVIRONMENT CLEARANCE (EC)**

**1320 (2×660) MW THERMAL POWER PLANT**

**At**

**KAWAI VILLAGE, ATRU TEHSIL  
BARAN DISTRICT  
RAJASTHAN**

*Submitted to:*

**Central Regional Office, Lucknow  
Ministry of Environment, Forests & Climate Change  
Central Pollution Control Board, New Delhi &  
Rajasthan State Pollution Control Board, Jaipur**

**adani**

*Submitted By:*

**Environment Management Department  
Adani Power Rajasthan Limited  
Kawai Village, Atru Tehsil  
Baran District, Rajasthan**

**PERIOD: April'2019 – September'2019**

**ADANI POWER RAJASTHAN LIMITED**

<b>Sl. No.</b>	<b>Title</b>	
<b>1.</b>	<b>Introduction</b>	
<b>2.</b>	<b>Compliance status of Environmental Clearance (EC)</b>	
<b><u>List of Annexure</u></b>		
<b>3.</b>	Environmental Monitoring Report <b>From April' 2019 to September '2019</b> <ul style="list-style-type: none"> <li>• Metrological data</li> <li>• Ambient Air Quality Monitoring</li> <li>• Stack Emission Monitoring</li> <li>• Noise Level Monitoring</li> <li>• Soil Quality Analysis Reports</li> </ul>	<b>Annexure I</b>
<b>4.</b>	Continuous Emission Monitoring (CEMS) Data (April '2019 to September '2019)	<b>Annexure IA</b>
<b>5.</b>	Ground Water Level Monitoring (Piezometer Well)	<b>Annexure II</b>
<b>6.</b>	Fly Ash Utilization details & Quarterly Ash content Report	<b>Annexure III</b>
<b>7.</b>	Green Belt / Plantation details	<b>Annexure IV</b>
<b>8.</b>	Progress Report of CSR (April '2019 to September '2019)	<b>Annexure V</b>
<b>9.</b>	Environmental Statement of FY- 2018-2019	<b>Annexure VI</b>
<b>10.</b>	NABL Certificate	<b>Annexure VII</b>
<b>11.</b>	Expenditure for Environment Protection (EMP)	<b>Annexure VIII</b>
<b>12.</b>	Storage license cum Certificate from Explosive department	<b>Annexure IX</b>

# ADANI POWER RAJASTHAN LIMITED

## Introduction

Adani Power Rajasthan Ltd. (APRL), a wholly owned company of Adani Power Limited has established 1320 MW (2 x 660 MW) Coal based Supercritical Thermal Power Plant at Kawai, Tehsil Atru, District Baran in Rajasthan.

Kawai Thermal Power Plant of APRL is located near village Kawai, Tehsil Atru, District Baran (Rajasthan). The power plant is based on supercritical, energy efficient & environment friendly technology.

APRL has obtained Environmental Clearances (EC) from Ministry of Environment Forest & Climate Change (MoEF&CC) and Consent to Establish (CTE) as well as Consent to Operate (CTO) from Rajasthan Pollution Control Board (RPCB). The plant is fully operational since December '2013. As the part of the compliance of statutory requirement environmental quality monitoring is being done inside the premises and also in nearby villages.

Ambient Air Quality Monitoring Stations has been established in consultation with Rajasthan State Pollution Control Board, three locations within the plant premises & three locations outside plant in different village based on micro-metrology of the site, Presently Environmental monitoring & analysis is being carried out by M/s Team Institute of Science & Technology, Jaipur, (Rajasthan).

Point wise compliance status of Environmental Clearance for 1320 MW (2 x 660 MW) Coal based Supercritical Kawai Thermal Power Plant is furnished herewith.

# Adani Power Rajasthan Limited

## 2x660 MW Kawai Thermal Power Plant

### COMPLIANCE STATUS ON ENVIRONMENTAL CLEARANCE

#### 1320 (2x660) MW Coal Based Kawai Thermal Power Plant

Vide letter No. J-13012/154/2008-IA.II (T) Dated 04.05.2011 and  
EC Amendment on 13.03.2014

A	Specific Condition	Status
(i)	Vision document specifying prospective plan for the site shall be formulated and submitted to the Ministry within six months.	Complied. We have already submitted vision document along with first EC Compliance report.
(ii)	In case source of fuel supply is to be changed at a later stage (now proposed on imported coal from South Africa) the project proponent shall intimate the Ministry well in advance along with necessary requisite documents for its concurrence for allowing the change. In such a case the necessity for re-conducting public hearing may be decided by the ministry in consultation with the Expert Appraisal Committee.	Complied MoEF&CC has amended the Environmental Clearance vide letter No. J-13012/154/2008/IA.II (T) dated 13.03.2014 for Indigenous/Domestic Coal from Subsidiary companies of Coal India Limited in place of Imported Coal with some additional conditions. The compliance of the additional conditions is included in this compliance report.
(iii)	Wildlife conservation plan shall be prepared in consultation with the office of the Chief Wildlife Warden concerned for implementation. Status of implementation shall be submitted to the regional office of the ministry periodically.	A detail study of Wild life conservation plan has already carried out (Document no. EES/AG/001/259-Biological study) by consultant in consultation with forest department & conservation plan already submitted to the Chief Wild Life Warden, Jaipur for approval. The Report also submitted to the DFO Baran. A copy of the conservation plan was submitted to your office along with Six monthly compliance report (Period April 2011 to September 2011).
(iv)	Possibility for harnessing solar power within the premises of the plant particularly at available roof tops shall be examined and status of implementation shall be submitted.	80 no. Solar light are installed near hostel/residential area in first phase of solar harnessing program. Solar panel are installed for street lights of residential complex. 10KW capacity Solar Panel is installed at rooftop of Administrative Building to harness solar energy for its consumption.
(v)	An equal area of grazing land proposed to be acquired for the project shall be identified and developed in consultation with the village Panchayat and the district administration before final acquisition of the said land.	Complied Development of waste land to grazing land in village Kunjed of Atru Tehsil is completed as per "Mukhyamantri Jal Swavlamban Abhiyan" (MJSA) as suggested by District Collector, Baran.
(vi)	Coal transportation to plant site shall be by	Being complied.

## Adani Power Rajasthan Limited

### 2x660 MW Kawai Thermal Power Plant

	<p>rail. The project proponent shall take up the matter with the Railways and shall submit action taken and implementation status to the ministry from time to time.</p>	<p>Coal is being transported to power plant through Rail only.</p>
(vii)	<p>Existing de-generated water bodies (if any) in the study area shall be regenerated at the project proponent's expenses in consultation with the state govt.</p>	<p>Development of existing degenerated water body in village Antana of Atru tehsil is completed as proposal approved by District Collector, Baran under "Mukhyamantri Jal Swavlamban Abhiyan" (MJSA) vide letter no. 2016/280-85 dated 09.02.2016. Existing seasonal water bodies within the study area was identified for regeneration under company's CSR programme by Adani Foundation and has been implemented in phased manner.</p>
(viii)	<p>Hydrogeology of the area shall be reviewed annually from an institute / organization of repute to assess impact of surface water and ground regime (especially around ash dyke). In case and deterioration is observed specific mitigation measures shall be undertaken and reports / data of water quality monitored regularly and maintained shall be submitted to the Regional Office of the Ministry</p>	<p>Complied. Hydro-geological study report of the study area already submitted with six monthly report (Period Oct-2015 to Mar-2015) Regular water quality monitoring is also being carried out by NABL accredited consultant. The water quality monitoring results is being submitted regularly along with Six Monthly Compliance reports. Review Study report will be submitted along with next compliance report.</p>
(ix)	<p>Source of water for meeting the requirement during lean season shall be specified and submitted to the Regional Office of the Ministry within three months</p>	<p>Water allocation from Parvan River for 34 MCM. This quantity is adequate to meet the plant's requirement, including lean season.</p>
(x)	<p>No ground water shall be extracted for use in operation of the power plant even in lean season.</p>	<p>Complied. No ground water was extracted during setting up of power plant</p>
(xi)	<p>No water bodies (including natural drainage system) in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.</p>	<p>No water body was disturbed while setting up power plant.</p>
(xii)	<p>Minimum required water flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel / Rivers (as applicable) even in lean season.</p>	<p>APRL has no role in the distribution of water from Parvan irrigation Project. Water Resource Department, Govt. of Rajasthan will maintain the minimum required water flow during lean season.</p>
(xiii)	<p>Water requirement shall be restricted as per CEA norms and COC of 5.0 shall be adopted.</p>	<p>Complied This has been incorporated in the plant design and being maintained.</p>
(xiv)	<p>Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to the Regional Office of this Ministry. The data so obtained should be</p>	<p>Regular monitoring of ground water quality including heavy metals is being carried out in and around the plant area by MoEF&amp;CC accredited agency Please Refer <b>Annexure-I</b> Three Piezometric wells are established around the ash pond. Record are being maintained and enclosed as <b>Annexure-II</b></p>

## Adani Power Rajasthan Limited

### 2x660 MW Kawai Thermal Power Plant

	compared with the baseline so as to ensure that the ground water quality is not adversely affected due to the project.	
(xv)	Monitoring surface water quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	Being Complied. Regular monitoring for surface and ground water quality is being carried out including heavy metals in & around the ash pond and nearby villagers, Monitoring report enclosed herewith. Please refer <b>Annexure- I</b> .
(xvi)	A well designed rain water harvesting shall be put in place before commissioning of the plant. Central Ground Water Authority / Board shall be consulted for finalization of appropriate rainwater harvesting technology / design within a period of three months from the date of this clearance and detail shall be furnished. The design of rain water harvesting shall comprise of rain water collection from the built up and open area in the plant premises. Action plan and road map for implementation shall be submitted to the Ministry within six months.	Complied Design for rain water harvesting scheme is prepared by Hydro-geo Survey Consultant-Jaipur and the same is submitted to Regional Office of CGWB, Jaipur, MoEF&CC regional office, Lucknow and MoEF&CC New Delhi. Rain water harvesting pond already constructed within the plant to store and reuses more than 12000 m <sup>3</sup> of water.
(xvii)	Additional soil for leveling of proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.	The entire plant area was almost flat and having stony outcrop. There are no streams within the plant premises.
(xviii )	Provision for installation of FGD shall be provided for future use.	Space were provided for FGD in the plant layout for future requirement. We are in process & progress to install FDG as per implementation schedule of CPCB as well as CEA.
(xix)	The project proponent shall undertake measures and ensure that no fugitive fly ash emission take place at any point of time.	Being Complied. The crusher houses for coal are provided with Dust Extraction System & Bag Filter. Dust Suppression System (DSS) and Water Sprinkling System are provided in coal stock yard and ash dyke.
(xx)	Stack of 275 m height shall be installed and provided with continuous online monitoring equipments for SO <sub>x</sub> , NO <sub>x</sub> and PM <sub>2.5</sub> & PM <sub>10</sub> . Exit velocity of flue gases shall not be less than 22 m/s. Mercury emissions from stack may also monitored on periodic basis.	Twin flue stack of 275 meter constructed. Continuous Emission Monitoring System installed in both flues for SO <sub>2</sub> , NO <sub>x</sub> , and PM. The flue gas velocity is 22.5 m/sec. Hg monitoring in stack is being carried out quarterly basis. CEMS results enclosed as <b>Annexure- IA</b> .
(xxi)	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm <sup>3</sup> .	A high Efficiency Electrostatic Precipitators has been provided to each boiler (ESPs) to meet particulate emission less than 50mg/Nm <sup>3</sup> , ESP efficiency is being observed by our operation department. Details of monitoring results as carried out

## Adani Power Rajasthan Limited

### 2x660 MW Kawai Thermal Power Plant

		by MoEF&CC approved third party for our Unit-1 and 2 & also same is being submitted to Statutory body on regular basis. All stack monitoring results are well within the prescribed limit which is showing efficiency of ESP. Monitoring Result are enclosed as <b>Annexure- I</b>
(xxii)	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.	Being Complied. Dust extraction system with bag filter in coal crusher house has been provided. Pneumatic ash handling system with bag filters provided for ash handling. Water sprinkling system provided in coal yard.
(xxiii)	Utilization of 100% Fly Ash generated shall be made from 4 <sup>th</sup> year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	Ash utilization / implementation report being submitted to MoEF&CC, CPCB, SPCB as well as CEA. Implementation status of fly ash utilization is enclosed herewith. Please refer <b>Annexure-III</b>
(xxiv)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb, etc.) will be monitored in the bottom ash as also in the effluents emanating in the existing ash pond. No ash shall be disposed off in low lying area.	Being Complied We have signed MoUs for ash utilization with Mangalam Cement Ltd., J.K.Cement Ltd., Birla Corporation Ltd, Nuvoco Vistas Corp. Ltd., J.K.Cement Ltd., ACC Limited, Shriram Cement Ltd, UltraTech Cement LTD-Aditya Cement Works Wonder Cement Ltd, UltraTech Cement LTD-Vikram Cement Works, Ambuja Cement Ltd., The India Cements Ltd, Heidelbergcement India Ltd., TSG Ashtech Movers Pvt. Ltd., Sanaya etc. Heavy metal analysis is being carried out for As, Pb, Hg, Cr Fe, Cu, Zn, Cd, and Ni in fly ash. Results enclosed as <b>Annexure-I.</b>
(xxv)	Ash pond (if any) shall be lined with HDPE/LDPE lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	Well design ash pond with LDPE lining has been established as per guidelines of MOEF/CEA/CPCB. Safety measure such as bund with toe wall and lining of side slope is done to prevent any leachate.
(xxvi)	Sulphur and ash contents in the imported coal to be used in the project shall not exceed 0.6 % and 34 % respectively at any given time. In case of variation of coal quality at any point of time fresh reference shall be made to Ministry for suitable amendments to environmental clearance condition wherever necessary.	Complied EC amended on 13.03.2014 for change in the fuel quality & source.
(xxvii)	Green Belt consisting of 3 tiers of plantations of native species around the plant of atleast 75 m width shall be raised (except in areas not feasible). The density of trees shall not be less than 2500 per Ha and rate of survival atleast 80%.	Green belt / plantation are being developed. Our efforts are to develop more greenery in and around the plant premises. Full-fledged horticulture department is established under the guidance of the experienced horticulturist in consultation with the local forest department for the development of green belt / plantation has

## Adani Power Rajasthan Limited

### 2x660 MW Kawai Thermal Power Plant

		been established. About 91,994 saplings have been planted and achieved 90% survival rate. (density including shrubs is 2,474 per Ha) Green belt/plantation details is enclosed as <b>Annexure-IV</b>
(xxvii i)	Over and above the green belt, as carbon sink, social forestry shall be carried out in close consultation with the Forests Department. The project proponent shall accordingly identify blocks of land / degraded forests and shall undertake regeneration of degraded forests at a large scale. In pursuance to this the project proponent shall formulate time bound action plan along with financial allocation and shall submit status of implementation to the Ministry within six months.	Social forestry with active participation of the villagers and school children are being carried out in close consultation with Forest Department, Action plan regarding social forestry and regeneration of degraded forest is under implementation. About 1200 saplings planted along with the NH-90 in association with forest department. About 500 trees are also planted in school campus & villages.
(xxix )	Atleast three nearest village shall be adopted and basic amenities like development of roads, drinking water supply, primary health centre, primary school etc shall be developed in co-ordination with the district administration.	Baldevpura, Kawai, Salpura, Khedli Gaddiyan and Nimoda are adopted for development of basic amenities in co-ordination with the district administration. Beside 41 Schools, 2 PHC, 1 CHC of surrounding Gram Panchayats are adopted in association with district administration of Govt. of Rajasthan.
(xxx)	The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for providing free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	Being Complied- Need based assessment study report have been already submitted to MoEF&CC. Recommendation made in the report are being implemented by Adani Foundation. Please refer <b>Annexure V</b> .
(xxxii )	CSR schemes shall be undertaken based on need assessment in and around the villages within 5 km of the site and in constant consultation with the village Panchayat and the District Administration. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken.	Based on the need based assessment report under the CSR, recommendations made in the CSR report are being implemented by Adani Foundation. Please refer <b>Annexure V</b> Main Focus is given on Education, Health, Alternative Livelihood and Rural Infrastructure, Please refer <b>Annexure V</b>
(xxxiii )	It shall be ensured that an in-built monitoring mechanism for the CSR schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time. The achievements should be put on company's website.	The implementation of CSR activities carried out by <b>Adani Foundation</b> . Implementation / achievement of CSR activities are being submitted along with EC compliance on regular basis. Please Refer <b>Annexure- V</b> .
(xxxiv i)	An amount of Rs 28.0 Crores shall be earmarked as one time capital cost for CSR programme as committed by the project	Separate budget has been earmarked for CSR activities.



