

Ref: GMR/SJK/FY16-17/21

To,

**The Director**  
 Ministry of Environment & Forest (MoEF),  
 Paryavaran Bhavan, CGO Complex,  
 Lodhi Road, New Delhi - 110003

सी. जास. अनुसंधान द्वारा प्रेषित किया  
 Prepared by - SJK  
 प्रदूषण नियंत्रण विभाग, पर्यावरण संरक्षण  
 Ministry of Environment, Forests & Climate Change  
 भारत सरकार, नई दिल्ली  
 Government of India  
 इन्फो-बिल्डिंग, पार्यवारण भवन  
 Information Building / Paryavaran Bhawan  
 लोधी रोड, नई दिल्ली-110003  
 New Delhi, India - 110003

16<sup>th</sup> Feb 2017

  
 20/2/17

**Subject:** Six Monthly (July '16 – December '16) Compliance Report of Environmental Clearance for 2 X 660 MW Coal based TPP at Lalpur Village, Sohagpur Tehsil, Shahdol District, (MP)

**Reference:** Environmental Clearance (EC) letter No. J-13012/120/2008-IA.II (T), MoEF, GoI Dated 21<sup>st</sup> August 2014.

Dear Sir / Madam,

With reference to the above letter dated 21<sup>st</sup> August 2014 issued by MoEF, we are herewith submitting half yearly Environmental Clearance Compliance Status Report along with necessary annexures (both in hard copies and soft copy in CD) for our proposed 2 x 660 MW Coal based TPP of M/s SJK POWERJEN LTD., Village – Lalapur, Distt – Shahdol, Madhya Pradesh for the period from July '16 – December '16.

**List of Annexures**

1	Annexure – 1	Copy of EC letter dated 21 <sup>st</sup> August 2014
2	Annexure – 2	Environmental Quality Monitoring Report
3	Annexure – 3	Corporate Social Responsibility (CSR) Activities Report
4	Annexure – 4	Copy of newspaper clipping (advertisement of EC)
5	Annexure – 5	CD (Soft copy of our Letter & Annexures)

We hope you will find the above in order and in line with the requirement.

We request you to kindly acknowledge the receipt of the same.

Thanking you,

Your faithfully,

For **SJK POWERJEN LIMITED**



**Raja Vaidyanathan**  
**Executive Vice President**

**Enclosure : Annexures, as above**

- CC: 1. **The Additional Director(S)**  
Regional office, Central Region,  
Ministry of Environment & Forest (MoEF)  
Kendriya Paryavaran Bhavan, Link Road 3,  
E-5, Ravi Shankar Nagar, Bhopal – 462 016, MP
2. **The Zonal Officer,**  
Zonal Office, Central Pollution Control Board,  
3<sup>rd</sup> Floor, Sahkar Bhawan, North TT Nagar,  
In front of Rang Mahal  
Bhopal - 462 003, MP
3. **The Member Secretary**  
Madhya Pradesh Pollution Control Board  
E-5, Arera Colony, Paryawaran Parisar, Bhopal - 462 016, MP
4. **The Regional Officer**  
Madhya Pradesh Pollution Control Board,  
Near Old Bus Stand, Behind Petrol Pump,  
Shahdol - 484 001, MP



# Compliance Report

As per conditions stipulated in

**ENVIRONMENTAL CLEARANCE**

FOR

J-13012/120/2008-IA.II (T), MoEF GOI

August 21<sup>st</sup>, 2014

Of

MINISTRY OF ENVIRONMENT & FOREST, NEW DELHI

Compliance Period: July 2016 ~ December 2016

For

2 x 660 MW Imported Coal Based Thermal Power Plant

of

**SJK POWERJEN LTD.**

**Village – Lalapur, Distt – Shahdol**

**Madhya Pradesh**



Annexure - I



J 13012/120/2008-IA.II (T)  
Government of India  
Ministry of Environment, Forests and Climate Change

3<sup>rd</sup> Floor, Vayu Block,  
Indira Paryavaran Bhawan, Jor Bagh Road,  
Aliganj, New Delhi-110003

Dated: 21<sup>st</sup> August, 2014

To

M/s SJK Powergen Ltd.  
No. 1445, 'Vajras', 1 Floor,  
28<sup>th</sup> Main, 9<sup>th</sup> Block, Jayanagar East,  
Bangalore 560069

**Sub: 2x660 MW Imported Coal Based TPP at Village Lalapur, in Shahdol Distt., in Madhya Pradesh by M/s SJK Powergen Ltd. - reg. Environmental Clearance.**

Sir,

The undersigned is directed to refer to your letters dated 31.10.2008, 09.12.2009, 12.12.2011, 09.03.2012, 02.04.2012, 14.12.2012, 03.06.2013, 28.11.2013, 02.12.2013, 11.12.2013, and 17.01.2014 on the subject mentioned above. The Ministry of Environment & Forests has examined the application. The ToR for preparation of EIA/EMP report was accorded by MoEF on 18.12.2008.

