

## SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENT CLEARANCE

**Name of the Project:** Jaypee Churk Industrial Complex

**Capacity:** 4\*60 MW Captive Power Plant & 1.0 MTPA Cement Grinding Unit.

**EC Letter No.:** J -13012/106/ 2009-IA II (T) Dated 18.12.2012

**Industry Code:** 02UP301

**Period of Compliance:** October, 2016 – March, 2017

Submitted By  
Jaypee Churk Industrial Complex  
(A Unit of Jaiprakash Associates Limited)  
Village: Churk, Tehsil: Robertsganj,  
Sonbhadra District (UP)

**JAYPEE CHURK INDUSTRIAL COMPLEX**  
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**Status of conditions stipulated in the Environment Clearance of Jaypee Churk Industrial Complex, Churk for the period October 2016 to March 2017.**

<b>A. Specific Conditions</b>		
<b>S. No.</b>	<b>Conditions</b>	<b>Status of Compliance</b>
1	Vision document specifying prospective plan for the site shall be formulated and submitted to regional office of ministry within 6 months.	Environment vision document has been submitted to the Regional office, MoEFCC vide our letter no. JCIC/MoEF/2013/01 dated 14.08. 2013.
2	Since the project proponent had started construction activity before obtaining Environment Clearance, the Uttar Pradesh Pollution Control Board has filed a Petition under section 15 of the Environment Protection Act, 1986 in the Court of Chief Judicial Magistrate, Sonbhadra on 27/09/12 under Misc. Case No. 761/2012. The Company shall comply with the orders passed by the Court of Chief Judicial Magistrate, Sonbhadra.	The Case no. 761/2012 filed by Regional Office, Uttar Pradesh Pollution Control Board (UPPCB) in the Court of Chief Judicial Magistrate, Sonbhadra is under trial. The order of the Hon'ble court shall be complied with, as and when issued.
3	Environment Clearance is subject to obtaining prior clearance from the National Board of Wild Life. The environment clearance granted does not necessarily imply that wildlife clearance shall be granted to the project. The investment made in the project, if any, based on environmental clearance granted in anticipation of the clearance from wildlife angle shall entirely be at the cost and risk of the project proponent and Ministry of Environment Forests shall not be responsible in this regard in any manner.	The matter was considered in the Standing Committee of the National Board of Wild Life and referred to Impact assessment Division/ Forest Conservation Division in light of the report of WLI on the subject. Kindly Refer to the minutes of the meeting communicated to the Principal Secretary (Forest), Govt. of UP, Vide letter no. 3334 PSF/2092 dated 16.07.2012. These minutes were considered in the 58th Expert Appraisal Committee of EIA on-8/9.10.2012 and Environment Clearance was granted after considering all aspects, facts & recommendations of the Standing Committee of the National Board of Wildlife.
4	Wildlife Conservation Plan approved by the Office of the Competent Authority shall be implemented before commissioning of the plant. Status of implementation shall be submitted to Regional Office of the Ministry.	Wildlife Conservation Plan is prepared by Dr. Jamal A. Khan, Principal Investigator, Department of Wild Life Science, Aligarh Muslim University & submitted to the Regional office, MoEFCC vide our letter no. JCIC/MoEF/2013/01 dated 14.08. 2013 & also to the office of the Chief Wildlife Warden, Govt. of UP. The Wild Life Conservation plan has been accepted by Principle Chief Conservator of Forests, Wildlife Uttar Pradesh vide their letter No. 1210/26-11 (JP) Lucknow, dated October 10, 2011. Implementation of the plan is required to be undertaken by State