## Adani Power Rajasthan Limited

### 2x660 MW Kawai Thermal Power Plant

	proponent. Subsequently a recurring expenditure of Rs 5.6 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within six month along with road map for implementation.	CSR activities are being carried out by Adani Foundation. CSR report and expenditures for period April-2019 to Sept-19 is enclosed as <b>Annexure V &amp; VIII</b> respectively.
(xxxiv)	It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation.	Being Complied. Social audit report is prepared by Indian Institute of Social Welfare and Business Management of University of Kolkata. Audit report is submitted along with six monthly compliance report.
<b>Additional Specific Conditions</b>		
(xxxv)	The Coal transportation by road shall be through tarpaulin covered trucks for a maximum period of two years and hence forth shall be only through mechanically covered trucks.	Coal is being transported by Rail up to Plant premises.
(xxxvi)	Avenue plantation of 2/3 rows all along the road shall be carried out by project proponent at its own expenses.	2 Tier greenbelt as avenue plantation has been developed up to 3KM distance along both side of nearest NH-90.
(xxxvii)	Periodic maintenance of the road shall be done by the project proponent at its own expenses and shall also facilitate the traffic control on the road.	We have maintaining the approach road from plant main gate to the nearest highway (NH-90) and linked road to plant.
(xxxviii)	Sulphur and ash contents in the domestic coal to be used in the project shall not exceed 0.4% and 33% at any given time. In case of variation of coal quality at any point of time, fresh reference shall be made to the ministry for suitable amendments to environmental clearance condition wherever necessary.	Being Complied Half yearly & annual reports of Ash Utilization & ash content in coal being submitted MoEF&CC and Central Electricity Authority (CEA) since plant operation. Quarterly Ash content report is enclosed as <b>Annexure- III</b> .
(xxxix)	A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. 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.	Being Complied Test results of coal samples for radio activity and heavy metal report submitted along with previous compliance report.
(xl)	Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the Regional Office of the Ministry.	Solar street light near administrative building and along approach road has been installed to harness solar power.
(xli)	Fugitive emissions shall be controlled to prevent impact on agriculture or non-agriculture land.	Being Complied. Adequate air pollution control measures such as Dust Extraction System (DES), Dust

## Adani Power Rajasthan Limited

### 2x660 MW Kawai Thermal Power Plant

		Suppression System, Wind Shield, water sprinkling system have been provided to meet particulate matter emission within the norms.
(xlii)	Fly ash shall not be used for agriculture purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such 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 an institute of reputed and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.	The generated fly ash is being used by cement industries as per 'Fly Ash Notification'. Copy of annual data on fly ash generation & utilization is being submitted to MoEF&CC, CPCB, SPCB & Central Electricity Authority (CEA). Fly Ash generation & utilization report is enclosed as <b>Annexure III</b> .
(xliii)	Three tier green belt shall be developed all around Ash Pond over and above the Green Belt around the plant boundary and grassing shall be done on the ash mound.	Plantation all along ash dyke is taken up by seed broadcasting of species like Subabul, Jatropha and Desi Babool. Slope of ash dyke is covered with grass to avoid soil erosion.
(xliv)	An Environmental Cell be created at the project site itself and shall be headed by an officer of the company of appropriate seniority and qualification. It shall be ensure that the head of the Cell directly report to the Head of the Organization. The Environmental Cell shall be responsible and accountable for implementation of all the conditions given in the EC including in the amendment letter.	Being Complied We have already established an Environmental Management Cell headed by Manager & supported by Env. Engineer, Officer, Chemist & Horticulturist. Kawai TPP have NABL accredited Laboratory. Certificate Number- TC-5235 issued on dated 28/08/2019 which has been upgrade from ISO/IEC 17025:2005 to ISO/IEC 17025:2017 and valid up to 27/08/2021 NABL certificate attached as <b>Annexure-VII</b> .
(xlv)	The project proponent shall formulated a well laid Corporate Environmental 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.	Corporate level Environmental Policy has been developed to implement EMS (Environmental Management System) as per ISO 14001-2015. <b>Environmental Management System as per EMS ISO 14001 implemented</b> <b>Integrated Management System (IMS) is also Implemented.</b>
<b>B</b>	<b>General Conditions:</b>	
(i)	The treated effluents confirming to the prescribed standards only shall be re-circulated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	ETP has been established (Capacity- 226 m <sup>3</sup> /hr based on primary treatment) to treat effluents and treated water reuses within the premises. The concept of "Zero Discharge Condition" is implemented except during non-monsoon period. Separate drainage network is established

## Adani Power Rajasthan Limited

### 2x660 MW Kawai Thermal Power Plant

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(xliii)	Three tier green belt shall be developed all around Ash Pond over and above the Green Belt around the plant boundary and grassing shall be done on the ash mound.	Plantation all along ash dyke is taken up by seed broadcasting of species like Subabol, Jatropha and Desi Babool. Slope of ash dyke is covered with grass to avoid soil erosion.
(xliv)	An Environmental Cell be created at the project site itself and shall be headed by an officer of the company of appropriate seniority and qualification. It shall be ensure that the head of the Cell directly report to the Head of the Organization. The Environmental Cell shall be responsible and accountable for implementation of all the conditions given in the EC including in the amendment letter.	Being Complied We have already established an Environmental Management Cell headed by Manager & supported by Env. Engineer, Officer, Chemist & Horticulturist. Kawai TPP have NABL accredited Laboratory. Certificate Number- TC-5235 issued on dated 13/01/2017, we are under process to upgrade from ISO/IEC 17025:2005 to ISO/IEC 17025:2017. NABL certificate attached as <b>Annexure-VII</b> .
(xlv)	The project proponent shall formulated a well laid Corporate Environmental 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.	Corporate level Environmental Policy has been developed to implement EMS (Environmental Management System) as per ISO 14001-2015. <b>Environmental Management System as per EMS ISO 14001 implemented</b> <b>Integrated Management System (IMS) is also Implemented.</b>
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## Adani Power Rajasthan Limited

### 2x660 MW Kawai Thermal Power Plant

		for storm water.								
(ii)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt / plantation.	<p>Sewage Treatment Plant has been established inside the plant &amp; treated domestic water is suitably reused within the plant premises in plantation / green belt development.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Particular</th> <th style="text-align: center;">Capacity</th> <th style="text-align: center;">Total Capacity</th> <th style="text-align: center;">Technology</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">STP</td> <td style="text-align: center;">120 KLD (10 x 2 KLD)</td> <td style="text-align: center;">140 KLD</td> <td style="text-align: center;">Mikie Bioreactor</td> </tr> </tbody> </table>	Particular	Capacity	Total Capacity	Technology	STP	120 KLD (10 x 2 KLD)	140 KLD	Mikie Bioreactor
Particular	Capacity	Total Capacity	Technology							
STP	120 KLD (10 x 2 KLD)	140 KLD	Mikie Bioreactor							
(iii)	Adequate safety measures shall be provided in the plant area to check / minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	Adequate safety team has been established in plant site to take preventive control measures. Fire hydrant system for fire-fighting is provided in plant layout. Fire & Safety department made available with 3 no. of firefighting tanker equipped with all necessary control system.								
(iv)	Storage facilities for auxiliary liquid fuel such as LDO and / HFO / LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	<p>The fuel LDO and HFO are properly stored in minimum risk area and as per the norms fixed by the Chief Controller of Explosives. A disaster management plan is prepared covering all the eventualities due to storage of oil.</p> <p>It is ensured that sulphur content is less than 0.5% in liquid fuel.</p> <p>Please refer explosive licence/ certificate is enclosed as <b>Annexure-IX</b>.</p>								
(v)	First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	First Aid as well as OHC established with well-equipped Ambulance and qualified Doctor. Housekeeping and sanitation facilities are available for the drivers and contractual workers during construction.								
(vi)	Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 85 dB(A) from source. For people working in the high noise area, requisite personal protective equipment like earplugs / ear muffs etc. shall be provided. Workers engaged in noisy area such as turbine area, air compressors etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy / less noisy area.	Necessary action has been taken care to maintain noise levels in work zone area within 85 dB(A) from source during the plant operation. The personal protective equipment (PPE) are provided to workers & employees working in noisy areas. Noise level monitoring is carried out regularly. Periodic audiometric check-up is carried out. Occupational Health & Safety Management System as per ISO 45001 is already implemented.								
(vii)	Regular monitoring of ambient air ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> , PM <sub>2.5</sub> & PM <sub>10</sub> 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	<p>Regular Environmental monitoring of SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>2.5</sub> &amp; PM<sub>10</sub> and Hg is being carried out by third party Env. Lab. The Ambient Air quality Monitoring locations are established in consultation with RPCB.</p> <p>Full fledged Environmental Lab for Air &amp;</p>								

## Adani Power Rajasthan Limited

### 2x660 MW Kawai Thermal Power Plant

	monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.	Water has been established. Monitoring reports enclosed as <b>Annexure- I</b> .
(viii)	Provision shall be made for the housing of construction labour (as applicable) within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche, etc. The housing may be in the form of temporary structure to be removed after the completion of the project.	During construction, provision was made for common facilities to labours as toilets, safe drinking water, medical health care etc. who were engaged for construction.
(ix)	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board / Committee and may also be seen at website of the Ministry of Environment and Forest at <a href="http://envfor.nic.in">http://envfor.nic.in</a>	Complied Advertised in local daily News Paper 'Dainik Bhaskar and Rajasthan Patrika' on 10th May 2011 in Hindi.
(x)	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions / representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied Copy of clearance letter has been submitted to Kawai Village Panchayat and Zila Parishad, Baran.
(xi)	An Environmental Cell comprising of at least one expert in environmental science / engineering, occupational health and social scientist, shall be created at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the head of the Cell shall directly report to the head of the organization and he shall be held responsible for implementation of environmental regulations and social impact improvement / mitigation measures.	Being Complied. We have already established an Environmental Management Cell headed by Manger & supported by Env. Engineer Officer, Chemist & Horticulturist. Full fledge Environment Lab (Air & Water) has been established. <b>Environmental Management System as per EMS ISO: 14001 implemented.</b>
(xii)	The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office	Six monthly Environmental Clearance compliance status report is regularly submitted to MoEF&CC, CPCB and SPCB. The same is sent by email also. Compliance status updated on company's

## Adani Power Rajasthan Limited

### 2x660 MW Kawai Thermal Power Plant

	of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM <sub>2.5</sub> & PM <sub>10</sub> ), SO <sub>2</sub> , NO <sub>x</sub> (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.	website. <a href="http://www.adanipower.com">www.adanipower.com</a>
(xiii)	The environmental statement for each financial year ending 31 <sup>st</sup> 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 Environmental (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.	Environment Statement had been submitted with vide letter no APRL/PK/GOVT/RSPCB/00491, dated- 23.09.2019.
(xiv)	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forest, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environmental of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forest.	Six monthly compliance on the Environmental Clearance granted by MoEF is being submitted to MoEF, CPCB & RPCB regularly. Compliance status updated on company's website. Compliance report for the period of Oct 2018 to Mar-2019 had been submitted to your good office vide letter no.:APL/APRL/EMD/EC/MoEF/174/05/19 dated- 29.05.2019.
(xv)	Regional Office of the Ministry of Environment & Forest will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environmental 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 up-load the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants levels including NO <sub>x</sub> (from stack & ambient air) shall be displayed at the main gate of the power plant.	Noted Compliance assured
(xvi)	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	Being Followed. Separate fund has already been allocated and being utilize for Environmental Protection. Environment protection measures (EMP & CER) Expenditure/budget 2019-20 is

## Adani Power Rajasthan Limited

### 2x660 MW Kawai Thermal Power Plant

	diverted for other purposes and year-wise expenditure should be reported to the Ministry.	enclosed as <b>Annexure-VIII</b> .
(xvii)	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	Complied
(xviii)	Full cooperation shall be extended to the Scientists / Officers from the Ministry / Regional Office of the Ministry at Rajasthan / CPCB / SPCB who would be monitoring the compliance of environmental status.	Noted, Full co-operation shall be extended.

**SIX MONTHLY COMPLIANCE REPORT ON  
ENVIRONMENTAL MONITORING**

**AMBIENT AIR QUALITY,  
WATER QUALITY, SOIL QUALITY AND NOISE LEVEL  
For**



**ADANI POWER RAJASTHAN LIMITED**

**(2x660 MW- SUPERCRITICAL THERMAL POWER STATION)**

Near Salpura Railway Station, Tehsil Atru,  
District Baran (Rajasthan)

PREPARED BY:



**TEAM TEST HOUSE**

(A UNIT OF TEAM Institute of Science & Technology Pvt. Ltd.)  
G1-584, RIICO INDUSTRIAL AREA, SITAPURA, TONK ROAD,  
JAIPUR - 302022, RAJASTHAN

Approved by Ministry of Environment & Forest (Govt. of India)  
And Rajasthan State Pollution Control Board  
Accredited by National Accreditation Board for Testing & Calibration Laboratories  
Certified by ISO 9001: 2008

**PERIOD: APRIL 2019 to SEPTEMBER 2019**



## TABLE OF CONTENTS

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S. No	INDEX	Page No.
1.	EXECUTIVE SUMMARY	2
2.	BRIEF DESCRIPTION OF ADANI POWER AND KAWAI THERMAL POWER STATION	3
3.	MICRO METROLOGY DATA	5
4.	AMBIENT AIR QUALITY	14
5.	AMBIENT NOISE LEVEL	17
6.	STACK	22
7.	WATER QUALITY RESUTS [GROUND/ SURFACE]	24
8.	STP WATER	31
9.	ETP WATER	33
10.	ASH RECOVERY WATER	35
11.	FLY ASH [SILO]	36
12.	SOIL	38

## 1 EXECUTIVE SUMMARY

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ADANI group has constructed 2 units of 660 MW Supercritical Thermal Power Station at Village, Kawai in Tehsil, Atru of District Baran (Rajasthan). The plant is designed to generate 2x660MW electricity. The site is located Near Salpura Railway Station in district Baran (Rajasthan). The plant is well connected by Road and Rail network with different part of Rajasthan and adjoining states, at present both units are in operation.

M/s Adani Power Rajasthan limited has awarded environmental monitoring job work to

**M/s Team Institute of Science and Technology (Unit - Team Test House)**

Vide Service Order No 5700188748 dated 15/02/2018 & subsequently amended on 01.11.2018 as Service Order No 5700257461 for Sampling/Monitoring and Testing of Environmental parameters on quarterly basis for the period 01/04/2018 to 31/03/2021.

The samples for determination of quality of Ambient Air analysis, Ground Water, Soil, Source Emission, Noise, etc. are collected from Site and analyzed at **Team Test House**, Jaipur.

The overall results for First and Second quarter are found to be satisfactory. The plant was performing well during the monitoring and environmental parameters in each segment like Ambient Air, Emission Air, Soil, Water, and Noise are found to be within the desired limits.

**Authorized Signatory**

## **2 BRIEF DESCRIPTION OF ADANI POWER AND KAWAI THERMAL POWER STATION**

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### **2.1 ADANI THERMAL POWER STATION**

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Adani, a conglomerate with a formidable presence in multiple businesses across the globe, has entered the power sector to harbinge a 'Power Full' India, by generating 20,000 MW of power by 2020. Comprehension of the criticality in meeting the power requirement and its crucial role in ensuring the energy security of India, spurs us to build India's largest and one of the world top 5 single location thermal power plant in Mundra.

Adani Power Limited has commissioned the first supercritical 660 MW unit in the country. Mundra is also the WORLD'S FIRST supercritical technology project to have received 'CLEAN DEVELOPMENT MECHANISM (CDM) Project' certification from United Nations Framework Convention on Climate Change (UNFCCC).

### **2.2 KAWAI THERMAL POWER STATION**

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Adani Enterprises Limited (AEL) have signed MoU with Energy Department, Government of Rajasthan on 20th March, 2008 for developing a Thermal Power Project of 1320 MW capacity near Kawai, District Baran, Rajasthan. For this purpose Adani Enterprises Limited (AEL) has registered Adani Power Rajasthan Limited (APRL), as a subsidiary company to Adani Power Limited (APL). The site is approximately 120 km from Kota and 40 Kms from Baran.

The plant is covered in around 350 Ha. Area. The possession of 350 Ha has been already given to APRL by Govt. of Rajasthan. The coal and water requirement of the plant is 5.6 MTPA and 34 MCM respectively.

Both imported and domestic coal is being used. Water is drawn through a dedicated pipeline from the PARWAN River located at a distance of about 15 km from plant.

### 2.3 LOCATIONS OF THE PLANT

**State**

**Rajasthan**

**District**

Baran

**Villages**

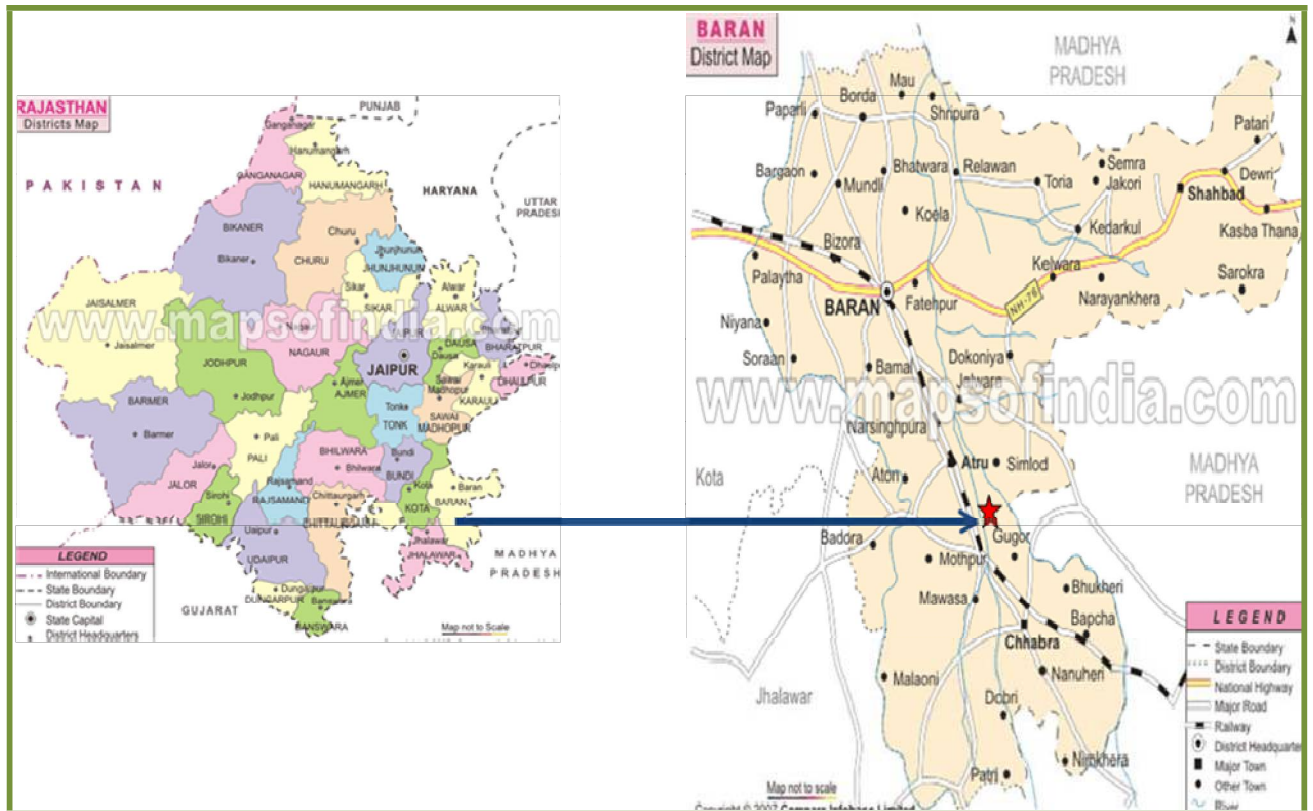
Kawai

**Land type**

Barren and Stony Waste Land

**Geographical Co-ordinates**

24° 46' 14.62" N & 76° 44' 28.60" E.