2. It is noted that the proposal is for setting up of 2x660 MW Supercritical Imported Coal Based Thermal Power Plant at village Lalpur, in Sohagpur Taluk, in Shahdol Distt., in Madhya Pradesh. Land requirement will be 700 acres, of which 163 acres is Govt. land (chote jhar ka jungle), 527 acres is private land and 10 acres is revenue land. Stage-I forests clearance has been obtained for diversion of 66.294 ha of revenue forest land. The co-ordinates of the site are located within Latitude 23°15'50"N to 23°17'10" N and Longitude 81°28'12" E to 81°30'20" E. Imported coal requirement will be 4.72 MTPA at 85% of PLF and will be obtained from Indonesia, Kuansinghti Makmur (KIM) Coal mines and PT Borneo Indahara (BIB) Coal mines. MoU has been signed with M/s GMR Coal Resource Pvt. Ltd, Singapore. Ash and sulphur contents in imported coal will be 7.5% and 0.50% respectively. Total ash generation will be 0.356 MTPA. Fly ash will be supplied to M/s ACC Keymore Cement Works of Katni, MP. Ash pond area will be 240 acres and co-ordinates of the ash pond site is located within Latitude 23°15'50"N to 23°16'57" N and Longitude 81°29'1" E to 81°30'20" E. HCSD is being envisaged for disposal of ash from power plant. Twin flue Stack of 275m shall be provided. Induced Draft cooling system shall be installed. Water requirement of 34.69 MCM will be sourced from the River Son through a pipeline at a distance of about 2.5km from project site. Permission to draw water has been obtained from the Govt. of Madhya Pradesh and the Central Water Commission. Water will be drawn upstream of Bansagar Dam in River Son. Sarphanala (a seasonal nala) is located at 0.2 km distance from the project site. There are nine reserve forest blocks within 10 km of the study area of the project site. There are no National Parks, Wildlife Sanctuaries, Heritage Sites, Tiger/Biosphere reserves etc. within 10 km of the site. Public Hearing was held on 08.10.2009. Cost of the project will be Rs 8000.0 Crores.

3. The project has been considered in accordance with the provisions of the EIA notification issued by the Ministry of Environment & Forests vide S.O. 1533 (E), dated September 14, 2006.

4. Based on the information submitted by you, as at Para 2 above and others and presentations made by you and your consultant viz. M/s B.S. Envi Tech (P) Ltd. before the Expert Appraisal Committee (Thermal Power) in its 46<sup>th</sup>, 64<sup>th</sup>, 1<sup>st</sup>, 6<sup>th</sup> & 11<sup>th</sup> Meetings of the EAC held during April 9-10, 2012, January 7-8, 2013, September 19-20, 2013, December 5-6, 2013 and February 13-14, 2014 respectively, the Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated September 14, 2006, subject to the compliance of the following Specific and General conditions:

**A. Specific Conditions:**

- (i) Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within **six months**.
- (ii) *The AAQ monitoring including Hg and Ozone shall be done for a period of one month within 3 months and submitted to MoEF. A comparison of the monitored AAQ data with that of the data during EIA shall also be made.*
- (iii) Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation shall be submitted periodically.
- (iv) Sulphur and ash contents in the imported coal to be used in the project shall not exceed 0.59 % and 7.5 % 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.
- (v) A stack of 275 m height shall be provided with continuous online monitoring equipments for SO<sub>x</sub>, NO<sub>x</sub> and PM<sub>10</sub> & PM<sub>2.5</sub>. Exit velocity of flue gases shall not be less than 22 m/sec. Mercury emissions from stack shall also be monitored on periodic basis.
- (vi) High Efficiency Electrostatic Precipitators (HEEPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm<sup>3</sup>. 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.
- (vii) 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.
- (viii) COC of atleast 5.0 shall be adopted.
- (ix) Monitoring of surface water quantity and 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.

- (x) A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of quantity of water collected and its use.
- (xi) 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.
- (xii) 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 any 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.
- (xiii) Wastewater generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB/CPCB.
- (xiv) Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.
- (xv) 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. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.
- (xvi) Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media 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 repute 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.
- (xvii) Fugitive emission of fly ash (dry or wet) 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.
- (xviii) 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.
- (xix) A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.