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		<p>Forest Department through the Divisional Forest Officer of Kaimoor Wildlife Sanctuary and to be reviewed by committee appointed by State/Central Govt. Funds will be provided by Jaiprakash Associates Limited and additional funding shall be sourced through schemes such as MNREGA. Request letter for formation of monitoring committee is already submitted to the Chief Wild Life Warden, Govt. of Uttar Pradesh Vide letter no. DCF/MoEF/2013 dated 12/08/2013.</p> <p>Further in this context the Chief Wildlife Warden, Lucknow (UP) has requested to the Director, MoEFCC, New Delhi for nomination of the member from MoEFCC for Monitoring Committee of Churk Wildlife Conservation Plan vide their letter no. /26-11 (JP Associates) Lucknow dated 15.10.2014. Copies of the above referred letters have already been submitted with the previous compliance reports.</p>
5	<p>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.</p>	<p>Solar Street Lights have been installed. Repeat order to purchase more lights has also been placed to the vendor.</p>
6	<p>Coal transportation to Plant site shall be undertaken by rail and no road transportation shall be permitted.</p>	<p>Coal transportation to the Plant is being undertaken by rail.</p>
7	<p>Sulphur and ash contents in coal to be used in the project shall not exceed 0.6 % and 8% respectively at any given time. The Gross Calorific Value of the coal should not be less than 5300 Kcal/ Kg. 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.</p>	<p>Sulphur and ash contents in coal are maintaining &lt;0.6 % and &lt;8% respectively.</p>
8	<p>Stack height of 125 m shall be provided with continuous online monitoring equipments for SO<sub>x</sub>, NO<sub>x</sub> and Particulate Matter. Exit velocity of flue gases shall not be less than 22m/sec. Mercury emissions from stack shall also be monitored on periodic basis.</p>	<p>Two Stacks of 130 m height have been constructed. Online Continuous Emission Monitoring System (CEMS) for continuous monitoring of SO<sub>x</sub>, NO<sub>x</sub> &amp; Particulate Matter have also been installed at the stacks. Exit velocity of flue gases 22 m/s is being maintained. Mercury emission monitoring has been carried out by M/s Vimta Labs, Hyderabad. Emission monitoring result for Unit-2 is reported as mercury (Hg) &amp; its compound= 0.0013 mg/Nm<sup>3</sup>.</p>