**Location Map**

## METEROLOGICAL DATA

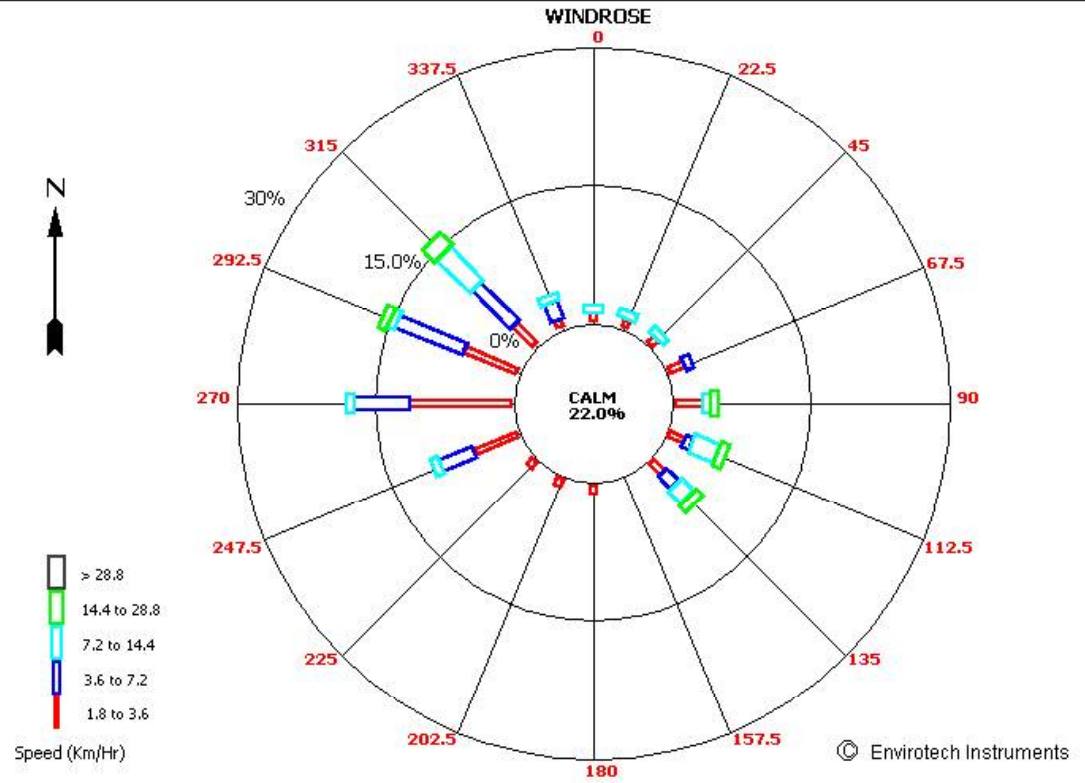
### AVERAGE DAILY METEROLOGICAL DATA OF APRIL -2019

Date	Temp (Deg C)		Relative Humidity (%)		Rainfall (mm)
	Min	Max	Min	Max	Total
1/4/2019	23.2	38.6	11.1	42.2	0
2/4/2019	24.2	40	10.1	28.3	0
3/4/2019	24.1	41.4	9.1	33.2	0
4/4/2019	24.6	42.2	10.2	27.5	0
5/4/2019	27.2	43.3	10	31.2	0
6/4/2019	27	41.2	12.1	34.3	0
7/4/2019	28.2	41.5	11.2	33	0
8/4/2019	27.1	40.4	16.2	40.3	0
9/4/2019	26	41.3	13.2	33.5	0
10/4/2019	28.6	42.2	14.2	32.1	0
11/4/2019	28	42.2	14.1	34.3	2
12/4/2019	28	42.5	13.1	29	0
13/4/2019	29.4	43	10.1	34	0
14/4/2019	28.2	42.4	12.1	31.2	0
15/4/2019	27.5	41.5	12.3	35.3	2.5
16/4/2019	20	34.5	28.2	96.1	23.5
17/4/2019	18.4	31	37.2	94.2	18
18/4/2019	21.1	34.4	27.2	86.2	0
19/4/2019	23	34.6	23.2	78	0
20/4/2019	24.2	36.3	19	54.4	0
21/4/2019	24.1	38.5	16.2	54.4	0
22/4/2019	26.1	41.5	11.2	44.3	0
23/4/2019	26.2	42.4	11	38.2	0
24/4/2019	28.2	42.5	13	31.5	0
25/4/2019	30	43.2	12	31	0
26/4/2019	28.3	42.1	13	33.4	0
27/4/2019	30	43.3	13	31	0
28/4/2019	28.2	44	10.3	32.4	0
29/4/2019	28.1	43.2	8.2	34.5	0
30/4/2019	28.2	42.4	11	25.2	0
Max	30	44	37.2	96.1	46
Min	18.4	31	8.2	25.2	

Time : 00:00 - 10:00  
Date : 01/04/19 - 30/04/19

Set Title

APRL  
Kawai TPP



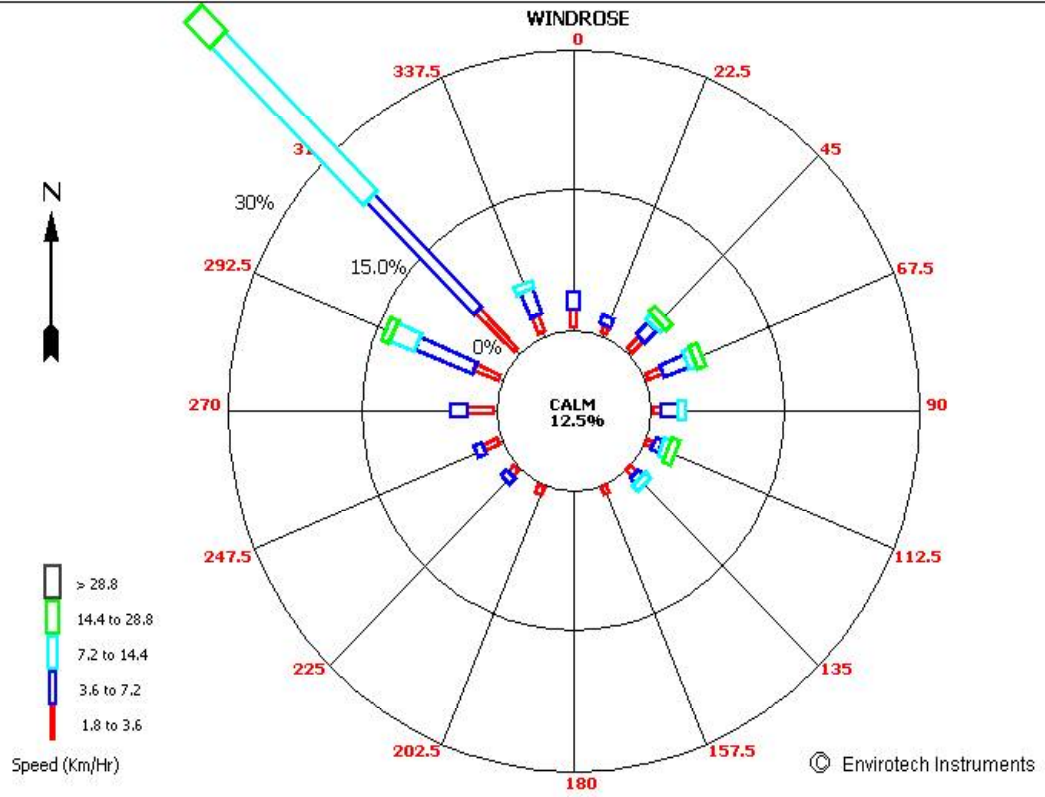
### AVERAGE DAILY METEROLOGICAL DATA OF MAY -2019

Date	Temp (Deg C)		Relative Humidity (%)		Rainfall (mm)
	Min	Max	Min	Max	Total
1/5/2019	29	41.6	12.1	31.6	0
2/5/2019	30.1	42.4	11	29.1	0
3/5/2019	30.1	40.5	15.2	37.3	0
4/5/2019	27.2	38.5	19.1	46.3	0
5/5/2019	27.1	40.3	16	42.5	0
6/5/2019	28	42.1	9	38.6	0
7/5/2019	28.1	42.3	11.1	25.4	0
8/5/2019	30.6	42.1	12	24.3	0
9/5/2019	29.1	40.4	10.5	33.2	0
10/5/2019	29.1	41.3	16	35.2	0
11/5/2019	29	39.2	19.4	37.4	0
12/5/2019	29.3	40.5	16.1	40.5	0
13/5/2019	28.2	40.5	17.1	44.6	0
14/5/2019	26.2	40.6	17.1	60.6	0
15/5/2019	28.6	41.4	18	34.5	0
16/5/2019	31.1	40.5	18	33.4	0
17/5/2019	27.2	40.6	17	53.3	0
18/5/2019	27.5	38.1	21	46.4	0
19/5/2019	28.2	39.4	20.4	44.6	0
20/5/2019	28.1	42.2	14.1	37.1	0
21/5/2019	30	44.1	13.3	28	0
22/5/2019	31.1	43.2	17.2	35.1	0
23/5/2019	31.1	42.6	19.1	34.1	0
24/5/2019	32.2	42.5	14	30.1	0
25/5/2019	32.4	42.6	18	41.5	0
26/5/2019	31	43.3	14.1	31.4	0
27/5/2019	32.5	44.2	13.4	27.2	0
28/5/2019	32.3	45.1	12	26.3	0
29/5/2019	30.6	45.6	11	29.5	0
30/5/2019	31	45.3	13	27.4	0
31/5/2019	33.3	43.6	16.1	28.6	0
Max	33.3	45.6	21	60.6	0
Min	26.2	38.1	9	24.3	

Time : 00:00 - 23:00  
Date : 01/05/19 - 31/05/19

Set Title

APRL  
Kawai TPP





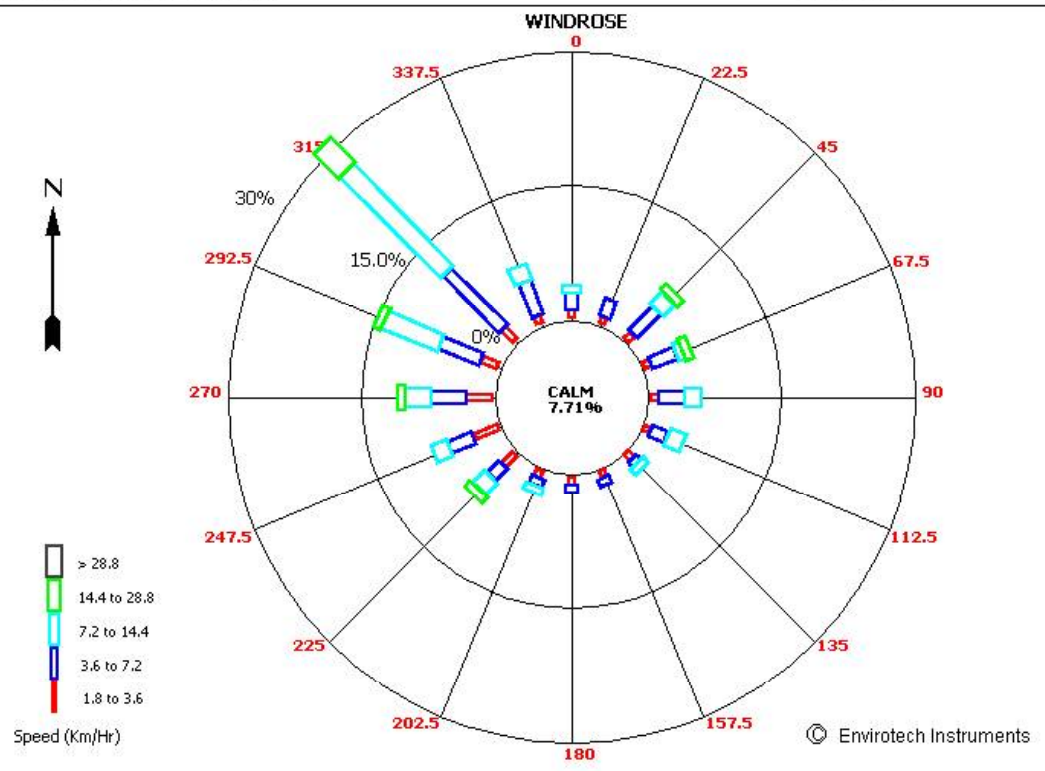
### AVERAGE DAILY METEROLOGICAL DATA OF JUNE -2019

Date	Temp (Deg C)		Relative Humidity (%)		Rainfall (mm)
	Min	Max	Min	Max	Total
1/6/2019	33	46	13.3	34.6	0
2/6/2019	31	46.5	11	38.2	0
3/6/2019	34.2	46.6	10.1	31.3	0
4/6/2019	35.1	46.6	11.1	25.2	0
5/6/2019	33	45.5	13.2	27	0
6/6/2019	34.3	46	14	26.5	0
7/6/2019	34	45.5	13.3	45	0
8/6/2019	34.2	45.6	12.3	30.4	0
9/6/2019	34.1	46.2	10.2	25.2	0
10/6/2019	34	46	11.2	25.3	0
11/6/2019	34.6	46.5	14	32.3	0
12/6/2019	36.1	44	19	32.5	0
13/6/2019	27.6	41.3	29.2	81	14
14/6/2019	28.2	40.2	27.5	78.1	0.5
15/6/2019	32.2	39	33	57.2	0
16/6/2019	30	39	33.4	64	0
17/6/2019	31.1	38.3	31.5	63	2.5
18/6/2019	30	39	29.2	55.1	0
19/6/2019	24	32.2	52.3	97	12
20/6/2019	24.1	37.3	37.1	96.3	0.5
21/6/2019	29.1	39.4	33.5	70.6	0
22/6/2019	29.3	40.6	25.3	70.6	0
23/6/2019	31.1	41.2	22.1	52.2	0
24/6/2019	31.1	40.6	28.4	61.1	0
25/6/2019	27.2	40.2	35.2	88.2	25.5
26/6/2019	27	37.6	44	90.2	0
27/6/2019	29.3	40.3	32.3	76.6	0
28/6/2019	29.1	40	36	70.4	0
29/6/2019	28	39.4	35.5	78	0
30/6/2019	24	32	55	93.1	39
Max	36.1	46.6	55	97	94
Min	24	32	10.1	25.2	

Time : 00:00 - 23:00  
Date : 01/06/19 - 30/06/19

Set Title

APRL  
Kawai TPP



## AVERAGE DAILY METEROLOGICAL DATA OF JULY -2019

Date	Temp (Deg C)		Relative Humidity (%)		Rainfall (mm)
	Min	Max	Min	Max	Total
1/7/2019	25.2	37.2	39.1	87.5	0.0
2/7/2019	29.0	40.4	31.0	77.4	0.0
3/7/2019	26.0	30.5	72.3	96.2	16.0
4/7/2019	26.0	31.6	73.3	98.2	28.5
5/7/2019	26.0	27.6	92.3	98.2	12.5
6/7/2019	25.3	30.0	81.5	97.4	16.0
7/7/2019	24.2	32.3	67.6	96.3	9.0
8/7/2019	26.0	32.5	69.3	97.0	19.5
9/7/2019	27.2	34.5	55.0	87.3	0.0
10/7/2019	27.2	35.5	47.5	86.3	0.0
11/7/2019	28.1	35.4	46.5	81.0	0.0
12/7/2019	28.0	35.6	44.2	78.2	0.0
Max	29.0	40.4	92.3	98.2	101.5
Min	24.2	27.6	31.0	77.4	

**Note:- Weather Monitor was under calibration since 13.07.2019 to 06.08.2019**

- **Rain Fall- 13.07.2019 to 31.07.2019 – 307.9 mm**
- **Total Rain Fall in Month of July-2019– 409.4 mm**

## AVERAGE DAILY METEROLOGICAL DATA OF AUGUST 2019

Date	Temp (Deg C)		Relative Humidity (%)		Rainfall (mm)
	Min	Max	Min	Max	Total
7/8/2019	27.2	30.5	76.2	94.3	13.8
8/8/2019	25.2	32	71.2	98.3	26
9/8/2019	27	30.4	80.2	95	4
10/8/2019	26	32	66.1	94.5	0
11/8/2019	25.2	31	69.1	91.5	0
12/8/2019	26	32	69.1	92.2	3
13/8/2019	25.2	30.5	77	97.1	14
14/8/2019	25.2	27.4	91.2	98.4	23.3
15/8/2019	24	26.1	98.1	98.3	225.8
16/8/2019	25	27.6	85.2	98.2	25.1
17/8/2019	25.2	29.6	76.4	96.3	0
18/8/2019	25.1	27	89.1	96.4	3.3
19/8/2019	27.2	30.5	76.2	94.3	9.7
20/8/2019	26	33.5	98.2	63.1	0
21/8/2019	26	32.3	93.4	71.6	1
22/8/2019	23	33.4	96.3	64.3	69.8
23/8/2019	25.1	32.5	95.2	62.1	2.5
24/8/2019	26	29.1	93.4	79	0
25/8/2019	25	28.3	97	82	9.5
26/8/2019	26	31.3	98	73	11.4
27/8/2019	26	33.4	97.6	63.3	0
28/8/2019	26	33.4	98.3	81	17.5
29/8/2019	25.2	33.6	96.2	63.4	0
30/8/2019	25	32.1	98.3	70.4	78.26
31/8/2019	26	32.6	97.2	70.5	0
Max	27.2	33.6	98.3	98.4	537.96
Min	23	26.1	66.1	62.1	

**Note:- Weather Monitor was under calibration since 13.07.2019 to 06.08.2019.**

- **Rain Fall-** 01.08.2019 to 06.08.2019 - **134.94 mm**
- **Total Rain Fall** in Month of **Aug-2019- 672.9 mm**

## AVERAGE DAILY METEROLOGICAL DATA OF SEPTEMBER 2019

Date	Temp (Deg C)		Relative Humidity (%)		Rainfall (mm)
	Min	Max	Min	Max	Total
1/9/2019	27.1	34.1	61.0	97.6	0.0
2/9/2019	27.1	33.4	67.3	94.6	0.0
3/9/2019	27.1	33.4	70.0	95.2	0.5
4/9/2019	26.1	34.4	62.5	95.6	5.7
5/9/2019	26.0	33.4	71.1	97.2	0.0
6/9/2019	27.0	35.0	62.0	95.3	20.7
7/9/2019	25.5	34.0	67.1	97.1	0.0
8/9/2019	26.1	34.4	62.5	95.5	24.6
9/9/2019	26.1	31.5	75.3	98.4	8.6
10/9/2019	25.0	31.0	83.5	98.3	19.0
11/9/2019	26.3	35.0	64.0	97.2	0.0
12/9/2019	25.0	29.2	84.0	98.2	58.1
13/9/2019	24.3	28.0	93.3	98.4	22.5
14/9/2019	26.0	30.4	82.1	98.4	18.0
15/9/2019	25.1	29.2	86.3	98.4	9.5
16/9/2019	26.1	32.5	69.1	98.4	0.0
17/9/2019	26.2	34.3	60.3	98.4	0.0
18/9/2019	26.1	33.6	59.0	95.1	0.0
19/9/2019	25.3	31.3	70.2	96.0	21.0
20/9/2019	24.1	30.5	76.1	97.5	116.6
21/9/2019	24.0	33.5	58.0	98.0	59.0
22/9/2019	24.0	29.5	73.3	97.2	28.5
23/9/2019	25.0	28.3	84.3	96.6	4.0
24/9/2019	24.1	32.0	63.0	97.4	74.1
25/9/2019	25.0	32.2	65.0	96.6	1.5
26/9/2019	26.0	31.4	69.2	95.4	0.0
27/9/2019	25.0	28.2	82.1	98.1	42.6
28/9/2019	24.0	27.6	82.1	98.1	2.5
29/9/2019	24.3	30.5	70.2	96.3	3.8
30/9/2019	24.0	32.3	57.1	97.0	0.0
Max	27.1	35.0	93.3	98.4	540.8
Min	24	27.6	57.1	94.6	

#### 4 AMBIENT AIR QUALITY

Air quality monitoring is carried out to assess the extent of pollution, ensure compliance with national legislation, evaluate control options, and provide data for air quality modeling. There are a number of different methods to measure any given pollutant, varying in complexity, reliability, and detail of data.