- (xx) Green Belt consisting of three tiers of plantations of native species around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 80 %.
- (xxi) A minimum amount of Rs 32.0 Crores as one time capital investment shall be earmarked for activities to be taken up under CSR during construction phase of the Project. Recurring expenditure for CSR thereafter shall be Rs 6.4 Crores per annum or as per CSR guidelines of Govt. of India, whichever is more till the life of the plant.
- (xxii) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.
- (xxiii) The project proponent shall also adequately contribute in the development of the neighbouring 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.
- (xxiv) For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.
- (xxv) An Environmental Cell comprising of at least one expert in environmental science/ engineering, occupational health and social scientist, shall be created preferably 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 who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.

**B. General Conditions:**

- (i) The treated effluents conforming 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.
- (ii) A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.
- (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.
- (iv) 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 eventuality in case of an accident taking place due to storage of oil.

- (v) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- (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/car muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy/less noisy areas.
- (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 H<sub>2</sub> shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.
- (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 structures to be removed after the completion of the project.
- (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 Forests at <http://envfor.nic.in>.
- (x) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Panchayat / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
- (xi) The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM<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.
- (xii) The environment 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

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.

- (xiii) **The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the 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.**
  - (xiv) Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will up-load the compliance status in their website and update 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.**
  - (xv) Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.
  - (xvi) 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.
  - (xvii) Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry / CPCB/ SPCB who would be monitoring the compliance of environmental status.
5. The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.
6. The environmental clearance accorded **shall be valid for a period of 5 years** from the date of issue of this letter to start operations by the power plant.
7. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
8. In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh

reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.

9. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management, Handling & Transboundary Movement) Rules, 2008 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.

10. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Yours faithfully,

(Dr. Saroj)  
Scientist 'F'

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary, Department of Environment, Government of Madhya Pradesh, Bhopal.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Madhya Pradesh Pollution Control Board, E-5, Arera Colony, Paryavaran Parisar, Bhopal-462016, Madhya Pradesh.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi 110032.
6. The Chief Conservator of Forests, Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, Arera Colony, Ravishankar Nagar, Bhopal - 462016.
7. Guard file.

(Dr. Saroj)  
Scientist 'F'



## Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16

<b>GMR Energy</b>	<b>Project Site</b>	SJK Powergen Ltd, Shahdol, Madhya Pradesh		
	<b>Sample</b>	Ambient Air Quality		
	<b>Location</b>	Project Site		
	<b>Sampling Date</b>	22 - 11 - 2016		
<b>TEST RESULTS</b>				
<b>SL. No.</b>	<b>Parameters</b>	<b>Unit</b>	<b>Result observed</b>	<b>National Standard</b>
1	PM <sub>10</sub>	µg/m <sup>3</sup>	55	100 (24-Hrs average)
2	PM <sub>2.5</sub>	µg/m <sup>3</sup>	22	60 (24-Hrs average)
3	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	5	80 (24-Hrs average)
4	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	10	80 (24-Hrs average)
5	Carbon Monoxide (CO)	µg/m <sup>3</sup>	0.25	4 (1-Hrs. average)
6	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	16	180 (1-Hrs. average)
7	Benzene	µg/m <sup>3</sup>	<0.1	05 (Annual Basis)
8	Benzo (a) Pyrene, BAP	µg/m <sup>3</sup>	<0.1	01 (Annual Basis)
9	Arsenic (As)	µg/m <sup>3</sup>	<0.1	20 (Annual Basis)
10	Nickel (Ni)	µg/m <sup>3</sup>	1.5	1 (Annual Basis)
11	Lead (Pb)	µg/m <sup>3</sup>	<0.1	1 (24-Hrs average)
12	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	13	400 (24-Hrs average)
<i>Test Method - Measurement of Ambient Air Pollutants (Vol-1), CPCB, May 2011</i>				

Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16

GMR Energy	Project Site	SJK Powergen Ltd, Shahdol, Madhya Pradesh		
	Sample	Ambient Air Quality		
	Location	Village - Lalpur		
	Sampling Date	22 - 11 - 2016		
	<b>TEST RESULTS</b>			
SL. No.	Parameters	Unit	Result observed	National Standard
1	PM <sub>10</sub>	µg/m <sup>3</sup>	56	100 (24-Hrs average)
2	PM <sub>2.5</sub>	µg/m <sup>3</sup>	22	60 (24-Hrs average)
3	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	2	80 (24-Hrs average)
4	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	10.8	80 (24-Hrs average)
5	Carbon Monoxide (CO)	µg/m <sup>3</sup>	0.42	4 (1-Hrs. average)
6	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	17	180 (1-Hrs. average)
7	Benzene	µg/m <sup>3</sup>	<0.1	05 (Annual Basis)
8	Benzo (a) Pyrene, BAP	µg/m <sup>3</sup>	<0.1	01 (Annual Basis)
9	Arsenic (As)	µg/m <sup>3</sup>	<0.1	20 (Annual Basis)
10	Nickel (Ni)	µg/m <sup>3</sup>	1.6	1 (Annual Basis)
11	Lead (Pb)	µg/m <sup>3</sup>	<0.1	1 (24-Hrs average)
12	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	15	400 (24-Hrs average)