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9	Space provision for installation of FGD shall be made.	Space has been provided for installation of Flue Gas Desulphurization Plant in future for control of sulphur dioxide.																												
10	Action Plan along with mitigation and management of fugitive emissions in and around coal handling plants and implementation schedule and monitoring mechanism for development of a thick three tier green belt all around plant boundary except in areas not feasible, shall be submitted to the RO of the Ministry.	<p>Action plan to control fugitive emissions &amp; proposal for green belt development had already been submitted to Regional office, MoEFCC vide our letter no. JCIC/MoEF/2013/01 dated 14.08.2013. Green belt development activities are started in the plant premises &amp; township at Churk and Ghurma (company owned land) on full fledged scale. Details of plantation done in the Plant &amp; Township at Churk given as under:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Total plantation</th> <th>Nos. of Plant survived</th> <th>Survival rate in Percentage</th> </tr> </thead> <tbody> <tr> <td>Opening</td> <td>3566</td> <td>3566</td> <td>100%</td> </tr> <tr> <td>2013-14</td> <td>1569</td> <td>1569</td> <td>86%</td> </tr> <tr> <td>2014-15</td> <td>5237</td> <td>4608</td> <td>88%</td> </tr> <tr> <td>2015-16</td> <td>3831</td> <td>3064</td> <td>80%</td> </tr> <tr> <td>2016-17</td> <td>2250</td> <td>1800</td> <td>80%</td> </tr> <tr> <td>Total</td> <td>16453</td> <td>14607</td> <td></td> </tr> </tbody> </table>	Year	Total plantation	Nos. of Plant survived	Survival rate in Percentage	Opening	3566	3566	100%	2013-14	1569	1569	86%	2014-15	5237	4608	88%	2015-16	3831	3064	80%	2016-17	2250	1800	80%	Total	16453	14607	
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11	The Company shall install online monitoring in the major stacks to monitor particulate emissions and monitoring Ambient Air Quality at the site. One monitoring station shall be installed adjoining the Wildlife Sanctuary to access the impacts.	Opacity meter has already been installed at the Stacks for online Continuous Monitoring of Particulate Matter. CAAQMS has also been installed for ambient air quality monitoring at the Unit. The location of CAAQMS has been identified in consultation with Regional office, UPPCB Robertsganj.																												
12	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission from the proposed plant does not exceed 50 mg/Nm <sup>3</sup> .	<p>High Efficiency Electrostatic Precipitators (ESPs) are installed at the stacks. The Electrostatic Precipitators (ESPs) are designed to achieve particulate emissions below 50 mg/Nm<sup>3</sup>. Monitoring data of Particulate Matter for the period of October, 2016 to March, 2017 are as under:</p> <table border="1"> <thead> <tr> <th rowspan="2">Stack</th> <th colspan="3">Captive Power Plant (mg/Nm<sup>3</sup>)</th> </tr> <tr> <th>Max.</th> <th>Min.</th> <th>Avg.</th> </tr> </thead> <tbody> <tr> <td>Stack-1 attached with ESP of Boiler-1</td> <td colspan="3">Unit was under shutdown</td> </tr> <tr> <td>Stack-1 attached with ESP of Boiler- 2</td> <td>41.52</td> <td>36.46</td> <td>38.99</td> </tr> <tr> <td>Stack-2 attached with ESP of Boiler-3</td> <td>30.82</td> <td>27.53</td> <td>29.18</td> </tr> </tbody> </table>	Stack	Captive Power Plant (mg/Nm <sup>3</sup> )			Max.	Min.	Avg.	Stack-1 attached with ESP of Boiler-1	Unit was under shutdown			Stack-1 attached with ESP of Boiler- 2	41.52	36.46	38.99	Stack-2 attached with ESP of Boiler-3	30.82	27.53	29.18									
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13	Bag filters shall be installed in Cement Grinding Unit and dust suppression system.	Cement grinding unit yet to be commissioned. Bag Filters will be installed to control emissions in Cement Grinding Unit.
14	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 vulnerable dusty areas shall be provided.	<p>Bag filters, dust suppression system &amp; other measures have been taken to control dust emissions from various sources are as under:</p> <ul style="list-style-type: none"> <li>• Pulse jet type Bag Filters provided at all transfer points, primary crusher, primary screen, secondary screen, fly ash silos &amp; boiler bunkers.</li> <li>• State of the art Dust Suppression System is installed at wagon tippler section to control fugitive emissions.</li> <li>• Water sprinkling systems are provided at all coal conveyor belts &amp; coal storage yard.</li> <li>• All the dust collecting equipments (Bag filters) as stated above are provided with an arrangement such that the collected material is completely recycled back into the process.</li> <li>• Coal is stacked into stockpiles and provisions of water sprinkling have also been made.</li> <li>• Regular water sprinkling is also done in other unpaved areas through pipelines &amp; tankers.</li> </ul>
15	An amount of Rs. 223.55 crores is earmarked for pollution control equipment/measures as committed by the project proponent. Additionally an amount of Rs. 7.0 crores per annum shall be earmarked for maintenance of pollution control equipment.	Separate funds for pollution control equipments/measures have been allocated during the project as part of the project cost. Provision has been made in the budget for effective maintenance of all the pollution control equipments.
16	Utilization of 100 % Fly Ash generated shall be made from 4th year of operation of the plant. Status of implementation shall be reported to the Regional Office to the Ministry from time to time.	<p>100 % of the fly ash/ bottom ash generated from the Captive Power Plant is used in manufacturing of Portland Pozzolana Cement (PPC) at our Chunar Cement Factory, Chunar.</p> <p>Annual return of fly ash generation &amp; consumption has been submitted to the Regional Office of the Ministry vide our letter no.JAL/JCIC/ENV/116/2017 dated 04/04/2017.</p>
17	No mine void filling or filling up of low lying areas with fly ash shall be undertaken.	Fly ash will not be used for mine void filling or filling up of low lying areas.