The locations for monitoring stations depend on the purpose of the monitoring. Most monitoring networks are designed with human health objectives in mind, and monitoring stations are therefore established in population center.

The measurements were conducted during the period of April 2019 to September 2019.

The air samples were analyzed as per the standard methods specified by Central Pollution Control Board (CPCB) and IS: 5182. The techniques used for ambient air quality monitoring are given in table as below:

**TABLE 3.1 TECHNICAL PROTOCOLS USED FOR AMBIENT AIR QUALITY MONITORING.**

S. No.	Parameter	Protocol Followed
1	Particulate Matter, PM <sub>10</sub> , µg/m <sup>3</sup>	IS: 5182 (P-23)
2	Particulate Matter, PM <sub>2.5</sub> , µg/m <sup>3</sup>	CPCB Guidelines (Gravimetric Method)
3	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	IS: 5182 (P-6)
4	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	IS: 5182 (P-2)
5	Carbon Monoxide, µg/m <sup>3</sup>	IS: 5182 (P-10)
6	Ammonia, µg/m <sup>3</sup>	CPCB Guidelines
7	Ozone, µg/m <sup>3</sup>	APHA 1977, Part819
8	Lead, µg/m <sup>3</sup>	IS: 5182 (P-22)
9	Arsenic, ng/m <sup>3</sup>	IS: 5182 (P-22)
10	Nickel, ng/m <sup>3</sup>	IS: 5182 (P-22)
11	Benzene, µg/m <sup>3</sup>	IS: 5182 (P-11)
12	Benzo-alfa-pyrene, ng/m <sup>3</sup>	CPCB Guidelines
13	Mercury (Hg), ng/m <sup>3</sup>	APHA 2012 : 3112 B

#### 4.1 AMBIENT AIR QUALITY RESULTS

The detailed on-site monitoring results of Ambient Air Quality with Hg are presented in table as given below:

**TABLE 3.2: AMBIENT AIR QUALITY MONITORING RESULTS**

Quarter I (Apr 2019 to Jun 2019)								
S. No.	Parameter	West of Stack (Near Coal Handling Plant)	South East of Stack (Near CT 2)	North East of Stack (Near Reservoir)	Sidni (Near Labour Colony)	Kawai Village	Mukundpura	NAAQ Standard
1	Particulate Matter, PM <sub>10</sub> , µg/m <sup>3</sup>	82.46	74.68	77.9	53.12	65.6	69.34	100
2	Particulate Matter, PM <sub>2.5</sub> , µg/m <sup>3</sup>	41.74	28.24	39.73	21.81	30.44	24.87	60
3	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	14.83	16.05	14.41	10.75	12.59	12.49	80
4	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	6.63	6.29	6.57	5.77	5.43	7.63	80
5	Carbon Monoxide, µg/m <sup>3</sup>	290	320	300	180	210	310	4000
6	Ammonia, µg/m <sup>3</sup>	BDL (<10.0)	BDL (<10.0)	BDL (<10.0)	BDL (<10.0)	BDL (<10.0)	BDL (<10.0)	400
7	Ozone, µg/m <sup>3</sup>	BDL (<20.0)	BDL (<20.0)	BDL (<20.0)	BDL (<20.0)	BDL (<20.0)	BDL (<20.0)	100
8	Lead, µg/m <sup>3</sup>	0.04	0.2	0.19	0.03	0.05	BDL (<0.01)	1.0
9	Arsenic, ng/m <sup>3</sup>	BDL (<2.0)	BDL (<2.0)	BDL (<2.0)	BDL (<2.0)	BDL (<2.0)	BDL (<2.0)	6.0
10	Nickel, ng/m <sup>3</sup>	13.5	1.2	2.6	2.6	BDL (<1.0)	BDL (<1.0)	20
11	Benzene, µg/m <sup>3</sup>	BDL (<1.0)	BDL (<1.0)	BDL (<1.0)	BDL (<1.0)	BDL (<1.0)	BDL (<1.0)	5.0
12	Benzo-alfa-pyrene, ng/m <sup>3</sup>	BDL (<0.5)	BDL (<0.5)	BDL (<0.5)	BDL (<0.5)	BDL (<0.5)	BDL (<0.5)	1.0
13	Mercury (Hg), ng/m <sup>3</sup>	ND	ND	ND	ND	ND	ND	-

Quarter II (Jul.2019 to Sep.2019)								
S. No.	Parameter	West of Stack (Near Coal Handling Plant)	South East of Stack (Near CT 2)	North East of Stack (Near Reservoir)	Sidni (Near Labour Colony)	Kawai Village	Mukundpura	NAAQ Standard
1	Particulate Matter, PM <sub>10</sub> , µg/m <sup>3</sup>	15.7	27.39	18.46	25.25	21.25	16.63	100
2	Particulate Matter, PM <sub>2.5</sub> , µg/m <sup>3</sup>	8.18	15.12	10.71	14.07	11.16	10.46	60
3	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	9.43	8.65	9.41	10.15	11.26	9.14	80
4	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	3.6	2.78	2.88	3.40	5.63	3.79	80
5	Carbon Monoxide, µg/m <sup>3</sup>	310	340	340	290	320	260	4000
6	Ammonia, µg/m <sup>3</sup>	10.0	BDL (<10.0)	BDL (<10.0)	BDL (<10.0)	BDL (<10.0)	BDL (<10.0)	400
7	Ozone, µg/m <sup>3</sup>	31.0	BDL (<20.0)	BDL (<20.0)	BDL (<20.0)	BDL (<20.0)	BDL (<20.0)	100
8	Lead, µg/m <sup>3</sup>	0.01	0.07	0.04	0.02	0.10	0.07	1.0
9	Arsenic, ng/m <sup>3</sup>	BDL(<2.0)	BDL(<2.0)	BDL(<2.0)	BDL(<2.0)	BDL(<2.0)	BDL(<2.0)	6.0
10	Nickel, ng/m <sup>3</sup>	2.5	BDL (<1.0)	BDL(<1.0)	1.1	1.6	BDL(<1.0)	20
11	Benzene, µg/m <sup>3</sup>	BDL (<1.0)	BDL (<1.0)	BDL (<1.0)	BDL (<1.0)	BDL (<1.0)	BDL (<1.0)	5.0
12	Benzo-alfa-pyrene, ng/m <sup>3</sup>	BDL (< 0.5)	BDL (< 0.5)	BDL (< 0.5)	BDL (< 0.5)	BDL (< 0.5)	BDL (< 0.5)	1.0
13	Mercury (Hg), ng/m <sup>3</sup>	ND	ND	ND	ND	ND	ND	-



## 5 AMBIENT NOISE LEVEL

The measurements were conducted during the period of April 2019 to September 2019.

The measurements are done using the sound level meter with data logger. The results of the same are provided as below. [Note: (i) The value is the Leq. of ten readings taken in Day time and Night time.]

1. Day time shall mean from 6:00 am to 10:00 pm
2. Night time shall mean from 10:00 pm to 6:00 am.

**TABLE 5.1: NOISE MONITORING RESULTS [INDUSTRIAL AREA]**

<b>Quarter I (Apr.2019 to Jun.2019)</b>		
<b>Location</b>	<b>Day Time Leq in dB(A)</b>	<b>Night Time Leq in dB(A)</b>
West of Stack (Near Coal Handling Plant)	60.2	56.0
South East of Stack (Near CT 2)	59.9	51.2
North East of Stack (Near Reservior)	62.7	58.4
<b>Quarter II (Jul.2019 to Sep2019)</b>		
<b>Location</b>	<b>Day Time Leq in dB(A)</b>	<b>Night Time Leq in dB(A)</b>
West of Stack (Near Coal Handling Plant)	59.2	50.8
South East of Stack (Near CT 2)	61.9	53.0
North East of Stack (Near Reservior)	59.2	48.5

**TABLE 5.2: NOISE MONITORING RESULTS [RESIDENTIAL AREA]**

Quarter I (Apr.2019 to Jun.2019)		
Location	Day Time Leq in dB(A)	Night Time Leq in dB(A)
Sidni (Near Labour Colony)	43.6	42.4
Kawai Village	53.8	44.1
Mukhandpura	54.4	40.1
Quarter II (Jul2019 to Sept.2019)		
Location	Day Time Leq in dB(A)	Night Time Leq in dB(A)
Sidni (Near Labour Colony)	51.8	39.9
Kawai Village	54.8	41.3
Mukhandpura	51.8	41.1

**TABLE 5.3: NOISE MONITORING RESULTS [DG Set]**

Quarter II			
Parameter	DG Set-I	DG Set-II	DG Set-III
Noise level (dB(A) (inside the acoustic enclosure Room)	103.3	104.7	102.9
Noise level 0.5m away from outside the engine room, (db) (Outside the acoustic enclosure)	74.1	74.4	73.4
Insertion Loss	29.2	30.3	29.5

## 6 STACK

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Emission measurements are required to identify and quantify a wide range of pollutants in Stack Emissions. The measurements were conducted during the period of April 2019 to September 2019.

The parameters covered in the monitoring are depict below:

**TABLE 6.1 TECHNICAL PROTOCOLS USED FOR STACK EMISSION MONITORING**

S. No	Parameter	Units	Method of Test
1	Particulate Matter (PM)	mg/ Nm <sup>3</sup>	IS 11255 (P-1)
2	Sulphur dioxide (SO <sub>2</sub> )	mg/ Nm <sup>3</sup>	IS 11255 (P-2)
3	Oxide of nitrogen (NO <sub>x</sub> ),	mg/ Nm <sup>3</sup>	IS:11255 (P-7)
4	Carbon monoxide (CO)	%	IS:13270-1992
5	Mercury as particulate (Hgp)	µg/m <sup>3</sup>	USEPA-29

**TABLE 6.2: STACK MONITORING RESULTS**

S. No	Parameter	Unit	Quarter I (Apr.20198 to Jun.2019)		Quarter II (Jul.2019 to Sep.2019)	
			Unit-I	Unit-II	Unit-I	Unit-II
1	Exit Gas Velocity	m/sec	-	17.49	20.05	20.15
2	Flow Rate	Nm <sup>3</sup> /hr	-	340446.32	2516299.45	2561691.77
3	Particulate Matter (PM)	mg/Nm <sup>3</sup>	-	30.23	27.81	25.26
4	Sulphur dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	-	745	709	715
5	Oxide of nitrogen (as NO <sub>x</sub> ) at 15 % O <sub>2</sub>	mg/Nm <sup>3</sup>	-	268	243	251
6	Mercury as particulate (Hgp)	µg/m <sup>3</sup>	-	BDL (<0.001)	BDL (< 0.001)	BDL (<0.001)

**TABLE 6.3: DG STACK MONITORING RESULTS**

Parameter	Unit	Quarter II (Jul.2019 to Sep.2019)		
		DG Set-I	DG Set-II	DG Set-III
Particulate Matter (PM)	mg/Nm <sup>3</sup>	31.49	43.4	32.24
Oxide of Nitrogen (NO <sub>x</sub> ) at15% O <sub>2</sub>	ppmv	360	328	366
Carbon monoxide (CO)	mg/Nm <sup>3</sup>	97	75	82
NMHC as C at 15% O <sub>2</sub>	mg/Nm <sup>3</sup>	39	48	82

## 7 WATER QUALITY RESULTS [GROUND/ SURFACE]

A number of parameters have been monitored in ground water and surface water at nearby villages of plant site.

The measurements were conducted during the period of April 2019 to September 2019. The parameters covered in the monitoring are depict below:

**TABLE 7.1.1: RESULTS OF GROUND WATER MONITORING**

Quarter I (Apr.2019 to Jun.2019)										
S. No	Parameter	South of Ash Dyke, Near Labour Colony	NE of Ash Dyke, Near Ash Recovery Pump House	Near Nimoda Railway Station Crossing West of ash Pond	Salpura Village	Kawai Village	Phoolbaroda Village	Baldevpura Village	Nimoda Village	Sidni Village
1	pH (at 25 °C)	6.75	8.40	6.85	7.05	7.63	7.56	7.31	6.79	7.46
2	Colour, Hazen	<5	<5	<5	<5	<5	<5	<5	<5	<5
3	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity, NTU	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	< 0.1
5	Total Dissolved Solids, mg/l	567	697	1007	986	793	781	289	913	797
6	Electrical Conductivity, µS/cm	770	1061	1567	1501	1083	1017	472	1433	1276
7	Total Hardness (as CaCO <sub>3</sub> ), mg/l	280	308	520	380	296	288	152	456	256
8	Calcium (as Ca), mg/l	91.2	97.6	155.2	132.8	78.4	91.2	30.4	153.6	88
9	Magnesium (as	12.64	15.55	32.08	11.66	24.3	14.58	18.47	17.5	8.75

	Mg), mg/l									
10	Chlorides (as Cl <sup>-</sup> ), mg/l	68.49	88.06	127.19	197.64	80.23	60.66	29.35	129.15	166.33
11	Sulphate (as SO <sub>4</sub> ), mg/l	107.78	176.66	338.89	101.11	42.67	50.44	20.89	255.56	97.78
12	Iron (as Fe), mg/l	BDL (<0.01)	BDL (< 0.01)	BDL (< 0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
13	Total Chromium ( as Cr), mg/l	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
14	Arsenic ( as As), mg/l	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
15	Lead (as Pb), mg/l	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
16	Silica (as SiO <sub>2</sub> ) mg/l	17.25	40.5	13.75	4	7	15	13.75	3.8	8
17	Mercury ,mg/l	BDL (< 0.001)	BDL (< 0.001)	BDL (<0.001)	BDL (<0.001)	BDL (<0.001)	BDL (<0.001)	BDL (<0.001)	BDL (<0.001)	BDL (<0.001)
18	Appearance	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
19	Appearance after Filtration	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
20	Methyl orange Alkalinity as CaCO <sub>3</sub> mg/l	64	92	100	212	304	308	140	84	200
21	P- Alkalinity mg/l	ND	40	ND	ND	ND	ND	ND	ND	ND
22	NonCarbonate Hardness (as CaCO <sub>3</sub> mg/l	216	176	420	168	ND	ND	12	372	56
23	E coli MPN/100ml	ND	ND	ND	ND	ND	ND	ND	ND	ND
24	Total coliform, MPN/100ml	ND	ND	ND	ND	ND	ND	ND	ND	ND

Quarter II (Jul.2019 to Sep.2019)										
S. No	Parameter	South of Ash Dyke, Near Labour Colony	NE of Ash Dyke, Near Ash Recovery Pump House	Near Nimoda Railway Station Crossing West of ash Pond	Salpura Village	Kawai Village	Phoolbarod a Village	Nimoda Village	Sidni Village	Baldevpura Village
1	pH (at 25 °C)	6.85	7.69	8.00	7.32	7.68	7.19	7.13	7.06	7.65
2	Colour, Hazen	<5	<5	<5	<5	<5	<5	<5	<5	<5
3	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity, NTU	< 0.1	< 0.1	<0.1	<0.1	< 0.1	< 0.1	<0.1	< 0.1	< 0.1
5	Total Dissolved Solids, mg/l	99	476	234	516	609	628	771	709	166
6	Electrical Conductivity, µS/cm	131	732	360	902	936	967	1280	1180	256
7	Total Hardness (as CaCO <sub>3</sub> ), mg/l	48	136	160	288	320	296	460	284	100
8	Calcium (as Ca), mg/l	11.2	40	46.4	92.8	68.8	86.4	134.4	83.2	28.8
9	Magnesium (as Mg), mg/l	4.86	8.75	10.69	13.61	35.96	19.44	30.13	18.47	6.8
10	Chlorides (as Cl <sup>-</sup> ), mg/l	10	69.98	8	81.97	43.99	33.99	109.97	139.96	17.99
11	Sulphate (as SO <sub>4</sub> ), mg/l	28.16	53	27.83	81.66	52.5	45	37.5	124.16	30.83
12	Iron (as Fe),	BDL (<	BDL (<0.01)	BDL (< 0.01)	BDL (<0.01)	BDL (< 0.01)	BDL (< 0.01)	BDL (< 0.01)	BDL (< 0.01)	BDL (< 0.01)

	mg/l	0.01)								
13	Total Chromium ( as Cr), mg/l	BDL(<0.01 )	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
14	Arsenic ( as As), mg/l	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
15	Lead (as Pb), mg/l	BDL(<0.01 )	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
16	Silica (as SiO <sub>2</sub> ) mg/l	15.75	3.4	15.5	17.25	28	32	12.25	18.75	17
17	Mercury ,mg/l	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
18	Appearance	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
19	Appearance after Filtration	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Clear
20	Methyl orange Alkalinity as CaCO <sub>3</sub> mg/l	32	176	132	176	316	332	64	192	76
21	P- Alkalinity mg/l	ND	ND	ND	ND	ND	ND	ND	ND	ND
22	Non Carbonate Hardness (as CaCO <sub>3</sub> mg/l	16	ND	28	112	4	ND	396	92	24
23	E coli MPN/100ml	ND	ND	ND	ND	ND	ND	ND	ND	ND
24	Total coliform, MPN/100ml	ND	ND	ND	ND	ND	ND	ND	ND	ND



## 7.2 SURFACE WATER:

The measurements were conducted during the period of April 2019 to September 2019. The parameters covered in the monitoring are depicted below.

**TABLE 7.2.1: RESULTS OF SURFACE WATER MONITORING**

		Quarter I (Apr.2019 to Jun.2019)		
S. No.	Parameter	Barlan Pond	Kawai Pond	Parvan River
1	pH (at 25 °C)	8.02	7.40	8.12
2	Colour, Hazen	<5.0	<5	<5
3	Odour	Agreeable	Agreeable	Agreeable
4	Turbidity, NTU	<0.1	11.2	<0.1
5	Total Dissolved Solids, mg/l	311	817	272
6	Electrical Conductivity, $\mu$ S/cm	503	1478	448
7	Total Hardness (as CaCO <sub>3</sub> ), mg/l	84	196	136
8	Calcium (as Ca), mg/l	20.8	60.8	25.6
9	Magnesium (as Mg), mg/l	7.78	10.69	17.5
10	Chlorides (as Cl <sup>-</sup> ), mg/l	46.96	209.38	29.35
11	Sulphate (as SO <sub>4</sub> ), mg/l	11.44	48.22	18.56
12	Iron (as Fe), mg/l	BDL (< 0.01)	BDL (< 0.01)	BDL (< 0.01)
13	Total Chromium ( as Cr), mg/l	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
14	Arsenic ( as As), mg/l	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)
15	Lead (as Pb), mg/l	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
16	Silica (as SiO <sub>2</sub> ) mg/l	3.8	13.25	7.2
17	Mercury ,mg/l	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)

18	Appearance	Clear	Turbid	Clear
19	Appearance after Filtration	Clear	Clear	Clear
20	Methyl orange Alkalinity as CaCO <sub>3</sub> mg/l	136	240	144
21	P- Alkalinity mg/l	ND	ND	ND
22	Non Carbonate Hardness (as CaCO <sub>3</sub> mg/l	ND	ND	ND
23	E coli MPN/100ml	ND	ND	ND
24	Total coliform, MPN/100ml	ND	ND	ND

Quarter II (Jul.2019 to Sep.2019)				
S. No.	Parameter	Barlan Pond	Kawai Pond	Parvan River
1	pH (at 25 °C)	7.98	8.08	7.97
2	Colour, Hazen	<5.0	<5	<5
3	Odour	Agreeable	Agreeable	Agreeable
4	Turbidity, NTU	<0.1	<0.1	<0.1
5	Total Dissolved Solids, mg/l	196	196	216
6	Electrical Conductivity, µS/cm	302	308	332
7	Total Hardness (as CaCO <sub>3</sub> ), mg/l	84	96	144
8	Calcium (as Ca), mg/l	25.6	28.8	40
9	Magnesium (as Mg), mg/l	4.86	5.83	10.69
10	Chlorides (as Cl <sup>-</sup> ), mg/l	33.99	27.99	17.99
11	Sulphate (as SO <sub>4</sub> ), mg/l	24.16	25.16	15.83
12	Iron (as Fe), mg/l	BDL (< 0.01)	BDL (< 0.01)	BDL (< 0.01)
13	Total Chromium ( as Cr), mg/l	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
14	Arsenic ( as As), mg/l	BDL(<0.001)	BDL(<0.001)	BDL(<0.001)

15	Lead (as Pb), mg/l	BDL(<0.01)	BDL(<0.01)	BDL(<0.01)
16	Silica (as SiO <sub>2</sub> ) mg/l	6.8	8.7	28
17	Mercury ,mg/l	BDL (< 0.001)	BDL (< 0.001)	BDL (< 0.001)
18	Appearance	Clear	Clear	Clear
19	Appearance after Filtration	Clear	Clear	Clear
20	Methyl orange Alkalinity as CaCO <sub>3</sub> mg/l	76	84	128
21	P- Alkalinity mg/l	ND	ND	ND
22	NonCarbonate Hardness (as CaCO <sub>3</sub> mg/l	8	12	16
23	E coli MPN/100ml	ND	ND	ND
24	Total coliform, MPN/100ml	ND	ND	ND

## 8. STP WATER

The measurements were conducted during the period of April 2019 to September 2019. The parameters covered in the monitoring are depict below:

**TABLE 8.1: RESULTS OF STP WATER**

Quarter II (Apr.2019 to Jun.2019)											
S. No.	Parameter	45 KLD New	10 KLD STP Near Service Building)	10 KLD STP Plant Canteen	45 KLD STP near Adani Vidhayala (New)	120 KLD STP in Plant Premises	60 KLD New	10KLD III Guest House	10KLD 3 BHK	New 60KLD STP in Township (New)	10KLD Hospital
1	pH (at 25 °C)	7.47	7.53	7.10	7.60	7.46	7.64	7.58	7.44	7.50	7.49
2	Total Suspended Solid (TSS) mg/l	21	12	29	50	66	13	11	8	13	30
3	Nitrate Nitrogen mg/l	8.98	2.08	4.89	4.24	6.05	2.33	2.97	5.02	2.94	3.19
4	Ammonical Nitrogen (as NH <sub>3</sub> -N) mg/l	3.92	9.24	16.52	21.28	2.8	2.24	12.88	6.72	24.08	17.08
5	Biochemical Oxygen Demand (BOD) mg/l	15	13	18	21.43	17	12	6	12	14	9
6	Chemical Oxygen Demand (COD) mg/l	86.4	58.75	55.3	93.31	76.03	48.38	38.02	65.66	86.4	41.47
7	Total Kjeldahl Nitrogen mg/l	4.20	12.88	18.76	22.68	4.20	3.64	14.84	8.40	25.20	20.76
8	Oil & Grease mg/l	4	5	4	7	6	7	7	6	4	6
9	Free Available Chlorine mg/l	0.1	0.2	BDL(<0.1)	0.1	0.1	0.1	0.2	0.2	BDL (<0.1)	BDL (<0.1)
10	Bioassay Test	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent

Quarter II (Jul.2019 to Sep.2019)											
S. No.	Parameter	10 KLD STP Hospital	10 KLD STP Near Service Building)	10 KLD STP Plant Canteen	45 KLD STP near Adani Vidhayala NEW	120 KLD STP in Plant Premises	45 KLD Adani Vidhayala Old	10KLD III Guest House	10KLD 3 BHK	New 60KLD STP in Township (New)	60KLD STP Township (Old)
1	pH (at 25°C)	7.24	7.05	7.28	7.10	7.85	6.95	7.41	7.12	7.35	6.82
2	Total Suspended Solid (TSS)	19	15	24	37	44	30	18	28	25	26
3	Nitrate Nitrogen	5.13	8.29	0.78	3.25	8.35	2.31	1.08	6.32	4.54	4.26
4	Ammonical Nitrogen (as NH <sub>3</sub> -N)	5.60	15.42	9.68	8.96	7.84	9.56	2.51	2.24	10.64	12.67
5	Biochemical Oxygen Demand (BOD)	9.17	11	7.0	10	19	8	2	9.0	13	10
6	Chemical Oxygen Demand (COD)	27.9	31.39	48.92	54.94	87.26	48.83	6.98	38.37	71.1	90.69
7	Total Kjeldahl Nitrogen	8.40	19.68	14.43	11.76	8.96	12.44	3.73	4.26	19.04	20.22
8	Oil & Grease	3	4	3	5	8	2	3	3	4	3
9	Free Available Chlorine	0.1	0.4	BDL(<0.1)	BDL(<0.1)	BDL(<0.1)	BDL(<0.1)	0.1	0.2	BDL (<0.1)	BDL (<0.1)
10	Bioassay Test	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent	100% Survival of Fish after 96 hours in 100% effluent

## 9 ETP WATER

The measurements were conducted during the period of April 2019 to September 2019. The parameters covered in the monitoring are depict below:

**TABLE 9.1: RESULTS OF ETP OUTLET**

S. No.	Parameter	Unit	Quarter I (Apr.2019 to Jun.2019)	Quarter II (Jul.2019 to Sep.2019)
1	pH	-	7.56	7.26
2	Total Suspended Solids (TSS)	mg/l	27	9
3	Outlet Temperature	°C	31	27.3
4	Chemical Oxygen Demand (COD), mg/l	mg/l	103.68	31.39
5	Copper (as Cu), mg/l	mg/l	BDL (<0.01)	BDL (< 0.01)
6	Iron (as Fe) mg/l	mg/l	0.26	BDL (< 0.01)
7	Zinc (as Zn) mg/l	mg/l	0.72	0.03
8	Phosphate (as P), mg/l	mg/l	0.49	BDL (<0.1)
9	Oil & Grease, mg/l	mg/l	6	2
10	Ammonical Nitrogen	mg/l	4.76	8.66
11	Biochemical Oxygen Demand	mg/l	25	7
12	Chloride	mg/l	195.68	176.12
13	Cyanide	mg/l	<0.05	<0.05
14	Fluoride	mg/l	0.66	0.69
15	Sulphate	mg/l	366.66	174.17
16	Sulphide	mg/l	BDL (<0.1)	BDL (<0.1)
17	Total Kjeldahl Nitrogen	mg/l	7.56	12.36
18	Arsenic	mg/l	BDL (<0.001)	BDL (<0.001)
19	Cadmium	mg/l	BDL (< 0.01)	BDL (< 0.01)

20	Chromium Hexavalent	mg/l	BDL (<0.01)	BDL (<0.01)
21	Lead	mg/l	BDL (<0.01)	BDL (<0.01)
22	Mercury	mg/l	BDL (< 0.001)	BDL (< 0.001)
23	Nickel	mg/l	BDL (<0.01)	BDL (<0.01)
24	Total Chromium	mg/l	-	BDL (<0.01)
25	Phenolic Compounds	mg/l	BDL (<0.001)	BDL (<0.001)
26	Total Residual Chlorine	mg/l	0.1	0.1
27	Fixed Dissolved Solids	mg/l	1280	792
28	Trivalent Chromium	mg/l	BDL (< 0.01)	BDL (< 0.01)
29	Nitrite Nitrogen	mg/l	BDL (< 0.1)	0.83
30	Selenium	mg/l	BDL (<0.01)	BDL (<0.01)
31	Vanadium	mg/l	0.01	0.01
32	Magnesium	mg/l	38.88	9.72

## 10 ASH RECOVERY WATER

The measurements were conducted during the period of April 2019 to September 2019. The parameters covered in the monitoring are depict below:

**TABLE 10.1: RESULTS OF ASH RECOVERY WATER Sample**

S. No.	Parameter	Units	Quarter I (Apr.2019 to Jun.2019)	
			Ash Recovery Pump House 1	Ash Recovery Pump House 2
1	Lead (as Pb)	mg/l	-	BDL
2	Arsenic (as As)	mg/l	-	BDL
3	Total Chromium (as Cr)	mg/l	-	BDL
4	Cadmium (as Cd)	mg/l	-	BDL
5	Mercury (as Hg)	mg/l	-	BDL

S. No.	Parameter	Units	Quarter II (Jul.2019 to Sep.2019)	
			Ash Recovery Pump House 1	Ash Recovery Pump House 2
1	Lead (as Pb)	mg/l	BDL	BDL
2	Arsenic (as As)	mg/l	BDL	BDL
3	Total Chromium (as Cr)	mg/l	BDL	BDL
4	Cadmium (as Cd)	mg/l	BDL	BDL
5	Mercury (as Hg)	mg/l	BDL	BDL



## 11. FLY ASH [SILO]

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The measurements were conducted during the period of April 2019 to September 2019. The parameters covered in the monitoring are depict below:

**TABLE 11.1: RESULTS OF FLY ASH SAMPLE (Unit I)**

S. No.	Parameter	Unit	Quarter I (Apr2019 to jun.2019)	Quarter II (Jul.2019 to Sep.2019)
1	Arsenic (As)	mg/kg	-	BDL
2	Mercury (Hg)	mg/kg	-	BDL
3	Lead as Pb	mg/kg	-	BDL
4	Total Chromium as Cr	mg/kg	-	8.46
5	Cadmium (Cd)	mg/kg	-	BDL
6	Iron	%	-	0.58
7	Nickel	mg/kg	-	5.70
8	Copper	mg/kg	-	2.13
9	Zinc	mg/kg	-	4.18

TABLE 11.2: RESULTS OF FLY ASH SAMPLE (Unit II)

S. No.	Parameter	Unit	Quarter I (April.2019 to Jun.2019)	Quarter II (Jul.2019 to Sep.2019)
1	Arsenic (As)	mg/kg	BDL	BDL
2	Mercury (Hg)	mg/kg	BDL	BDL
3	Lead as Pb	mg/kg	BDL	BDL
4	Total Chromium as Cr	mg/kg	8.46	9.31
5	Cadmium	mg/kg	BDL	BDL
6	Iron	%	0.58	0.71
7	Nickel	mg/kg	5.70	6.37
8	Copper	mg/kg	2.13	2.52
9	Zinc	mg/kg	4.18	8.12

## 12 SOIL

The measurements were conducted during the period of April 2019 to September 2019. The parameters covered in the monitoring are depict below:

**TABLE 12.1: RESULTS OF SOIL MONITORING**

S. No.	Parameter	Quarter I (Apr.2019 to Jun.2019)			Quarter II (Jul.2019 to Sep.2019)		
		Nimoda Village	Kawai Village	Phulbaroda Village	Nimoda Village	Kawai Village	Phulbaroda Village
1	Boron [mg/kg]	1.54	BDL	1.35	BDL	1.46	BDL
2	Calcium as CaO [%]	2.90	3.13	3.07	12.27	11.44	11.37
3	Magnesium as MgO [%]	3.14	2.20	2.09	1.41	1.32	1.56
4	Potassium as K <sub>2</sub> O [%]	0.28	0.32	0.20	0.31	0.26	0.31
5	Iron as Fe [%]	3.43	3.95	3.53	3.95	3.91	3.76
6	Manganese as Mn [mg/kg]	276.66	324.94	416.86	166.84	1400.16	8144.54
7	Phosphorus [%]	0.0087	0.0068	0.006	0.009	0.0022	0.0018



**Adani Power Rajasthan Limited  
2X660 MW Kawai Thermal Power Stations**

**Annexure – 1A**

<b>CONTINUOUS EMISSION MONITORING RESULTS</b>		
<b>Station: Stack Attached to Boiler 1 &amp; 2</b>		
<b>Report type: Mean &amp; Daily</b>		
<b>Time Base: 24 Hour</b>		
Date	UNIT 1	Unit 2
<b>PM (mg/Nm<sup>3</sup>)</b>		
01/04/2019	35.73	41.77
02/04/2019	36.47	39.63
03/04/2019	37.86	45.96
04/04/2019	38.33	42.67
05/04/2019	33.58	42.67
06/04/2019	35.92	39.63
07/04/2019	35.11	45.96
08/04/2019	36.70	42.50
09/04/2019	34.96	26.50
10/04/2019	34.60	42.67
11/04/2019	37.49	39.04
12/04/2019	38.30	13.78
13/04/2019	39.16	21.84
14/04/2019	38.63	17.96
15/04/2019	35.58	26.50
16/04/2019	32.30	17.10
17/04/2019	30.46	16.08
18/04/2019	30.55	18.21
19/04/2019	32.08	18.23
20/04/2019	36.93	18.28
21/04/2019	31.61	18.28
22/04/2019	33.81	18.52
23/04/2019	35.17	42.67
24/04/2019	37.57	37.63
25/04/2019	39.96	31.88
26/04/2019	37.60	34.19
27/04/2019	35.88	37.63
28/04/2019	34.72	42.16
29/04/2019	36.84	32.93
30/04/2019	33.95	32.58
<b>Min</b>	<b>30.46</b>	<b>13.78</b>
<b>Max</b>	<b>39.96</b>	<b>45.96</b>
<b>AVG</b>	<b>35.60</b>	<b>31.52</b>

**Adani Power Rajasthan Limited  
2X660 MW Kawai Thermal Power Stations**

**Annexure – 1A**

<b>CONTINUOUS EMISSION MONITORING RESULTS</b>		
<b>Station: Stack Attached to Boiler 1 &amp; 2</b>		
<b>Report type: Mean &amp; Daily</b>		
<b>Time Base: 24 Hour</b>		
Date	UNIT 1	Unit 2
PM (mg/Nm <sup>3</sup> )		
01/05/2019	34.5	34.0
02/05/2019	35.3	37.7
03/05/2019	32.5	33.9
04/05/2019	33.9	39.3
05/05/2019	32.8	38.3
06/05/2019	31.0	35.8
07/05/2019	37.0	40.0
08/05/2019	<b>S/D</b>	37.8
09/05/2019	<b>S/D</b>	36.2
10/05/2019	<b>S/D</b>	37.6
11/05/2019	38.5	33.4
12/05/2019	39.8	39.8
13/05/2019	35.3	<b>S/D</b>
14/05/2019	40.0	<b>S/D</b>
15/05/2019	35.4	<b>S/D</b>
16/05/2019	34.6	40.7
17/05/2019	32.3	27.7
18/05/2019	33.1	30.1
19/05/2019	33.3	37.3
20/05/2019	42.6	39.4
21/05/2019	42.9	<b>S/D</b>
22/05/2019	43.4	<b>S/D</b>
23/05/2019	39.4	<b>S/D</b>
24/05/2019	31.2	40.9
25/05/2019	41.0	39.7
26/05/2019	41.3	39.4
27/05/2019	42.0	39.4
28/05/2019	40.8	39.9
29/05/2019	41.6	39.7
30/05/2019	41.8	39.2
31/05/2019	39.8	35.8
<b>Min</b>	<b>31.0</b>	<b>27.7</b>
<b>Max</b>	<b>43.4</b>	<b>40.9</b>
<b>AVG</b>	<b>37.4</b>	<b>37.3</b>

**Adani Power Rajasthan Limited  
2X660 MW Kawai Thermal Power Stations**

**Annexure – 1A**

<b>CONTINUOUS EMISSION MONITORING RESULTS</b>		
<b>Station: Stack Attached to Boiler 1 &amp; 2</b>		
<b>Report type: Mean &amp; Daily</b>		
<b>Time Base: 24 Hour</b>		
Date	UNIT 1	Unit 2
<b>PM (mg/Nm<sup>3</sup>)</b>		
01/06/2019	39.8	34.7
02/06/2019	40.4	34.7
03/06/2019	39.5	32.6
04/06/2019	39.8	39.5
05/06/2019	40.5	39.4
06/06/2019	38.9	36.7
07/06/2019	37.4	35.0
08/06/2019	40.3	38.2
09/06/2019	37.2	36.1
10/06/2019	39.6	38.8
11/06/2019	34.4	34.8
12/06/2019	31.9	35.7
13/06/2019	30.0	28.0
14/06/2019	29.8	29.0
15/06/2019	28.2	26.3
16/06/2019	29.3	26.7
17/06/2019	28.5	25.2
18/06/2019	29.5	26.4
19/06/2019	32.4	23.9
20/06/2019	<b>S/D</b>	23.5
21/06/2019	<b>S/D</b>	30.4
22/06/2019	<b>S/D</b>	37.8
23/06/2019	<b>S/D</b>	31.5
24/06/2019	<b>S/D</b>	34.0
25/06/2019	<b>S/D</b>	30.0
26/06/2019	<b>S/D</b>	26.2
27/06/2019	<b>S/D</b>	29.2
28/06/2019	<b>S/D</b>	26.3
29/06/2019	<b>S/D</b>	25.4
30/06/2019	<b>S/D</b>	22.6
<b>Min</b>	<b>28.2</b>	<b>22.6</b>
<b>Max</b>	<b>40.5</b>	<b>39.5</b>
<b>AVG</b>	<b>35.1</b>	<b>31.3</b>