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18	Ash pond 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.	There is no provision for construction of ash dyke/pond as entire fly ash generated from the plant is being conveyed pneumatically from ESP hopper to ash silos in dry form for storage prior to its use.																												
19	Fugitive Emission of fly ash shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided in consultation with the local Panchayat.	Fly ash is conveying pneumatically from ESP hopper to ash silos in dry form for storage prior to its use. In built control mechanism has been provided at fly ash handling system to control fugitive emissions. Therefore, no impact of fly ash will be on agricultural or non-agricultural land.																												
20	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.	<p>Radioactivity test in coal &amp; fly ash samples are being done through Radioanalytical Laboratory, Board of Radiation and Isotope Technology (Department of Atomic Energy, Govt. of India).</p> <p>Heavy metal testing in Coal &amp; Fly ash is being carried out through M/s Vimta Labs Hyderabad (NABL accredited laboratory). Monitoring results of heavy metals are as under:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Parameters</th> <th style="text-align: center;">UOM</th> <th style="text-align: center;">Coal</th> <th style="text-align: center;">Fly ash</th> </tr> </thead> <tbody> <tr> <td>Chromium as Cr</td> <td style="text-align: center;">Mg/Kg</td> <td style="text-align: center;">17.41</td> <td style="text-align: center;">7.12</td> </tr> <tr> <td>Nickel as Ni</td> <td style="text-align: center;">Mg/Kg</td> <td style="text-align: center;">2.06</td> <td style="text-align: center;">1.31</td> </tr> <tr> <td>Lead as Pb</td> <td style="text-align: center;">Mg/Kg</td> <td style="text-align: center;">15.36</td> <td style="text-align: center;">0.21</td> </tr> <tr> <td>Cadmium as Cd</td> <td style="text-align: center;">Mg/Kg</td> <td style="text-align: center;">ND*</td> <td style="text-align: center;">ND*</td> </tr> <tr> <td>Mercury as Hg</td> <td style="text-align: center;">Mg/Kg</td> <td style="text-align: center;">ND*</td> <td style="text-align: center;">ND*</td> </tr> <tr> <td>Arsenic as As</td> <td style="text-align: center;">Mg/Kg</td> <td style="text-align: center;">0.02</td> <td style="text-align: center;">0.034</td> </tr> </tbody> </table> <p>Note: ND*- Not Detectable</p>	Parameters	UOM	Coal	Fly ash	Chromium as Cr	Mg/Kg	17.41	7.12	Nickel as Ni	Mg/Kg	2.06	1.31	Lead as Pb	Mg/Kg	15.36	0.21	Cadmium as Cd	Mg/Kg	ND*	ND*	Mercury as Hg	Mg/Kg	ND*	ND*	Arsenic as As	Mg/Kg	0.02	0.034
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21	Continuous monitoring of heavy metals in and around the existing ash pond area shall be carried out by reputed institute like IIT, Chennai.	All the fly ash transported pneumatically from ESP hopper to the concrete silos for storage in dry form. Ash pond has not been constructed therefore, testing of heavy metals in & around ash pond is not applicable.																												
22	Air cooled condenser shall be installed.	Air cooled condensers has been installed.																												