**Adani Power Rajasthan Limited  
2X660 MW Kawai Thermal Power Stations**

**Annexure – 1A**

<b>CONTINUOUS EMISSION MONITORING RESULTS</b>		
<b>Station: Stack Attached to Boiler 1 &amp; 2</b>		
<b>Report type: Mean &amp; Daily</b>		
<b>Time Base: 24 Hour</b>		
Date	UNIT 1	Unit 2
PM (mg/Nm <sup>3</sup> )		
01/07/2019	S/D	22.25
02/07/2019	S/D	25.39
03/07/2019	S/D	23.54
04/07/2019	S/D	21.62
05/07/2019	S/D	21.34
06/07/2019	S/D	21.22
07/07/2019	S/D	21.18
08/07/2019	S/D	21.4
09/07/2019	S/D	21.74
10/07/2019	S/D	21.49
11/07/2019	S/D	21.76
12/07/2019	S/D	24.24
13/07/2019	34.01	24.91
14/07/2019	33.03	30.05
15/07/2019	31.72	26.83
16/07/2019	30.88	26.05
17/07/2019	35.13	28.3
18/07/2019	33.22	26.6
19/07/2019	35.81	28.71
20/07/2019	33.04	27.93
21/07/2019	33.55	27.77
22/07/2019	35.91	29.67
23/07/2019	35.45	30.64
24/07/2019	31.81	28.18
25/07/2019	29.7	27.58
26/07/2019	34.9	S/D
27/07/2019	29.02	S/D
28/07/2019	29.56	S/D
29/07/2019	33.86	S/D
30/07/2019	35.16	S/D
31/07/2019	33.93	S/D
<b>Min</b>	<b>29.02</b>	<b>21.18</b>
<b>Max</b>	<b>35.91</b>	<b>30.64</b>
<b>AVG</b>	<b>33.14</b>	<b>25.22</b>

**Adani Power Rajasthan Limited  
2X660 MW Kawai Thermal Power Stations**

**Annexure – 1A**

<b>CONTINUOUS EMISSION MONITORING RESULTS</b>		
<b>Station: Stack Attached to Boiler 1 &amp; 2</b>		
<b>Report type: Mean &amp; Daily</b>		
<b>Time Base: 24 Hour</b>		
<b>Date</b>	<b>UNIT 1</b>	<b>Unit 2</b>
<b>PM (mg/Nm<sup>3</sup>)</b>		
01/08/2019	31.51	S/D
02/08/2019	33.3	S/D
03/08/2019	33.06	S/D
04/08/2019	33.99	S/D
05/08/2019	34.00	S/D
06/08/2019	35.85	S/D
07/08/2019	34.79	S/D
08/08/2019	37.52	S/D
09/08/2019	35.83	S/D
10/08/2019	36.61	S/D
11/08/2019	39.03	S/D
12/08/2019	41.63	S/D
13/08/2019	37.99	S/D
14/08/2019	37.96	S/D
15/08/2019	38.88	35.33
16/08/2019	34.44	29.62
17/08/2019	25.07	32.22
18/08/2019	S/D	34.61
19/08/2019	22.08	33.39
20/08/2019	21.93	32.13
21/08/2019	21.94	31.3
22/08/2019	27.75	31.19
23/08/2019	36.12	33.63
24/08/2019	37.72	35.01
25/08/2019	36.47	35.35
26/08/2019	37.85	35.28
27/08/2019	39.01	35.82
28/08/2019	39.02	35.71
29/08/2019	37.1	34.51
30/08/2019	38.23	34.88
31/08/2019	37.22	35.82
<b>Min</b>	<b>30.31</b>	<b>30.31</b>
<b>Max</b>	<b>29.82</b>	<b>29.82</b>
<b>AVG</b>	<b>31.05</b>	<b>31.05</b>



**Adani Power Rajasthan Limited  
2X660 MW Kawai Thermal Power Stations**

**Annexure – 1A**

<b>CONTINUOUS EMISSION MONITORING RESULTS</b>		
<b>Station: Stack Attached to Boiler 1 &amp; 2</b>		
<b>Report type: Mean &amp; Daily</b>		
<b>Time Base: 24 Hour</b>		
<b>Date</b>	<b>UNIT 1</b>	<b>Unit 2</b>
	<b>PM (mg/Nm<sup>3</sup>)</b>	
01/09/2019	34.23	30.31
02/09/2019	44.13	29.82
03/09/2019	37.18	31.05
04/09/2019	36.77	31.67
05/09/2019	37.85	32.22
06/09/2019	39.15	32.78
07/09/2019	41.59	32.63
08/09/2019	37.11	32.69
09/09/2019	33.9	33.8
10/09/2019	37.33	37.48
11/09/2019	35.14	33.11
12/09/2019	37.62	34.5
13/09/2019	36.62	33.89
14/09/2019	33.71	36.99
15/09/2019	37.25	37.2
16/09/2019	36.96	41.00
17/09/2019	37.98	36.21
18/09/2019	35.56	36.24
19/09/2019	35.69	30.48
20/09/2019	39.39	28.78
21/09/2019	43.91	29.00
22/09/2019	43.21	29.19
23/09/2019	38.62	29.01
24/09/2019	39.53	29.09
25/09/2019	38.51	28.8
26/09/2019	43.27	<b>S/D</b>
27/09/2019	<b>S/D</b>	29.00
28/09/2019	36.40	28.98
29/09/2019	37.80	28.98
30/09/2019	39.93	29.21
<b>Min</b>	<b>33.71</b>	<b>28.78</b>
<b>Max</b>	<b>44.13</b>	<b>41.00</b>
<b>AVG</b>	<b>38.15</b>	<b>32.21</b>

# Adani Power Rajasthan Limited

## Annexure – II

### GROUND WATER LEVEL MONITORING RESULTS

**LOCATION: Piezometric Wells Along With Ash Pond**

S. No.	Month & Year	Ground Water Table (BGL)		
		Location : 1	Location : 2	Location : 3
1.	April 2019	18.8 Meter	25.5 Meter	39.0 Meter
2.	May 2019	19.0 Meter	27.0 Meter	40 Meter
3.	June 2019	18.5 Meter	26.0 Meter	39.0 Meter
4.	July 2019	3.0 Meter	5.5 Meter	20.0 Meter
5.	August 2019	1.0 Meter	1.0 Meter	3.0Meter
6.	September 2019	1.0 Meter	1.0 Meter	2.0 Meter

**Location 1:** South of Ash Pond (Nr. Labor Colony)

**Location 2:** East of Ash Pond (Nr. Ash Recovery Pump House)

**Location 3:** West of Ash Pond (Nr. Nimoda Railway Crossing)

**Adani Power Rajasthan Limited**  
2x660 MW Kawai Thermal Power Plant

**Annexure-III**

<b>Ash Generation, Utilization and Disposal Details (MMT/Month)</b>									
S. No.	Month	Total Ash Generation	Ash Utilization			Disposal In Ash Dyke	Total Ash Utilization	Percentage of Ash utilization	Balance in Ash Silo (Cumulative #)
			For Brick Construction	For Cement Manufacturing	Reclamation of Low Lying area				
	<b>Mar-19</b>								0.000548
<b>1</b>	<b>Apr-19</b>	0.130315	0.000000	0.109346	0.015000	0.000000	0.124346	95.420	0.000015
<b>2</b>	<b>May-19</b>	0.122696	0.003025	0.079263	0.040907	0.016800	0.123195	100.407	0.004563
<b>3</b>	<b>Jun-19</b>	0.123992	0.001900	0.101783	0.015000	0.000000	0.118683	95.718	0.000733
<b>4</b>	<b>Jul-19</b>	0.097062	0.000775	0.079687	0.007000	0.000000	0.087462	90.109	0.000152
<b>5</b>	<b>Aug-19</b>	0.087568	0.000000	0.064879	0.009500	0.000000	0.074379	84.939	0.004450
<b>6</b>	<b>Sep-19</b>	0.107618	0.000000	0.092612	0.005700	0.000000	0.098312	91.353	0.000085
	<b>Total</b>	<b>0.669251</b>	<b>0.005700</b>	<b>0.527570</b>	<b>0.093107</b>	<b>0.016800</b>	<b>0.626377</b>	<b>93.590</b>	...
					* 0.000085 Million Ton Fly Ash balance in Ash silo				



## Power

Ref No.: APRL/ENV/MoEF/209/10

Date: 17/10/2019

To,

**Additional Principal Chief Conservator of Forest (APCCF)  
Regional Office (Central Region)  
Ministry of Environment, Forest & Climate Change (MoEFCC)  
Kendriya Bhawan, 5<sup>th</sup> Floor, Sector 'H' Aliganj,  
Lucknow – 226 024**

Kind Attn.: **Dr. A K Gupta, Joint Director**

**Sub: Advisory regarding implementation of Notification No. G.S.R. 02 (E) dated 2<sup>nd</sup> January 2014 for supply and use of coal with ash content – regarding**

Ref: File No. L-11011/21/2014-IA.I (T), dated: 13.04.2015.

Dear Sir,

With above subject matter, we are submitting herewith the compliance of said notification.

Ash content data regarding supply and use of coal with ash content not exceeding 34% in the Coal based Thermal Power Plant as per Notification No. G.S.R. 02 (E) dated 2<sup>nd</sup> January 2014.

We are enclosing herewith the monthly as well as quarterly **Average Ash Content** in the coal used by our power plant during the period of **July'2019 to September'2019** as Annexure -I.

**Total Capacity of TPP: 1320 MW**

This is for your kind information & record please.

Thanking You,

Yours faithfully,

for **Adani Power Rajasthan Limited**

**(Santosh Kumar Singh)  
Head-Environment**

Encl.: As above

Adani Power Rajasthan Ltd  
Adani House  
Shantigram, S G Highway  
Ahmedabad 382 421  
Gujarat, India  
CIN: U40104GJ2008PLC052743

Tel +91 79 2656 7555  
Fax +91 79 2555 7177  
info@adani.com  
www.adanipower.com

ADANI POWER RAJASTHAN LIMITED

Annexure - I

**ASH PERCENTAGE IN COAL**

**(From July'2019 to September'2019)**

<b>Month</b>	<b>Coal Consumption (MT)</b>	<b>Ash % in Coal</b>
July'2019	3,18,546	30.47
August'2019	3,14,967	27.80
September' 2019	3,84,735	27.97
<b>Quarterly Average:</b>		<b>28.74</b>

## Adani Power Rajasthan Limited

Annexure: IV

### Greenbelt Details:

Area (ha)	No. of Trees Planted	No. of Shrubs Planted
100	1,02,407	1,45,000

#### PLANTED SPECIES IN AND AROUND PLANT PREMISES

Sr. No.	Scientific Name	Common Name
<b>Tress</b>		
1.	<i>Azadirachta indica</i>	Neem
2.	<i>Bauhinia blakeana</i>	Kachnar
3.	<i>Callistemon viminalis</i>	Pink Bottle brush
4.	<i>Casuarina equisetifolia</i>	Saru/Casuarina
5.	<i>Delonix regia</i>	Gulmohar
6.	<i>Phoenix dactylifera</i>	Date Palm
7.	<i>Punica granatum</i>	Pomegranate
8.	<i>Emblica officinalis</i>	Aamla
9.	<i>Eucalyptus hybrid</i>	Eucalyptus
10.	<i>Mangifera indica</i>	Aam/ Mango
11.	<i>Polyalthia longifolia</i>	Ashok/ False Ashok
12.	<i>Psidium guajava</i>	Guava
13.	<i>Syzygium cumini</i>	Jamun
14.	<i>Washingtonia filifera</i>	Washingtonia Palm
15.	<i>Wodyetia bifurcata</i>	Palm
16.	<i>Cassia seamia</i>	Cassia
17.	<i>Albizzia leebeck</i>	Siris
18.	<i>Pongamia pinnata</i>	Karanj
19.	<i>Cordia longifolia</i>	Lasoor
20.	<i>Aegle Marmelos</i>	Bel
21.	<i>Dalbergia sissoo</i>	Shisham
22.	<i>Ficus religiosa</i>	Peepal
23.	<i>Cassia renigera</i>	Cassia
24.	<i>Parkinsonia sp.</i>	Parkinsonia
25.	<i>Cassia pinnata</i>	Amaltas
26.	<i>Alstonia scholaris</i>	Satparni
27.	Citrus nobilis	kinnow
28.	Tectona grandis	Teak
29.	Olea europaea	Olive
<b>Shrubs</b>		
30.	<i>Allamanda</i>	Yellow Bell
31.	<i>Bougainvillea spectabilis</i>	Bougainvillea/ Booganbel
32.	<i>Clerodendrum inerme</i>	Wild Jasmine
33.	<i>Cycas circinalis</i>	Cycas
34.	<i>Euphorbia milii</i>	Christ Thorn
35.	<i>Ficus panda</i>	Fig Tree
36.	<i>Hymenocallis caroliniana</i>	Spider Lily
37.	<i>Ixora hybrida</i>	Ixora
38.	<i>Jasminum molle</i>	Jui
39.	<i>Jatropha curcas</i>	Ratanjyot,
40.	<i>Nerium indicum</i>	Kaner
41.	<i>Nerium odoratum</i>	Kaner
42.	<i>Plumeria alba</i>	Champa
43.	<i>Tecoma</i>	Yellow Trumpetbush
44.	<i>Ziziphus mauritiana</i>	Ber/Bor/Indian plum



# Highlights up to September 2019-20

Adani Power Rajasthan Ltd.  
And  
Adani Foundation, Kawai

## Education Initiative

Activities/ Event	Highlights	Up to Sep.2019
Udaan (Exposure Visit)	04 Udaan visit conducted	306 Beneficiary
Pryatan (JNV Coaching)	<p><b>PRAYATNA: Coaching classes for JNV entrance exam:</b>            "JNVST" result declared on 25th May.            4 students selected- 2 from kawai &amp; 2 from Atru center.            All 4 students belongs to very poor background and there parents engage livelihood through wages.            Parents feeling proud and express gratitude towards our efforts.            Selection and scrutinize to bright students for JNV entrance exam coaching classes</p>	117 Students
Rural Sports	With support of Adani Foundation, Education department organized State, district and block level games & we supported in all category as 14tn year, 17tn year & 19tn year. In this activity total 15 school benefited.	175 teams participated. 15 School.
Furniture and other Support	School baseline survey completed of our CSR working area.	32 schools
plantation	Tree plantation activity carried out in vicinity schools.	



# Education Initiative



2019-4-22 11:00

Counselling for JNV Entrance exam



JNV Coaching Class



Ashwin Meena- Lolahedi



Sonu Bheel-Mukundpura



Joyeb Mansoori- Atru



Suraj Bagdi- Atru



School baseline survey



Support in Rural Sports



Udaan – Exposure Visit

## Community Health Initiative

Activities/ Event	Highlights	Up to Sep.2019
MHCU	Mobile Health Care Unit Kawai provided free treatment and medicines. Kawai Mobile Health Care Unit regularly visited 28 surrounding villages.	21,208 Patients
School Health Camp	School Health Check up Camp Organized in vicinity Govt. schools.	26 Schools 2900 patients
Awareness Session	Awareness on seasonal disease in vicinity villages. MHCU Doctor conducted Awareness Session on Diabetes and Arthritis.	15 Campaign
Home visit of bedridden patients	Home visits done by MHCU Team in villages to examine bedridden patients who were unable to attend MHCU site location at village.	16 patients

**Community Health Initiative**



Awareness Session



Poor Patient Home Visit



Awareness Session by doctor



Mobile Health Care Unit



Home Visit



School Health Camp

**Sustainable Livelihood Initiative**

Activities/ Event	Highlights	Up to Sep.2019
Krishi koushal	<p>Plant Distribution for orchard development in 25 villages with 10 % farmers contribution. Farmer also doing labour work like: Pit digging and pit filling work. We distributed 3200 fruit plant like mango, pomegranate, guava, lemon, orange etc.</p>	<p>3200 Plant. 25 Villages.</p>
Pashudhan	<p>Two Integrated Livestock Centers successfully running from last 2.5 years. Cattle covered thru Artificial insemination. Cattle Pregnancy diagnosis. HS vaccination of Cattle.</p>	<p>1294 AIs. 320 new calf born. 700 Cattle covered in vaccination.</p>

# Sustainable Livelihood Initiative



New Born Calf



Vaccination of Cattle



Layout for Orchard Development



HS vaccination of Cattle



Orchard development



Artificial insemination

## Rural infrastructure Development Initiative

Activities/ Event	Highlights	Status
W.B.M road	Construction of W.B.M road from NH-90 to Seendhani Village	Work completed
Water Tank	Construction of Water Tank at Barla Village	Work in Progress
CC Road	Construction of CC Road at Salpura Basti.	Work in Progress
water Hut	Construction of water Hut for water cooler at Kunjer village	Work completed
Street light	Installation of Street light in vicinity villages	Work completed

# Rural infrastructure Development Initiative



Street light in vicinity villages



water Hut for water cooler



W.B.M road - Seendhani



CC Road - Salpura



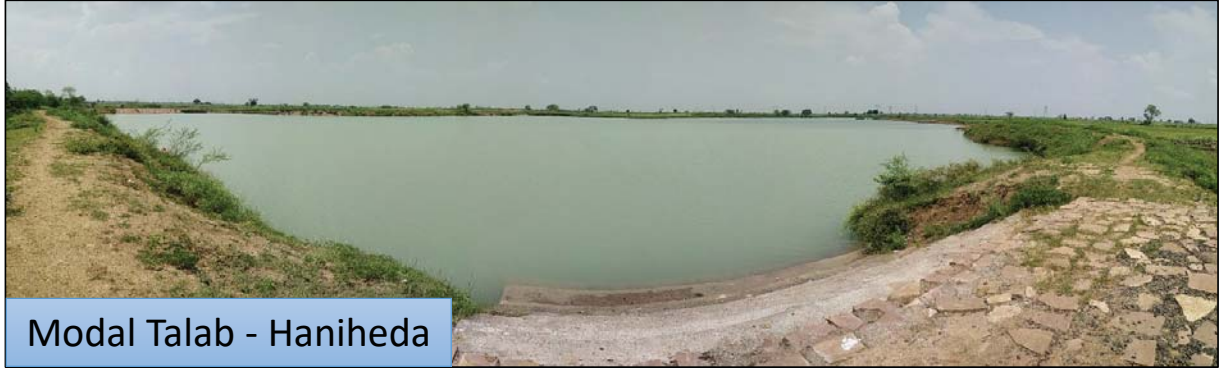
Water Tank - Barla

## Water conservation Initiative

Activities/ Event	Highlights	Status
water conservation	Happy to share our water conservation activity benefits to community.	<ol style="list-style-type: none"> <li>1. Grazing Land – Kunjer</li> <li>2. Modal Talab – Haniheda</li> <li>3. Modal Talab - Antana</li> </ol>



Grazing Land - Kunjer



Modal Talab - Haniheda



Modal Talab - Antana



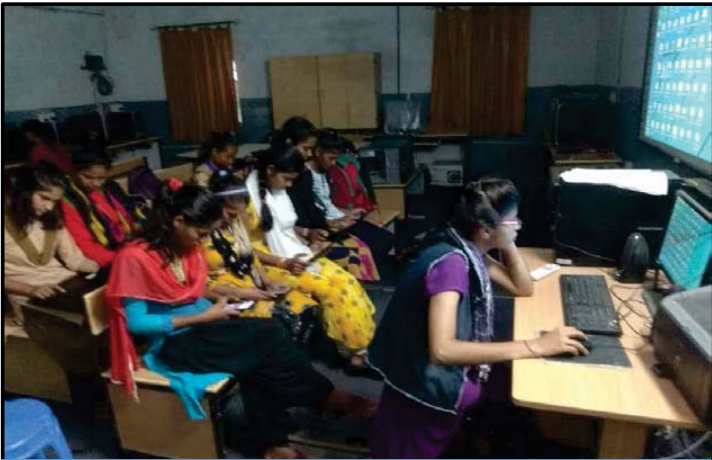
## SAKSHAM

Activities/ Event	Highlights	Up to Sep.2019
ASDC Courses	Adani Foundation, Kawai conducted three types of courses under Adani Skill Development Center. 1. Digital literacy, 2. Sewing Training, 3. Beauty Parlor	50 Batches 1544 Trainees
Day Celebration	Celebrated Yoga day and Environment day at our ASDC centers.	180 beneficiary
Other Activity	1. District collector Mr. Indrajeet Singh visited our Baran center and distributed of ASDC Digital literacy certificates 2. Link Swachhagrah program with SAKSHAM and plan to introduce Digital literacy in Swachhagrhi schools.	833 Certificate distributed
ASDC	Assessment, Practical and Viva conducted for all completed batches. Counselling and meetings in schools for start new batches and spread awareness about Digital literacy. Online assessment also conducted for DL batches.	
DISHA	Attend ASDC workshop "DISHA" at HO on 25 to 26 July 2019	

**SAKSHAM**



Sewing Training Center, Atru



Digital literacy class



Yoga day Celebration



Beauty Parlor



Certificate distributed



Sewing Training Center, Kawai

**SuPoshan**

Program	Highlights	Up to Sep.2019
WBW	Celebrated World breastfeeding week from 1st August to 7 <sup>th</sup> August 2019.	791 Participants
NNW	Celebrated National Nutrition Week and Poshan Maah in September month.	2258 Participants
Child Screening	Anthropometric measurement of child to identify SAM and MAM child.	3017 Child
HB Screening	HB screening of adolescent girls and RPA women	1752 AG and RPA
Refer	SAM Children referred to MTC for treatment	02 SAM child
Meetings	Conducting Sangini monthly Meeting for strengthening of Sanginis	06 Meeting
FBC	Family Based counselling	1629 FBC
FGD	Focus Group Discussion	445 FGD
Events	Conduct village events	104 Village Event
Upward Movement	Upward Movement in Child	36 SAM to MAM 289 MAM to Healthy
	Upward Movement in Adolescent girls and women.	158 Upward

**SuPoshan**



SuPoshan Sanginis



Focus Group Discussion



Family Counselling



Village Event



Child Measurement



Monthly Meeting

**Swachhagraha**

Activities	Highlights	Up to Sep.2019
Swachhagraha	Successfully implementation of Swachhagrah in Schools of Atru and Baran Block	58 Schools
	Swachhagrah awareness campaign starts in Govt. General hospital Baran	58 Schools
	Preparation for documentary movie shutting on swachhagraha project and movie captured by News 18	
	Link Swachhagraha with ASDC, take pledge and prepare swachhagr wall in all 3 centers.	



Signature wall



Drawing Competition



Documentary shutting

## Community Engagement @ EVP

Activities/ Event	Highlights	Up to Sep.2019
Community Engagement @ Employee Voluntary Program	<p>Celebration of world yoga day with district administration &amp; Yoga department. District Collector inaugurated &amp; more than 650 people participated.</p>	<p>650 Participants</p>
	<p>2.51 Lakh tree plantation on 15<sup>th</sup> Aug, 2019 with District administration, Gram panchayat @ Baran district. District administration and AF jointly organized plus plantation drive on 15<sup>th</sup> Aug, 2019, This drive is recorded on India record of books &amp; AF work appreciated by District magistrate.</p>	<p>2.51 Lakh Tree Plantation</p>
	<p><b>go RED</b>- Blood donation drive organized at Adani power plant. Employee and workers participated with enthusiasm. Total donation= 482 units.\</p>	<p>Collect 482 Unit Blood</p>

**Community Engagement @ EVP**



Blood donation drive



Blood donation drive



Plus Plantation Drive



World Yoga Day



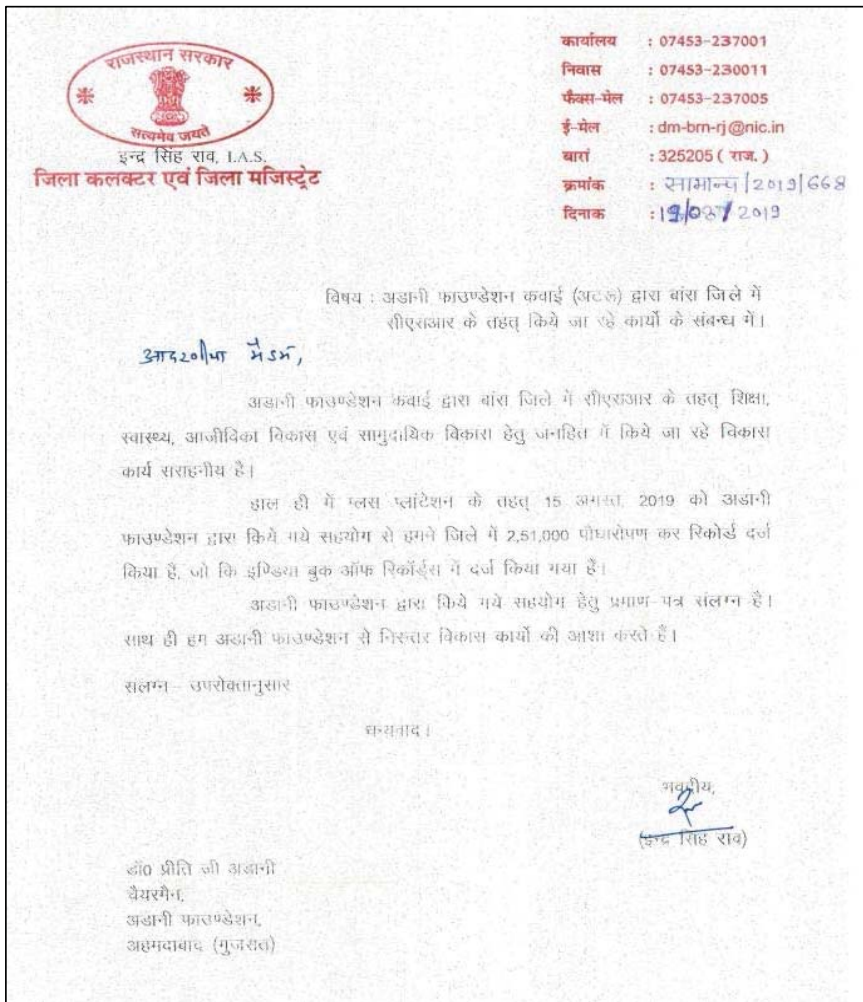
Tree Plantation

# Appreciation / Awards

Activities/ Event	Highlights
Appreciation / Awards	Appreciation Certificate received for Plus Plantation drive with Govt. of Rajasthan
	Appreciation Letter received from District Collector, Baran for CSR work in Baran.



Appreciation Certificate



Appreciation Letter



## Media Coverage

### प्रशिक्षण को लेकर उत्साह - सपर कैम्प में 120 छात्राओं ने सीख सीख कर नौकरियाँ बनाई

#### प्रशिक्षण को लेकर उत्साह

**सपर कैम्प में 120 छात्राएँ सीख सीख कर नौकरियाँ बनाई**

**प्रशिक्षण को लेकर उत्साह**

आर. कौस सा प्रशिक्षण प्यार छात्राओं ने जब अपनी सभी छात्राओं के लक्ष्यों को समझा व कम्यूटर पर हुनर दिखाने को प्रशिक्षक भी देखते रहे। प्रशिक्षक भी यह कहने नहीं चूके कि छात्राओं में सीखने की लालच है। जब छात्राओं से पूछा कि किसे बनने वाले के कुछ समय बाद हम लाने आओगे तो छात्राओं ने बहुत उत्साह दिखाते हुए एक जमाने बोलने लगीं।

आर. कौस सा प्रशिक्षण प्यार छात्राओं ने जब अपनी सभी छात्राओं के लक्ष्यों को समझा व कम्यूटर पर हुनर दिखाने को प्रशिक्षक भी देखते रहे। प्रशिक्षक भी यह कहने नहीं चूके कि छात्राओं में सीखने की लालच है। जब छात्राओं से पूछा कि किसे बनने वाले के कुछ समय बाद हम लाने आओगे तो छात्राओं ने बहुत उत्साह दिखाते हुए एक जमाने बोलने लगीं।

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### भारत में अंतरराष्ट्रीय योग दिवस

#### योग प्राणायाम की मुद्राओं पर सवार होकर जिले में लहराया सेहत का संगीत

**प्रशिक्षण को लेकर उत्साह**

आर. कौस सा प्रशिक्षण प्यार छात्राओं ने जब अपनी सभी छात्राओं के लक्ष्यों को समझा व कम्यूटर पर हुनर दिखाने को प्रशिक्षक भी देखते रहे। प्रशिक्षक भी यह कहने नहीं चूके कि छात्राओं में सीखने की लालच है। जब छात्राओं से पूछा कि किसे बनने वाले के कुछ समय बाद हम लाने आओगे तो छात्राओं ने बहुत उत्साह दिखाते हुए एक जमाने बोलने लगीं।

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### सुपोषण कार्यक्रम के तहत मनाया विश्व स्तनपान सप्ताह

By 8:00 AM - August 8, 2019

कवाई। बच्चे में संचालित अदाणी पावर प्लांट के फाउंडेशन द्वारा सुपोषण कार्यक्रम के तहत 1 से 7 अगस्त 2019 तक विश्व स्तनपान सप्ताह मनाया गया। इस सप्ताह में सुपोषण सभितियों के द्वारा गांव-गांव में स्तनपान के महत्व के बारे में जागरूकता अभियान चलाया गया। इस अभियान के मुख्य बिन्दु बच्चे की जिल्लीधरी के एक घण्टे के अंदर स्तनपान करवाना, 6 माह तक शिशु स्तनपान करवाना, स्तनपान करवाने की स्थिति, स्तनपान के दौरान खड़ी जाने वाली सावधानियां, स्तनपान से शारीरिक एवं सामाजिक फायदों की जानकारी, बच्चों को 6 माह बाद ऊपरी आहार देना एवं आहार में क्या क्या देना चाहिए इत्यादि बिंदुओं पर जागरूकता कार्यक्रम किये गए।

### विश्व स्तनपान सप्ताह मनाया

**सुख रतिसिंह/नवज्योति, कवाई।**

अदाणी फाउंडेशन कवाई के द्वारा 1 से 7 अगस्त तक विश्व स्तनपान सप्ताह मनाया। इस सप्ताह में सुपोषण सभितियों के द्वारा गांव-गांव में स्तनपान के महत्व के बारे में जागरूकता अभियान चलाया। जिसके मुख्य बिन्दु बच्चे की जिल्लीधरी के एक घण्टे के अंदर स्तनपान करवाना, 6 माह तक शिशु स्तनपान करवाना, स्तनपान करवाने की स्थिति, सावधानियां, स्तनपान से शारीरिक एवं सामाजिक फायदों की जानकारी, बच्चों को 6 माह बाद ऊपरी आहार देना एवं आहार में क्या क्या देना चाहिए आदि बिंदुओं पर जागरूकता कार्यक्रम किये। अदाणी पावर प्लांट के फाउंडेशन द्वारा संचालित विश्व स्तनपान सप्ताह मनाया गया।

अदाणी फाउंडेशन कवाई के द्वारा 1 से 7 अगस्त तक विश्व स्तनपान सप्ताह मनाया। इस सप्ताह में सुपोषण सभितियों के द्वारा गांव-गांव में स्तनपान के महत्व के बारे में जागरूकता अभियान चलाया। जिसके मुख्य बिन्दु बच्चे की जिल्लीधरी के एक घण्टे के अंदर स्तनपान करवाना, 6 माह तक शिशु स्तनपान करवाना, स्तनपान करवाने की स्थिति, सावधानियां, स्तनपान से शारीरिक एवं सामाजिक फायदों की जानकारी, बच्चों को 6 माह बाद ऊपरी आहार देना एवं आहार में क्या क्या देना चाहिए आदि बिंदुओं पर जागरूकता कार्यक्रम किये। अदाणी पावर प्लांट के फाउंडेशन द्वारा संचालित विश्व स्तनपान सप्ताह मनाया गया।

### पल्स प्लांटेशन के लिए निकाली वृक्ष यात्रा

**सुख रतिसिंह/नवज्योति, अटरू।**

अटरू में 15 अगस्त को होने वाले पल्स प्लांटेशन के लिए वृक्ष यात्रा का आयोजन हुआ। उपखंड प्रशासन, पंचायत समिति व अडाणी पावर प्लांट के सहयोग से निकाली गई इस यात्रा में शिक्षा विभाग, आंगनबाड़ी, स्वस्थ विभाग के कर्मचारियों व आम जनता ने गणेश मंदिर, बुद्धसागर तालाब से इस यात्रा का शुभारंभ किया। सब ने पौधे लगाने का संकल्प लिया व अपने सात पौधे ले कर संपूर्ण कस्बे से होकर रतनपुर ग्राम पंचायत के नवीन भवन में पौधारोपण के साथ यात्रा का समापन किया। विकास अधिकारी शैलेश रंजन ने सभी का आभार प्रकट कर अधिक से अधिक पौधे लगाने व उन की जिम्मेदारी पूर्वक सुरक्षा करने की शपथ दिलाई। ग्राम पंचायत अटरू व ग्राम पंचायत खेरलीगंज की ओर से यात्रा के स्वागत की व्यवस्था की गई।

### स्वास्थ्य जांच शिविर संपन्न

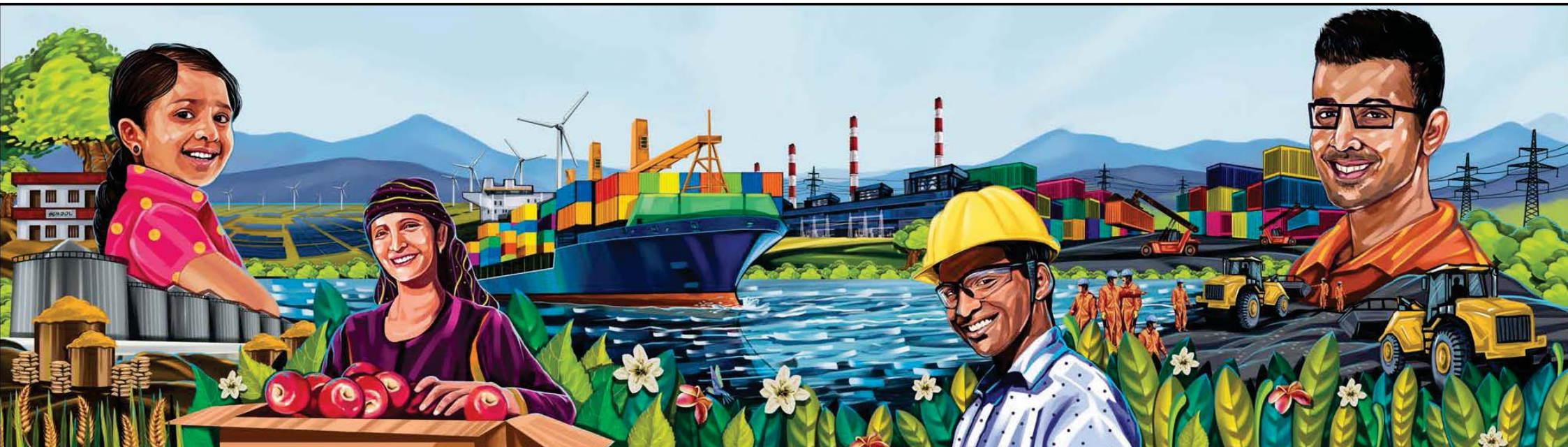
**अटरू नवीन विद्यालय में अडाणी फाउंडेशन के चिकित्सा टीम बच्चों की जांच कर रहे हैं।**

अटरू, जवाहर नवीन विद्यालय में अडाणी फाउंडेशन कवाई की ओर से शनिवार को स्वास्थ्य जांच शिविर लगाया गया। प्राचार्य रामकेश बैरवा ने बताया कि फाउंडेशन के हेड गोपाल सिंह देवड़ा के निर्देश व दीपक भास्कराणी के नेतृत्व में शुरू हुए शिविर में डॉ. राजेश गुजर ने 352 छात्र-छात्राओं के स्वास्थ्य की जांच कर देना का

adani

Growth  
with  
Goodness

Thank You





**Power**

Ref: APRL/PK/GOVT/RSPCB/00491

Date: 23.09.2019

To,  
**The Member Secretary**  
**Rajasthan State Pollution Control Board,**  
4, Institutional Area, Jhalana Doongri,  
Jaipur – 302004

**Subject: Submission of Environmental Statement for the Financial Year 2018-19.**

Ref : Consent to Operate Order No. 2019 - 2020/HDF/2773 dated 09.08.2019

Dear Sir,

With reference to above subject, kindly find enclosed herewith Environmental Statement for financial year 2018-19, along with Form -V prescribed under Rule 14 of the Environment (Protection) Rules 1986, in respect of Kawai Thermal Power Station.

Kindly acknowledge the same.

Thanking You,

**For Adani Power Rajasthan Ltd.**

Authorized Signatory

**Cc: The Regional Officer**  
**Rajasthan State Pollution Control Board**  
**SPL-2A, Road No.6, Indraprasth Industrial Area,**  
**Kota-324005 (Rajasthan)**

Encl : As above

**ENVIRONMENT STATEMENT**

**FOR FINANCIAL YEAR**

**2018 - 2019**



**ADANI POWER RAJASTHAN LIMITED**

**Village: Kawai, Taluka: Atru**

**Baran, Rajasthan**

**ENVIRONMENTAL STATEMENT**

**FORM V**

(See Rule 14)

**Environmental Statement for the financial year (April 2018 to March 2019)**

From:

**Adani Power Rajasthan Ltd.**

Village: Kawai, Taluka: Atru

District: Baran,

Rajasthan – 325 219

To:

**The Member Secretary,**

Rajasthan State Pollution Control Board,

4, Institutional Area, Jhalana Doongri,

Jaipur – 302 004

**PART - A**

- i) Name and address of the owner / occupier of the industry Operation or Process
- Name : Mr. Arindam Chatterjee (Station Head)
  - Address : NH-90, Atru Road, Village Kawai,  
Tehsil Atru, Distt. Baran 325219 (Rajasthan)
- ii) Industry category
- Primary-(STC Code)- Secondary-(STC Code) : Primary (Large Scale)
- iii) Production capacity-Units : 1320 MW (2 x 660MW) Power Generation
- iv) Year of establishment :
- Unit#1** Commissioned on 28<sup>th</sup> May 2013  
**Unit#2** Commissioned on 31<sup>st</sup> December 2013  
(Consent to operate is valid up to 29.02.2024).
- v) Date of the last environmental statement submitted: **22.09.2018**

**PART B**

Water and Raw Material Consumption:

1. Water consumption **m<sup>3</sup>/d**

- |             |         |
|-------------|---------|
| a) Process  | : 917   |
| b) Cooling  | : 51305 |
| c) Domestic | : 641   |

(Industry 1104579 m<sup>3</sup> of Rainwater harvested at site)

Name of Products	Process water consumption per unit of product output	
	During the previous financial year (2017-18)	During the current financial year (2018-19)
	(1)	(2)
Power	2.79 KL/MWh	2.54 KL/MWh

## 2. Raw Material Consumption

Name of Raw Materials*	Name of Products	Consumption of raw material per unit of output	
		During the previous financial year (2017-18)	During the current financial year (2018-19)
(1) Coal	Power	506 gm/Kwhr	570 gm/Kwhr
(2) Fuel Oil	Power	0.22 ml/Kwhr	0.08 ml/kwhr

\*Industry may use codes if disclosing details of raw materials would violate contractual obligations, otherwise all industries have to name the raw material used.