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23	No water bodies including natural drainage system in the area shall be disturbed due to activities associated with setting up/ operation of the power plant.	No natural water bodies and drainage passes through the plant premises.																												
24	COC of at least 5.0 shall be adopted.	COC > 5 is being maintained.																												
25	A well designed rain water harvesting system shall be put in place which shall comprise of rain water collection from the built up and open area in plant premises. Action plan and road map for implementation shall be submitted to the Regional Office of Ministry.	Total 5 nos. rainwater recharging pits have been constructed in the township. Further to collect & recharge rain water from open areas in the township, work has been started for implementation of percolation pit.																												
26	Hydrogeology of area shall be reviewed annually from an institute/ organization of repute to asses impact of surface water and ground regime (especially around ash dyke). In case any deterioration of repute to assess impact of surface water and ground regime (especially around ash dyke). In case any deterioration is observed specific mitigation measures shall be undertaken and reports/data of water quality monitored regularly and maintained shall be submitted to Regional Office of the Ministry.	Ash dyke/pond in the plant premises has not been constructed as all the fly ash is being collected pneumatically in dry form in the fly ash silos. Since there is no likelihood of ash coming in touch with the ground water therefore, no deterioration of ground & surface water regime is expected.																												
27	Waste water generated from the plant shall be treated before discharge to comply limits prescribed by SPCB/CPCB.	Waste water collected from the plant is being treated & all the parameters are qualifying the discharge limit of CPCB/SPCB & is fully re-used in dust suppression systems, ash quenching, horticultural etc.																												
28	Green Belt consisting of three tiers of plantations of native species around plant and at least 50m width shall be raised. Tree density shall be 2500 per ha. with survival rate not less than 80%.	<p>Proposal for green belt development has already been submitted to Regional office, MoEF vide our letter no. JCIC/MoEF/2013/01 dated 14.08.2013. Green belt development activities are started in the plant premises &amp; township at Churk and Ghurma (company owned land) on full fledged scale. Details of plantation done in the Plant &amp; Township at Churk is as under:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Total plantation</th> <th>Nos. Of Plant survived</th> <th>Survival rate in Percentage</th> </tr> </thead> <tbody> <tr> <td>Opening</td> <td>3566</td> <td>3566</td> <td>100%</td> </tr> <tr> <td>2013-14</td> <td>1569</td> <td>1569</td> <td>86%</td> </tr> <tr> <td>2014-15</td> <td>5237</td> <td>4608</td> <td>88%</td> </tr> <tr> <td>2015-16</td> <td>3831</td> <td>3064</td> <td>80%</td> </tr> <tr> <td>2016-17</td> <td>2250</td> <td>1800</td> <td>80%</td> </tr> <tr> <td>Total</td> <td>16453</td> <td>14607</td> <td></td> </tr> </tbody> </table>	Year	Total plantation	Nos. Of Plant survived	Survival rate in Percentage	Opening	3566	3566	100%	2013-14	1569	1569	86%	2014-15	5237	4608	88%	2015-16	3831	3064	80%	2016-17	2250	1800	80%	Total	16453	14607	
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29	<p>The project proponent shall also adequately contribute in the development of neighboring villages. Special package with implementation schedule for free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.</p>	<p>To address the prime concern on development of neighboring villages, Jaypee Group has undertaken various CSR activities such as Education, Health &amp; Community Development and drinking water supply to the society &amp; school. Jay Jyoti Inter College at Churk and Gurma are delivering quality education to the children's from under privileged sections of the society. To provide Health and Medical services to the villagers a hospital is running at site having pathology lab, mobile medical van &amp; ambulance. Medicines also providing free of cost to them.</p>
30	<p>An amount of Rs. 5.0 Crores be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs. 1.0 Crores per annum till the life of the plant shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.</p>	<p>CSR activities are being carried out by Jaiprakash Sewa Sansthan &amp; separate budget has been earmarked for the same. Rs.10.64 lacs have been incurred towards CSR for the period October 2016 to March 2017.</p>
31	<p>Additionally as committed by the project proponent Rs 3.0 Crores shall be earmarked for development of ITI at Dalla for imparting training for local people in craft for employment. An amount of Rs 7.0 Crore shall be earmarked for development of green belt and Rs 80 Lakhs per annum shall be kept as recurring expenses for green belt as committed.</p>	<p>ITI centre has been setup at Dalla &amp; imparting quality education &amp; training on various courses &amp; modules for local peoples. Work on greenbelt development is under progress and in house nursery has been set up for development of saplings. Native species are being preferred for greenbelt development. Provision of horticulture budget has been made for green belt development during FY 2016-17.</p>
32	<p>CSR scheme should address Public Hearing issues and shall be undertaken based on need based assessment in and around the villages within 5.0 km of the site and in constant consultation with the village panchayat and the District Administration. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken.</p>	<p>Social audit is being carried out by Prof A.K. Joshi, Sociology dept. BHU. Need based assessment is also part of the audit &amp; is being carried out in and around 5.0 km of the site in consultation with the village panchayat. CSR activities addressing the public hearing issues mainly Health Services and Education are being undertaken. Vocational trainings for local employable youths are being provided at ITI, DCF, Dalla.</p>



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33	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 govt. institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.	Social audit is being carried out by Prof. A.K. Joshi, Sociology Department of Banaras Hindu University. Study report will be submitted to the regional office of MOEF & CC on completion.
34	An Environment Cell shall be created at the project site itself and shall be headed by an officer of appropriate seniority and qualification. It shall be ensured that the head of the Cell shall directly report to the Head of the Organization.	A separate Environmental Management cell has been set up with suitable qualified & experienced officer having appropriate experience in environment management who reports directly to the Head of the Organization.