## PART C

### Pollution discharged to environment / unit of output:

(Parameter as specified in the consent issued)

Sr. No.	Pollution	Quantity of pollutants discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a)	Water	Nil	NA	NA
(b)	Air (Particulate Matter in mg/NM <sup>3</sup> )	Unit#1 : 1.66 TPD Unit#2 : 1.57 TPD	Unit#1 : 28.87 Unit#2 : 31.91	Within Limit specified in CTO

- **Water-** No discharge of waste water.

**Note-** 100% effluent is treated and recycled back. Hence, there is no discharge of effluent in the environment.

**PART - D**

**Hazardous Wastes:**

(As specified under Hazardous Wastes (Management and Handling) Rules, 1989)

Sr. No.	Hazardous Wastes	Total Quantity (Kg)	
		During the previous financial year (2017-18)	During the current financial year (2018-19)
a)	From Process <ul style="list-style-type: none"> <li>• Used/Spent Oil</li> </ul>	<ul style="list-style-type: none"> <li>• 39.441 KL (Generated)</li> <li>• 36.414 KL (Sold Out)</li> <li>• 3.027 KL (Balance)</li> </ul>	<ul style="list-style-type: none"> <li>• 7.58 KL (Generated)</li> <li>• 8.72 KL (Sold Out)</li> <li>• 1.89 KL (Balance)</li> </ul>
	<ul style="list-style-type: none"> <li>• Discarded Containers</li> </ul>	<ul style="list-style-type: none"> <li>• 202 Nos. (Generated)</li> <li>• 172 (Sold Out)</li> <li>• 30 Nos. (Balance)</li> </ul>	<ul style="list-style-type: none"> <li>• 42 Nos. (Generated)</li> <li>• 42 (Sold Out)</li> <li>• 30 Nos. (Balance)</li> </ul>
b)	From pollution control facilities	NA	NA

**PART - E**

**Solid Wastes:**

Sr. No.	Solid Wastes	Total Quantity (Tons)	
		During the previous financial year (2017-18)	During the current financial year (2018-19)
a)	From Process (Bottom Ash)	0 (Laying in Ash Pond)	0 (Laying in Ash Pond)
b)	From pollution control facilities (Ash from ESP)	339647.89 (Dispose to Cement & Brick Plant)	1027316 (Dispose to Cement & Brick Plant)
c)	Quantity recycled or re-utilized within the unit recycled or re-utilized	79491.55 (In reclamation of low laying area)	466558 (In reclamation of low laying area)

## **PART – F**

Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

- Hazardous waste (Used/Spent oil) is sold to authorized vender. (Please Refer Part - D for Hazardous waste generation and disposal)
  
- Fly Ash utilized by following Industries
  - Birla Corporation Ltd.
  - J.K.Cement Ltd, Nimbahera
  - Mangalam Cement Ltd.
  - Nuvoco Vistas Corp. Ltd.
  - Wonder Cement Ltd.
  - Shri Ram Cement Works
  - J.K.Cement Ltd. (Mangrol)
  - The India Cements Limited
  - ACC Limited
  - Hytech Industries
  - Ambuja Cement Ltd.
  - Ultra Tech Cement LTD- Vikram Cement Works

## **PART – G**

Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

- Kawai Thermal Power Station of M/s Adani Power Rajasthan Limited is based on super critical technology of power generation, which is cost effective and reduce the consumption of both natural resourced raw materials, Water & Coal.
- The stack emissions from the plant are controlled by Electro Static Precipitator (ESP).
- Chimney of 275m height is constructed.
- Other pollution control equipments like Dust Extraction System & Dust Suppression System are installed at various material transfer points to control the fugitive emissions.
- Real time monitoring system for both EQMS & CEMS installed as per the direction of CPCB/RSPCB issued, under Air & Water Act.
- Remote calibration completed in Each Gaseous OCEMS
- Utilization of rain water collected during monsoon in Rain Water Harvesting Pond



## PART - H

Additional measures/investment proposal for environmental protection including abatement of pollution

- Installation of Flue Gas Desulphurization (FGD) unit to reduce SO<sub>2</sub> emission as per CPCB direction

## PART - I

### **Miscellaneous**

Any other particulars in respect of Environmental Protection and abatement of pollution.

1. 90944 trees planted up to financial year 2018-19 with 90% survival.
2. Ambient air quality monitoring by RDS & Fine Particulate Sampler is carried out at 3 locations within plant premises as per CPCB guidelines.
3. Continuous Ambient Air Quality Monitoring carried out at 3 locations within the plant premises.
4. Continuous Emission Monitoring System is installed and under operation at 80m height in both the flue cane of 275m Chimney.
5. Ambient noise levels are monitored at 10 identified locations within the plant premises.
6. EMS as per ISO 14001:2015 is implemented at Kawai Thermal Power Station and certified by TUV NORD CERT GmbH
7. Good housekeeping is maintained in and around the plant area. 5S initiative is taken up at Kawai Thermal Power Station.
8. Harness of solar energy is introduced by installation of Solar Street Light.
9. CTO compliance report is being submitted to RSPCB on quarterly basis.
10. Six monthly EC Compliance report is being submitted to RSPCB/MoEFCC on regular basis.
11. 5S Implementation for waste minimization
12. Integrated Management System has implemented
13. Energy Management System has implemented.



**Authorized Signatory  
(Adani Power Rajasthan Ltd.)**



**National Accreditation Board for  
Testing and Calibration Laboratories**

(A Constituent Board of Quality Council of India)



**CERTIFICATE OF ACCREDITATION**

**ENVIRONMENTAL LABORATORY, ADANI POWER  
RAJASTHAN LIMITED**

has been assessed and accredited in accordance with the standard

**ISO/IEC 17025:2017**

**"General Requirements for the Competence of Testing &  
Calibration Laboratories"**

for its facilities at

VILLAGE: KAWAI, ATRU, BARAN, RAJASTHAN, INDIA

in the field of

**TESTING**

Certificate Number: TC-5235

Issue Date: 28/08/2019

Valid Until: 27/08/2021

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.  
(To see the scope of accreditation of this laboratory, you may also visit NABL website [www.nabl-india.org](http://www.nabl-india.org))

Signed for and on behalf of NABL



N. Venkateswaran  
Chief Executive Officer

**Adani Power Rajasthan Ltd.**

**Annexure-VIII**

<b>Expenditure for Environmental Protection &amp; CSR</b>		
<b>(Fig. in Rs. Lakhs)</b>		
<b>Sr. No.</b>	<b>Particular</b>	<b>Expenditure from April'19 to September'19</b>
1.	Rural Development/CER/CSR Activities (Annual Budget- FY-2019-20)	326.0
2.	Green belt Development (Horticulture)	50.38
3.	Legal, Consent fees	40.62
4.	Third party monitoring and Equipment & Instruments maintenance, Communication cost.	4.68
5.	Insurance, training and external environmental management	0.35
<b>Total</b>		<b>422.03</b>

1500 G/15/2337  
210 518



भारत सरकार

Government of India

वाणिज्य और उद्योग मंत्रालय

Ministry of Commerce & Industry

पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पेसो)

Petroleum & Explosives Safety Organisation (PESO)

पांचवा तल, ए-ब्लॉक, सी.जी.ओ.कॉम्प्लेक्स, सेमिनरी हिल्स

नागपुर- 440006

5th Floor, A-Block, CGO Complex, Seminary Hills,  
Nagpur - 440006



E-mail : explosives@explosives.gov.in

Phone/Fax No : 0712 -2510248, Fax-2510577

संख्या /No. : P/HQ/RJ/15/2337 (P295058)

दिनांक /Dated : 16/04/2019

सेवा में /To,

M/s. M/s Adani Power Rajasthan Limited.,  
Kawai Thermal Power Project Near Salpura Railway S,  
Kawai,  
Kawai,  
Taluka: Atru,  
District: BARAN,  
State: Rajasthan  
PIN: 325219

123 APR 2019

विषय /Sub : Plot No, Plot No. 504, Khasara No. 1337, Survey No. 1337,, NA, Village-Kawai, Teh-Atru,, Taluka: Atru, District: BARAN, State: Rajasthan, PIN: 325219 में स्थित पेट्रोलियम वर्ग B,C अधिष्ठापन - पेट्रोलियम नियम 2002 के अंतर्गत प्ररूप XV में जारी अनुज्ञप्ति सं P/HQ/RJ/15/2337 (P295058) - संशोधन के संदर्भ में ।  
Existing Petroleum Class B,C Installation at Plot No, Plot No. 504, Khasara No. 1337, Survey No. 1337,, NA, Village-Kawai, Teh-Atru,, Taluka: Atru, District: BARAN, State: Rajasthan, PIN: 325219- Licence No. P/HQ/RJ/15/2337 (P295058) - granted in form XV under Petroleum Rules 2002 - Amendment regarding

महोदय /Sir  
(:)

कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या NIL दिनांक 26/03/2019 का संदर्भ ग्रहण करें ।  
Reference to your letter No. NIL dated 26/03/2019 on the above subject.

दिनांक 31/12/2019 तक वैध अनुज्ञप्ति संख्या P/HQ/RJ/15/2337 (P295058) दिनांक 16/04/2019 निम्नलिखित वर्ग एवं मात्राओं में पेट्रोलियम भंडारण के लिए यथा संशोधित कर इस पत्र के साथ लौटाई जा रही है ।  
Licence No. P/HQ/RJ/15/2337 (P295058) dated 16/04/2019 valid upto 31/12/2019 is returned herewith duly amended with respect to Lay out Amendment, Capacity Amendment,

पेट्रोलियम का विवरण /Description of Petroleum

किलोलीटरों में अनुज्ञप्ति क्षमता /Quantity licenced  
in KL

वर्ग क प्रपुंज पेट्रोलियम /Petroleum Class A, in bulk	NIL
वर्ग क प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class A, otherwise than in bulk	NIL
वर्ग ख प्रपुंज पेट्रोलियम /Petroleum Class B, in bulk	75.00 KL
वर्ग ख प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class B, otherwise than in bulk	NIL
वर्ग ग प्रपुंज पेट्रोलियम /Petroleum Class C, in bulk	7000.00 KL
वर्ग ग प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class C, otherwise than in bulk	NIL

कुल क्षमता /Total

7075.00 KL

कृपया पावती दें।

Please acknowledge the receipt.

Note : Your Balance Amount with the Organisation is ₹ 500000, which will be used for processing of the same Licence in future.

भवदीय /Yours faithfully,

((व्ही.के.मिश्रा)  
(V K Mishra)

उप मुख्य विस्फोटक नियंत्रक  
Dy. Chief Controller of Explosives  
कुते मुख्य विस्फोटक नियंत्रक  
For Chief Controller of Explosives  
नागपुर/Nagpur

Copy forwarded to :-

1. The District Magistrate, BARAN(Rajasthan) with reference to his NOC No F-7/Jud/2012/5177-81 Dated 26/11/2012
2. Jt. Chief Controller of Explosives, North Circle, FARIDABAD. A Copy of the licence along with approved plan is enclosed.
3. The Dy. Chief Controller of Explosives, Jaipur. A Copy of the licence along with approved plan is enclosed.

For Chief Controller of Explosives  
Nagpur

फॉर्म XV  
(प्रथम अनुसूची का अनुच्छेद 6 देखिए)  
FORM XV  
(see Article 6 of the First Schedule)

अधिष्ठापनों में पेट्रोलियम के आयात और भंडारकरण के लिए अनुज्ञप्ति  
LICENCE TO IMPORT AND STORE PETROLEUM IN AN INSTALLATION



अनुज्ञप्ति सं. (Licence No.): P/HQ/RJ/15/2337(P295058)

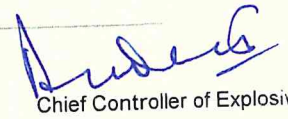
M/s. M/s Adani Power Rajasthan Limited., Kawai Thermal Power Project Near Salpura Railway S, Kawai, Kawai, Taluka: Atru, District: BARAN, State: Rajasthan, PIN: 325219 को केवल इसमें यथा विनिर्दिष्ट वर्ग और मात्राओं में पेट्रोलियम 7075.00 KL आयात करने के लिए और उसका, नीचे वर्णित और अनुमोदित नक्शा संख्या P/HQ/RJ/15/2337(P295058) तारीख 04/12/2012 जो कि इससे उपाबद्ध हैं, में दिखाए गए स्थान पर भण्डारकरण के लिए पेट्रोलियम अधिनियम, 1934 के उपबंधों या उसके अधीन बनाए गए नियमों तथा इस अनुज्ञप्ति के अतिरिक्त शर्तों के अधीन रहते हुए, यह अनुज्ञप्ति अनुदत्त की जाती है।

Licence is hereby granted to M/s. M/s Adani Power Rajasthan Limited., Kawai Thermal Power Project Near Salpura Railway S, Kawai, Kawai, Taluka: Atru, District: BARAN, State: Rajasthan, PIN: 325219 valid only for the importation and storage of 7075.00 KL Petroleum of the class and quantities as herein specified and storage thereof in the place described below and shown on the approved plan No P/HQ/RJ/15/2337(P295058) dated 04/12/2012 attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

यह अनुज्ञप्ति 31st day of December 2019 तक प्रवृत्त रहेगी।  
The Licence shall remain in force till the 31st day of December 2019

पेट्रोलियम का विवरण /Description of Petroleum	अनुज्ञप्त मात्रा (किलोलीटरों में) /Quantity licenced in KL
वर्ग क प्रपुंज पेट्रोलियम /Petroleum Class A in bulk	NIL
वर्ग क प्रपुंज पेट्रोलियम से अिनन /Petroleum Class A, otherwise than in bulk	NIL
वर्ग ख प्रपुंज पेट्रोलियम /Petroleum Class B in bulk	75.00 KL
वर्ग ख प्रपुंज पेट्रोलियम से अिनन /Petroleum Class B, otherwise than in bulk	NIL
वर्ग ग प्रपुंज पेट्रोलियम /Petroleum Class C in bulk	7000.00 KL
वर्ग ग प्रपुंज पेट्रोलियम से अिनन /Petroleum Class C, otherwise than in bulk	NIL
कुल क्षमता /Total Capacity	7075.00 KL

December 4, 2012

  
Chief Controller of Explosives

1). Amendment dated - 16/04/2013

अनुज्ञप्त परिसरों का विवरण और अवस्थान  
DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अनुज्ञप्त परिसर जिसकी विविध सोमाएं अन्य विशिष्टयां संलग्न अनुमोदित नक्शों में दिखाई गई हैं Plot No: Plot No. 504, Khasara No. 1337, Survey No. 1337., NA, Village-Kawai, Teh-Atru., Taluka: Atru, District: BARAN, State: Rajasthan, PIN: 325219 स्थान पर अवस्थित है तथा उसमें निम्नलिखित 1 Above Ground tank(s) for CLASS B , 4 Above Ground tank(s) for CLASS C सम्मिलित हैं।  
The licensed premises the layout, boundaries and other particulars of which are shown in the attached approved plan are situated at Plot No: Plot No. 504, Khasara No. 1337, Survey No. 1337., NA, Village-Kawai, Teh-Atru., Taluka: Atru, District: BARAN, State: Rajasthan, PIN: 325219 and consists of 1 Above Ground tank(s) for CLASS B , 4 Above Ground tank(s) for CLASS C together with connected facilities.

नवीनीकरण के पृष्ठांक के लिए स्थान  
SPACE FOR ENDORSEMENT OF RENEWALS

<p>पेट्रोलियम अधिनियम, १९३४ के उपबन्धों या उनके अधीन बनाए गए नियमों या इस अनुज्ञप्ति की शर्तों का उल्लंघन न होने की दशा में यह अनुज्ञप्ति फ़िस में बिना किसी छूट के दस वर्ष तक नवीकृत की जा सकेगी This licence shall be renewable without any concession in fee for ten years in the absence of contravention of any provisions of the Petroleum Act, 1934 or of the rules framed thereunder or of any of the conditions of this licence.</p>	<p>नवीकरण की तारीख Date of Renewal</p>	<p>समाप्ति की तारीख Date of Expiry of license</p>	<p>अनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प Signature and office stamp of the licencing authority.</p>
1).	16/12/2013	31/12/2018	<p>Sd/- Dr. Yogesh khare Dy. Chief Controller of Explosives Jaipur</p>
2).	22/11/2016	31/12/2019	<p>Sd/- Nitin Goyal Dy. Controller of Explosives for Dy. Chief Controller of Explosives Jaipur</p>

यदि अनुज्ञप्ति परिसर इसमें उपाबद्ध विवरण और शर्तों के अनुरूप नहीं पाए जाते हैं और जिन नियमों और शर्तों के अधीन यह अनुज्ञप्ति मंजूर की गई है उनमें से किसी का उल्लंघन होने की दशा में यह अनुज्ञप्ति रद्द की जा सकती है और अनुज्ञप्तिधारी प्रथम अपराध के लिए साधारण कारावास से, जो एक मास तक हो सकता है, या जुर्माने से, जो एक हजार रुपये तक हो सकता है, या दोनों से, और प्रत्येक पश्चात्पुनः अपराध के लिए साधारण कारावास से जो तीन मास तक हो सकता है, या जुर्माने से, जो पांच हजार रुपये तक हो सकता है, या दोनों से, दण्डनीय होगा।  
This licence is liable to be cancelled if the licensed premises are not found conforming to the description given on the approved plan attached hereto and contravention of any of the rules and conditions under which this licence is granted and the holder of this licence is also punishable for the first offence with simple imprisonment which may be extend to one month, or with fine which may extend to one thousand rupees, or with both and for every subsequent offence with simple imprisonment which may extend to three months, or with fine which may extend to five thousand rupees or with both.