**B. General Conditions**

S. No.	Conditions	Compliance Status																											
1	The treated effluents conforming to the prescribed standards only shall be re-circulated and reuse within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	<p>Treated effluent conforming to the prescribed standards is re-circulated &amp; reused in sprinkling at coal handling plant for dust suppression. No effluent is getting mixed with storm water. Avg. ETP analysis results for the period of October 2016 to March 2017 are given as under:</p> <table border="1"> <thead> <tr> <th align="center" rowspan="2">Parameters</th> <th align="center" colspan="3">ETP (values in mg/l except pH)</th> </tr> <tr> <th align="center">Max.</th> <th align="center">Min.</th> <th align="center">Avg.</th> </tr> </thead> <tbody> <tr> <td align="center">pH</td> <td align="center">7.90</td> <td align="center">7.60</td> <td align="center">7.75</td> </tr> <tr> <td align="center">Total Suspended Solid (TSS)</td> <td align="center">32.33</td> <td align="center">20.50</td> <td align="center">26.42</td> </tr> <tr> <td align="center">Biochemical Oxygen Demand (BOD @20°C, 5 days)</td> <td align="center">12.36</td> <td align="center">8.25</td> <td align="center">10.31</td> </tr> <tr> <td align="center">Chemical Oxygen Demand (COD)</td> <td align="center">38.92</td> <td align="center">26.42</td> <td align="center">32.67</td> </tr> <tr> <td align="center">Oil &amp; Grease</td> <td align="center">&lt;1.00</td> <td align="center">&lt;1.00</td> <td align="center">&lt;1.00</td> </tr> </tbody> </table>	Parameters	ETP (values in mg/l except pH)			Max.	Min.	Avg.	pH	7.90	7.60	7.75	Total Suspended Solid (TSS)	32.33	20.50	26.42	Biochemical Oxygen Demand (BOD @20°C, 5 days)	12.36	8.25	10.31	Chemical Oxygen Demand (COD)	38.92	26.42	32.67	Oil & Grease	<1.00	<1.00	<1.00
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2	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.	<p>Sewage Treatment Plant (STP) of 300 KLD has been installed and treated water is reused in plantation/green belt development within the plant premises. Avg. STP analysis results for the period of October 2016 to March 2017 are given as under:</p> <table border="1" data-bbox="1180 293 2073 699"> <thead> <tr> <th rowspan="2">Parameters</th> <th colspan="3">STP (values in mg/l except pH)</th> </tr> <tr> <th>Max.</th> <th>Min.</th> <th>Avg.</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>7.68</td> <td>7.42</td> <td>7.55</td> </tr> <tr> <td>Total Suspended Solid (TSS)</td> <td>48.45</td> <td>29.43</td> <td>38.94</td> </tr> <tr> <td>Biochemical Oxygen Demand (BOD @20°C, 5 days)</td> <td>22.84</td> <td>17.16</td> <td>20.00</td> </tr> <tr> <td>Chemical Oxygen Demand (COD)</td> <td>60.76</td> <td>54.72</td> <td>57.74</td> </tr> <tr> <td>Oil &amp; Grease</td> <td>&lt;1.00</td> <td>&lt;1.00</td> <td>&lt;1.00</td> </tr> </tbody> </table>	Parameters	STP (values in mg/l except pH)			Max.	Min.	Avg.	pH	7.68	7.42	7.55	Total Suspended Solid (TSS)	48.45	29.43	38.94	Biochemical Oxygen Demand (BOD @20°C, 5 days)	22.84	17.16	20.00	Chemical Oxygen Demand (COD)	60.76	54.72	57.74	Oil & Grease	<1.00	<1.00	<1.00
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3	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 lay out shall be submitted to the Ministry as well as to the regional office of the ministry.	Safety measures are being taken at coal handling plant. Adequate Fire Fighting Equipments i.e. Fire Hydrant & Fire Extinguishers have been installed at the coal handling plant. Fire & Safety department made available with 2 nos. fire fighting tenders along with all necessary control equipments. Copy of the measures & layout has already been submitted to the Regional Office of the Ministry.																											
4	Storage facilities for auxiliary liquid fuel such as LDO/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 eventually in case of an accident taking place due to storage of fuel.	Approval/license for design of installations & storage of LDO/HFO/LSHS has been taken from PESO, Nagpur. LDO/HFO/LSHS properly stored in dedicated area. It is ensured that sulphur content is less than 0.5% in liquid fuel. An Onsite Emergency Plan including disaster management plan has been prepared & implemented covering all the eventualities in case of accident due to storage of oil.																											
5	First Aid and Sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Infrastructure facilities such as first aid centers, toilets and STPs were provided during construction.																											
6	Noise levels emanating from turbines shall be 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/earmuffs etc. shall be provided. Workers engaged	Necessary action has been taken to maintain noise level within 85dB (A). Earplugs & Earmuffs are being provided to the employees working in high noise areas.  Regular noise monitoring is being carried out inside the plant &																											

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	<p>in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy/less noisy areas.</p>	<p>monitoring values are well within the prescribed limits. Avg. workplace Noise monitoring data for the period of October 2016 to March 2017 is given as under:</p> <table border="1" data-bbox="1166 256 2103 587"> <thead> <tr> <th colspan="3">Workplace Noise Monitoring</th> </tr> <tr> <th>Location</th> <th>Unit</th> <th>Avg. Result</th> </tr> </thead> <tbody> <tr> <td>Outside of Compressor House</td> <td>dB(A)</td> <td>82.9</td> </tr> <tr> <td>Turbine Floor</td> <td>dB(A)</td> <td>82.6</td> </tr> <tr> <td>Boiler Area</td> <td>dB(A)</td> <td>83.0</td> </tr> <tr> <td>Boiler Feed Pump Area</td> <td>dB(A)</td> <td>83.2</td> </tr> <tr> <td>DM Plant</td> <td>dB(A)</td> <td>73.7</td> </tr> <tr> <td>Coal Handling Plant</td> <td>dB(A)</td> <td>73.5</td> </tr> </tbody> </table> <p>Audiometric test has been conducted for 45 employees &amp; workers working in high noise areas.</p>	Workplace Noise Monitoring			Location	Unit	Avg. Result	Outside of Compressor House	dB(A)	82.9	Turbine Floor	dB(A)	82.6	Boiler Area	dB(A)	83.0	Boiler Feed Pump Area	dB(A)	83.2	DM Plant	dB(A)	73.7	Coal Handling Plant	dB(A)	73.5																																																				
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7	<p>Regular Monitoring of ambient air ground level concentration of SO<sub>2</sub>, NO<sub>x</sub>, PM<sub>2.5</sub> &amp; 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 monitoring stations and frequency of monitoring shall be submitted to the Regional office of Ministry. The data shall also be put on the website of the company.</p>	<p>Regular ambient air monitoring is being carried out in-house as well as MoEF approved laboratory &amp; records are maintained. Monitoring reports are updated on the company's website. Avg. monitoring data for the period October 2016 to March 2017 is given as under:</p> <table border="1" data-bbox="1177 847 2091 1522"> <thead> <tr> <th colspan="2">Locations</th> <th>Near Main Gate</th> <th>Near Store</th> <th>Near Rear Gate</th> <th>Near Dispatch Gate</th> </tr> <tr> <th colspan="2">Parameter</th> <th>(µg/m<sup>3</sup>)</th> <th>(µg/m<sup>3</sup>)</th> <th>(µg/m<sup>3</sup>)</th> <th>(µg/m<sup>3</sup>)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">PM-10</td> <td>Min</td> <td>61.84</td> <td>60.32</td> <td>61.45</td> <td>63.23</td> </tr> <tr> <td>Max</td> <td>64.19</td> <td>61.92</td> <td>63.39</td> <td>64.80</td> </tr> <tr> <td>Avg.</td> <td>63.01</td> <td>61.12</td> <td>62.42</td> <td>64.02</td> </tr> <tr> <td rowspan="3">PM-2.5</td> <td>Min</td> <td>20.96</td> <td>21.08</td> <td>21.64</td> <td>21.00</td> </tr> <tr> <td>Max</td> <td>22.59</td> <td>22.58</td> <td>23.25</td> <td>22.66</td> </tr> <tr> <td>Avg.</td> <td>21.77</td> <td>21.83</td> <td>22.45</td> <td>21.83</td> </tr> <tr> <td rowspan="3">SO<sub>2</sub></td> <td>Min</td> <td>14.66</td> <td>12.98</td> <td>12.98</td> <td>13.62</td> </tr> <tr> <td>Max</td> <td>15.08</td> <td>13.40</td> <td>13.40</td> <td>14.04</td> </tr> <tr> <td>Avg.</td> <td>14.87</td> <td>13.19</td> <td>13.19</td> <td>13.83</td> </tr> <tr> <td rowspan="3">NO<sub>x</sub></td> <td>Min</td> <td>17.16</td> <td>18.19</td> <td>19.29</td> <td>17.75</td> </tr> <tr> <td>Max</td> <td>18.27</td> <td>19.17</td> <td>20.53</td> <td>18.73</td> </tr> <tr> <td>Avg.</td> <td>17.71</td> <td>18.68</td> <td>19.91</td> <td>18.24</td> </tr> </tbody> </table>	Locations		Near Main Gate	Near Store	Near Rear Gate	Near Dispatch Gate	Parameter		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	PM-10	Min	61.84	60.32	61.45	63.23	Max	64.19	61.92	63.39	64.80	Avg.	63.01	61.12	62.42	64.02	PM-2.5	Min	20.96	21.08	21.64	21.00	Max	22.59	22.58	23.25	22.66	Avg.	21.77	21.83	22.45	21.83	SO <sub>2</sub>	Min	14.66	12.98	12.98	13.62	Max	15.08	13.40	13.40	14.04	Avg.	14.87	13.19	13.19	13.83	NO <sub>x</sub>	Min	17.16	18.19	19.29	17.75	Max	18.27	19.17	20.53	18.73	Avg.	17.71	18.68	19.91	18.24
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8	Provision shall be made for 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 structures to be removed after the completion of project.	Necessary infrastructure i.e. temporary housing, mobile toilets, safe drinking water, free medical facility etc. was provided for labours during construction of the project.
9	The project proponent shall advertise in at least two local news papers 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 environment clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http:// envfor.nic.in</a>	The public notice has been given in two news papers viz. Rashtriya Sahara on 10/01/2013 & in Times of India on 12/01/2013.
10	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, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Copy of Environment Clearance has been submitted to the concerned authorities & the same is also uploaded at company website.
11	The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of Mo EF, the respective zonal office of CPCB and SPCB. The criteria pollutant levels namely; SPM, RSPM (PM 2.5 & PM 10), 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.	<p>Six monthly compliance reports are being regularly submitted to MoEF, CPCB &amp; SPCB and the same is also uploaded on Company's website.</p> <p>Third party monitoring reports have been submitted to MOEF &amp; CC (regional office Lucknow) vide our letter no. JCIC/ENV/102/2016 dated December 20, 2016.</p> <p>Regular monitoring of PM10, PM2.5, SO<sub>2</sub>, NO<sub>x</sub> and stack emissions is being carried out and records are maintained. Monitoring data is being displayed at the main gate regularly.</p>

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12	<p>The environment statement for each financial year ending 31st march in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective regional offices of the ministry by e-mail.</p>	<p>Environment statement has been submitted to UPPCB vide letter no.-JCIC/ENV/90/2016 dated 20/09/2016 &amp; it is also uploaded at company's website.</p>
13	<p>The project proponent shall submit six monthly reports on the status of the implementation of 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 clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the regional office, Ministry of Environment and Forests.</p>	<p>Six monthly compliance reports are being submitted to MoEF, CPCB &amp; UPPCB on regular basis. Last compliance report submitted on November 29, 2016 vide our letter No. JCIC/ENV/94/2016 for the period April 2016 to September 2016. It is also uploaded on the company's website: <a href="http://www.jalindia.com/">http://www.jalindia.com/</a>.</p>
14	<p>Regional office of Ministry of Environment &amp; Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environment Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will upload the compliance status in the 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 and ambient air) shall be displayed at the main gate of power plant.</p>	<p>Six monthly compliance reports are being regularly submitted to MoEFCC, CPCB &amp; SPCB and the same is also uploaded on Company's website.</p> <p>Regular monitoring of PM10, PM2.5, SO<sub>2</sub>, NO<sub>x</sub> and stack emissions is being carried out and records are maintained. Monitoring results are displayed at the main gate.</p>

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15	Separate funds shall be allocated for implementation of environmental protection measures along with item wise break-up. This cost shall be included as part of project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year wise expenditure should be reported to the Ministry.	Separate funds for implementation of environmental protection measures have been allocated as part of the project cost. Rs. 52.50 lacs are incurred towards environment protection during October 2016 to March 2017.
16	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and financial approval of the project by the project by the Concerned authorities and the dates of start of land development work and commissioning of plant.	Information has been given to the concerned authority.
17	Full cooperation shall be extended to the Scientists/Officers from the Ministry/ Regional Office of the ministry/ CPCB/SPCB who could be monitoring the compliance of environmental status.	Full cooperation shall be given to the Scientist/Officers of the Ministry/Regional office of the ministry during their visit in the Unit.