Test Method - Measurement of Ambient Air Pollutants (Vol-1), CPCB, May 2011

*Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16*

<b>GMR Energy</b>	<b>Project Site</b>	<b>SJK Powergen Ltd, Shahdol, Madhya Pradesh</b>		
	<b>Sample</b>	<b>Ambient Air Quality</b>		
	<b>Location</b>	<b>Village - Kanchanpur</b>		
	<b>Sampling Date</b>	<b>23 - 11 - 2016</b>		
<b>TEST RESULTS</b>				
<b>SL. No.</b>	<b>Parameters</b>	<b>Unit</b>	<b>Result observed</b>	<b>National Standard</b>
1	PM <sub>10</sub>	µg/m <sup>3</sup>	58	100 (24-Hrs average)
2	PM <sub>2.5</sub>	µg/m <sup>3</sup>	23	60 (24-Hrs average)
3	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	4.6	80 (24-Hrs average)
4	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	10.2	80 (24-Hrs average)
5	Carbon Monoxide (CO)	µg/m <sup>3</sup>	0.36	4 (1-Hrs. average)
6	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	15.5	180 (1-Hrs. average)
7	Benzene	µg/m <sup>3</sup>	<0.1	05 (Annual Basis)
8	Benzo (a) Pyrene, BAP	µg/m <sup>3</sup>	<0.1	01 (Annual Basis)
9	Arsenic (As)	µg/m <sup>3</sup>	<0.1	20 (Annual Basis)
10	Nickel (Ni)	µg/m <sup>3</sup>	1.7	1 (Annual Basis)
11	Lead (Pb)	µg/m <sup>3</sup>	<0.1	1 (24-Hrs average)
12	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	15	400 (24-Hrs average)
<i>Test Method - Measurement of Ambient Air Pollutants (Vol-1), CPCB, May 2011</i>				

*Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16*

<b>GMR Energy</b>	<b>Project Site</b>	SJK Powergen Ltd, Shahdol, Madhya Pradesh		
	<b>Sample</b>	Ambient Air Quality		
	<b>Location</b>	Village - Dhurvar		
	<b>Sampling Date</b>	23 - 11 - 2016		
<b>TEST RESULTS</b>				
<b>SL. No.</b>	<b>Parameters</b>	<b>Unit</b>	<b>Result observed</b>	<b>National Standard</b>
1	PM <sub>10</sub>	µg/m <sup>3</sup>	59	100 (24-Hrs average)
2	PM <sub>2.5</sub>	µg/m <sup>3</sup>	24	60 (24-Hrs average)
3	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	6.1	80 (24-Hrs average)
4	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	10.9	80 (24-Hrs average)
5	Carbon Monoxide (CO)	µg/m <sup>3</sup>	0.51	4 (1-Hrs. average)
6	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	17.2	180 (1-Hrs. average)
7	Benzene	µg/m <sup>3</sup>	<0.1	05 (Annual Basis)
8	Benzo (a) Pyrene, BAP	µg/m <sup>3</sup>	<0.1	01 (Annual Basis)
9	Arsenic (As)	µg/m <sup>3</sup>	<0.1	20 (Annual Basis)
10	Nickel (Ni)	µg/m <sup>3</sup>	1.7	1 (Annual Basis)
11	Lead (Pb)	µg/m <sup>3</sup>	<0.1	1 (24-Hrs average)
12	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	17	400 (24-Hrs average)
<i>Test Method - Measurement of Ambient Air Pollutants (Vol-1), CPCB, May 2011</i>				



Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16

<b>GMR Energy</b>	<b>Project Site</b>	SJK Powergen Ltd, Shahdol, Madhya Pradesh		
	<b>Sample</b>	Ground Water		
	<b>Location</b>	Project Site		
	<b>Sampling Date</b>	23 - 11 - 2016		
<b>TEST RESULTS</b>				
<b>SL. No.</b>	<b>Parameters</b>	<b>Unit</b>	<b>Result observed</b>	<b>Permissible Limit as per IS:10500</b>
1	pH		7.33	6.5 ~ 8.5
2	Conductivity	µmhos/cm	733	
3	Colour	Hazan unit	Colourless	15
4	Odour		Unobjectionable	
5	Taste		Agreeable	
6	Turbidity	NTU	2.2	5
7	TDS	mg/l	508	2000
8	Total Alkalinity	mg/l	166	600
9	Residual Chlorine	mg/l	NT	1
10	Total Hardness as CaCO <sub>3</sub>	mg/l	220	600
11	Calcium as Ca	mg/l	55	200
12	Magnesium as Mg	mg/l	19	30
13	Sodium	mg/l	33	
14	Potassium	mg/l	1.7	
15	Chlorides as Cl	mg/l	23	1000
16	Sulphate as SO <sub>4</sub>	mg/l	24.2	400
17	Nitrates as NO <sub>3</sub>	mg/l	7.9	45
18	Fluoride as F	mg/l	0.69	1.5
19	Phenolic compound	mg/l	<0.001	0.002
20	Cyanide	mg/l	<0.01	0.05
21	Arsenic as As	mg/l	<0.001	0.05
22	Alluminium	mg/l	<0.01	0.2
23	Mercury as Hg	mg/l	<0.001	0.001
24	Cadmium as Cd	mg/l	<0.001	0.003
25	Chromium as Cr	mg/l	<0.005	0.05
26	Iron as Fe	mg/l	0.024	0.3
27	Copper as Cu	mg/l	<0.02	1.5
28	Lead as Pb	mg/l	<0.001	0.001
29	Manganese as Mn	mg/l	<0.05	0.3
30	Zinc as Zn	mg/l	0.5	15
31	Selenium as Se	mg/l	<0.01	0.01

*Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16*

32	Boron	mg/l	<0.2	1
33	Detergent as MBAS	mg/l	<0.2	1
34	Oil & Grease	mg/l	Nil	0.03
35	Pesticides	mg/l	Absent	Nil
36	Total Coliform	MPN/100ml	Nil	Nil
37	E.Coli	MPN/100ml	Nil	Nil

Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16

<b>GMR Energy</b>	<b>Project Site</b>	<b>SJK Powergen Ltd, Shahdol, Madhya Pradesh</b>		
	<b>Sample</b>	<b>Ground Water</b>		
	<b>Location</b>	<b>Village - Lalpur</b>		
	<b>Sampling Date</b>	<b>23 - 11 - 2016</b>		
	<b>TEST RESULTS</b>			
<b>SL. No.</b>	<b>Parameters</b>	<b>Unit</b>	<b>Result observed</b>	<b>Permissible Limit as per IS:10500</b>
1	pH		7.21	6.5 ~ 8.5
2	Conductivity	µmhos/cm	744	
3	Colour	Hazan unit	Colourless	15
4	Odour		Unobjectionable	
5	Taste		Agreeable	
6	Turbidity	NTU	2.1	5
7	TDS	mg/l	518	2000
8	Total Alkalinity	mg/l	166	600
9	Residual Chorine	mg/l	NT	1
10	Total Hardness as CaCO3	mg/l	215	600
11	Calcium as Ca	mg/l	57	200
12	Magnesium as Mg	mg/l	14.9	30
13	Sodium	mg/l	34	
14	Potassium	mg/l	1.8	
15	Chorides as Cl	mg/l	24	1000
16	Sulphate as SO4	mg/l	23.7	400
17	Nitrates as NO3	mg/l	7.4	45
18	Fluoride as F	mg/l	0.69	1.5
19	Phenolic compound	mg/l	<0.001	0.002
20	Cyanide	mg/l	<0.01	0.05
21	Arsenic as As	mg/l	<0.001	0.05
22	Alluminium	mg/l	<0.01	0.2
23	Mercury as Hg	mg/l	<0.001	0.001
24	Cadmium as Cd	mg/l	<0.001	0.003
25	Chromium as Cr	mg/l	<0.005	0.05
26	Iron as Fe	mg/l	0.03	0.3
27	Copper as Cy	mg/l	<0.04	1.5
28	Lead as Pb	mg/l	<0.001	0.001
29	Manganese as Mn	mg/l	<0.05	0.3
30	Zinc as Zn	mg/l	0.51	15
31	Selenium as Se	mg/l	<0.01	0.01

**Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16**

<b>32</b>	Boron	<b>mg/l</b>	<0.2	1
<b>33</b>	Detergent as MBAS	<b>mg/l</b>	<0.2	1
<b>34</b>	Oil & Grease	<b>mg/l</b>	Nil	0.03
<b>35</b>	Pesticides	<b>mg/l</b>	Absent	Nil
<b>36</b>	Total Coliform	MPN/100 ml	Nil	Nil
<b>37</b>	E.Coli	MPN/100 ml	Nil	Nil

Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16

GMR Energy	Project Site	SJK Powergen Ltd, Shahdol, Madhya Pradesh		
	Sample	Ground Water		
	Location	Village - Kanchanpur		
	Sampling Date	24 - 11 - 2016		
<b>TEST RESULTS</b>				
SL. No.	Parameters	Unit	Result observed	Permissible Limit as per IS:10500
1	pH		7.29	6.5 ~ 8.5
2	Conductivity	µmhos/cm	765	
3	Colour	Hazan unit	Colourless	15
4	Odour		Unobjectionable	
5	Taste		Agreeable	
6	Turbidity	NTU	2.2	5
7	TDS	mg/l	565	2000
8	Total Alkalinity	mg/l	178	600
9	Residual Chlorine	mg/l	NT	1
10	Total Hardness as CaCO <sub>3</sub>	mg/l	212	600
11	Calcium as Ca	mg/l	59	200
12	Magnesium as Mg	mg/l	16.2	30
13	Sodium	mg/l	41	
14	Potassium	mg/l	1.9	
15	Chlorides as Cl	mg/l	32	1000
16	Sulphate as SO <sub>4</sub>	mg/l	24.2	400
17	Nitrates as NO <sub>3</sub>	mg/l	8.9	45
18	Fluoride as F	mg/l	0.69	1.5
19	Phenolic compound	mg/l	<0.001	0.002
20	Cyanide	mg/l	<0.01	0.05
21	Arsenic as As	mg/l	<0.001	0.05
22	Alluminium	mg/l	<0.01	0.2
23	Mercury as Hg	mg/l	<0.001	0.001
24	Cadmium as Cd	mg/l	<0.001	0.003
25	Chromium as Cr	mg/l	<0.005	0.05
26	Iron as Fe	mg/l	0.04	0.3
27	Copper as Cu	mg/l	<0.22	1.5
28	Lead as Pb	mg/l	<0.001	0.001
29	Manganese as Mn	mg/l	<0.05	0.3
30	Zinc as Zn	mg/l	0.53	15

**Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16**

<b>31</b>	Selenium as Se	mg/l	<0.01	0.01
<b>32</b>	Boron	mg/l	<0.2	1
<b>33</b>	Detergent as MBAS	mg/l	<0.2	1
<b>34</b>	Oil & Grease	mg/l	Nil	0.03
<b>35</b>	Pesticides	mg/l	Absent	Nil
<b>36</b>	Total Coliform	MPN/100m l	Nil	Nil
<b>37</b>	E.Coli	MPN/100m l	Nil	Nil

Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16

<b>GMR Energy</b>	<b>Project Site</b>	SJK Powergen Ltd, Shahdol, Madhya Pradesh		
	<b>Sample</b>	Ground Water		
	<b>Location</b>	Village - Dhurvar		
	<b>Sampling Date</b>	24 - 11 - 2016		
<b>TEST RESULTS</b>				
<b>SL. No.</b>	<b>Parameters</b>	<b>Unit</b>	<b>Result observed</b>	<b>Permissible Limit as per IS:10500</b>
1	pH	-	7.72	6.5 ~ 8.5
2	Conductivity	µmhos/cm	602	-
3	Colour	Hazan unit	Colourless	15
4	Odour	-	Unobjectionable	-
5	Taste	-	Agreeable	-
6	Turbidity	NTU	2.3	5
7	TDS	mg/l	472	2000
8	Total Alkalinity	mg/l	166	600
9	Residual Chlorine	mg/l	NT	1
10	Total Hardness as CaCO <sub>3</sub>	mg/l	185	600
11	Calcium as Ca	mg/l	49	200
12	Magnesium as Mg	mg/l	13.8	30
13	Sodium	mg/l	34	-
14	Potassium	mg/l	1.8	-
15	Chlorides as Cl	mg/l	24	1000
16	Sulphate as SO <sub>4</sub>	mg/l	23.7	400
17	Nitrates as NO <sub>3</sub>	mg/l	17	45
18	Fluoride as F	mg/l	0.69	1.5
19	Phenolic compound	mg/l	<0.001	0.002
20	Cyanide	mg/l	<0.01	0.05
21	Arsenic as As	mg/l	<0.001	0.05
22	Aluminium	mg/l	<0.01	0.2
23	Mercury as Hg	mg/l	<0.001	0.001
24	Cadmium as Cd	mg/l	<0.001	0.003
25	Chromium as Cr	mg/l	<0.005	0.05
26	Iron as Fe	mg/l	0.03	0.3
27	Copper as Cu	mg/l	<0.04	1.5
28	Lead as Pb	mg/l	<0.001	0.001
29	Manganese as Mn	mg/l	<0.05	0.3

**Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16**

<b>30</b>	Zinc as Zn	<b>mg/l</b>	0.51	15
<b>31</b>	Selenium as Se	<b>mg/l</b>	<0.01	0.01
<b>32</b>	Boron	<b>mg/l</b>	<0.2	1
<b>33</b>	Detergent as MBAS	<b>mg/l</b>	<0.2	1
<b>34</b>	Oil & Grease	<b>mg/l</b>	Nil	0.03
<b>35</b>	Pesticides	<b>mg/l</b>	Absent	Nil
<b>36</b>	Total Coliform	MPN/100 ml	Nil	Nil
<b>37</b>	E.Coli	MPN/100 ml	Nil	Nil



Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16

<b>GMR Energy</b>	<b>Project Site</b>	<b>SJK Powergen Ltd, Shahdol, Madhya Pradesh</b>		
	<b>Sample</b>	<i>Surface Water</i>		
	<b>Location</b>	<i>Son River</i>		
	<b>Sampling Date</b>	<b>24 - 11 - 2016</b>		
	<b>TEST RESULTS</b>			
<b>SL. No.</b>	<b>Parameters</b>	<b>Unit</b>	<b>Result observed</b>	<b>Test Methods</b>
1	pH		8	APHA-4500
2	Conductivity	µmhos/cm	305	APHA-2510
3	Colour	Hazan unit	colourless	APHA-2120B
4	Turbidity	NTU	4	APHA-2130B
5	TDS	mg/l	250	APHA-2540B
6	Suspended solids	mg/l	9	APHA-2540D
7	Total Alkalinity	mg/l	85	APHA-2320B
8	Total Hardness as CaCO <sub>3</sub>	mg/l	75	APHA-2340C
9	Dissolved oxygen	mg/l	5.1	APHA-4500C
10	BoD , 5 days 20 Deg C	mg/l	2.9	APHA-5210B
11	COD	mg/l	7	APHA-5220C
12	Calcium as Ca	mg/l	23	APHA-4500B
13	Magnesium as Mg	mg/l	4.7	APHA-4500B
14	Chlorides as Cl	mg/l	17	APHA-4500B
15	Sulphate as SO <sub>4</sub>	mg/l	9.1	APHA-4500E
16	Nitrates as NO <sub>3</sub>	mg/l	4.6	APHA-4500
17	Fluoride as F	mg/l	0.33	APHA-4500D
18	Phenolic compound	mg/l	<0.001	APHA-5230D
19	Cyanide	mg/l	<0.01	APHA-4500E
20	Alluminium	mg/l	<0.01	APHA-3111B
21	Selenium as Se	mg/l	<0.01	APHA-3111B
22	Arsenic	mg/l	<0.001	APHA-3114
23	Mercury as Hg	mg/l	<0.001	APHA-3112
24	Cadmium as Cd	mg/l	<0.001	APHA-3111B
25	Chromium as Cr	mg/l	<0.005	APHA-3111B
26	Iron as Fe	mg/l	0.024	APHA-3111B
27	Copper as Cu	mg/l	<0.01	APHA-3111B
28	Lead as Pb	mg/l	<0.01	APHA-3111B
29	Manganese as Mn	mg/l	<0.05	APHA-3111B
30	Zinc as Zn	mg/l	0.17	APHA-3111B
31	Oil & Grease	mg/l	Nil	APHA-4500D
32	Total Coliform	MPN/100ml	860	APHA-9230B

*Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16*

<b>GMR Energy</b>	<b>Project Site</b>	<b>SJK Powergen Ltd, Shahdol, Madhya Pradesh</b>		
	<b>Sample</b>	<i>Surface Water</i>		
	<b>Location</b>	<i>Surfa River</i>		
	<b>Sampling Date</b>	<b>25 - 11 - 2016</b>		
<b>TEST RESULTS</b>				
<b>SL. No.</b>	<b>Parameters</b>	<b>Unit</b>	<b>Result observed</b>	<b>Test Methods</b>
1	pH		7.79	APHA-4500
2	Conductivity	µmhos/cm	185	APHA-2510
3	Colour	Hazan unit	colourless	APHA-2120B
4	Turbidity	NTU	3	APHA-2130B
5	TDS	mg/l	142	APHA-2540B
6	Suspended solids	mg/l	10	APHA-2540D
7	Total Alkalinity	mg/l	65	APHA-2320B
8	Total Hardness as CaCO <sub>3</sub>	mg/l	55	APHA-2340C
9	Dissolved oxygen	mg/l	5.3	APHA-4500C
10	BoD , 5 days 20 Deg C	mg/l	3.4	APHA-5210B
11	COD	mg/l	9	APHA-5220C
12	Calcium as Ca	mg/l	15	APHA-4500B
13	Magnesium as Mg	mg/l	2.7	APHA-4500B
14	Chlorides as Cl	mg/l	9	APHA-4500B
15	Sulphate as SO <sub>4</sub>	mg/l	5.6	APHA-4500E
16	Nitrates as NO <sub>3</sub>	mg/l	4.4	APHA-4500
17	Fluoride as F	mg/l	0.29	APHA-4500D
18	Phenolic compound	mg/l	<0.001	APHA-5230D
19	Cyanide	mg/l	<0.01	APHA-4500E
20	Alluminium	mg/l	<0.01	APHA-3111B
21	Selenium as Se	mg/l	<0.01	APHA-3111B
22	Arsenic	mg/l	<0.001	APHA-3114
23	Mercury as Hg	mg/l	<0.001	APHA-3112
24	Cadmium as Cd	mg/l	<0.001	APHA-3111B
25	Chromium as Cr	mg/l	<0.005	APHA-3111B
26	Iron as Fe	mg/l	0.023	APHA-3111B
27	Copper as Cu	mg/l	<0.01	APHA-3111B
28	Lead as Pb	mg/l	<0.01	APHA-3111B
29	Manganese as Mn	mg/l	<0.05	APHA-3111B
30	Zinc as Zn	mg/l	0.19	APHA-3111B
31	Oil & Grease	mg/l	Nil	APHA-4500D
32	Total Coliform	MPN/100ml	725	APHA-9230B

Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16

<b>GMR Energy</b>	<b>Project Site</b>	<b>SJK Powergen Ltd, Shahdol, Madhya Pradesh</b>		
	<b>Sample</b>	<i>Surface Water</i>		
	<b>Location</b>	<i>Kakrehli Nala</i>		
	<b>Sampling Date</b>	25 - 11 - 2016		
<b>TEST RESULTS</b>				
<b>SL. No.</b>	<b>Parameters</b>	<b>Unit</b>	<b>Result observed</b>	<b>Test Methods</b>
1	pH	-	7.72	APHA-4500
2	Conductivity	µmhos/cm	335	APHA-2510
3	Colour	Hazan unit	colourless	APHA-2120B
4	Turbidity	NTU	3	APHA-2130B
5	TDS	mg/l	230	APHA-2540B
6	Suspended solids	mg/l	12	APHA-2540D
7	Total Alkalinity	mg/l	122	APHA-2320B
8	Total Hardness as CaCO <sub>3</sub>	mg/l	95	APHA-2340C
9	Dissolved oxygen	mg/l	4.3	APHA-4500C
10	BoD , 5 days 20 Deg C	mg/l	4.7	APHA-5210B
11	COD	mg/l	15	APHA-5220C
12	Calcium as Ca	mg/l	27	APHA-4500B
13	Magnesium as Mg	mg/l	5	APHA-4500B
14	Chlorides as Cl	mg/l	19	APHA-4500B
15	Sulphate as SO <sub>4</sub>	mg/l	9.7	APHA-4500E
16	Nitrates as NO <sub>3</sub>	mg/l	6.5	APHA-4500
17	Fluoride as F	mg/l	0.47	APHA-4500D
18	Phenolic compound	mg/l	<0.001	APHA-5230D
19	Cyanide	mg/l	<0.01	APHA-4500E
20	Alluminium	mg/l	<0.01	APHA-3111B
21	Selenium as Se	mg/l	<0.001	APHA-3111B
22	Arsenic	mg/l	<0.001	APHA-3114
23	Mercury as Hg	mg/l	<0.001	APHA-3112
24	Cadmium as Cd	mg/l	<0.001	APHA-3111B
25	Chromium as Cr	mg/l	<0.005	APHA-3111B
26	Iron as Fe	mg/l	0.035	APHA-3111B
27	Copper as Cu	mg/l	<0.02	APHA-3111B
28	Lead as Pb	mg/l	<0.01	APHA-3111B
29	Manganese as Mn	mg/l	<0.05	APHA-3111B
30	Zinc as Zn	mg/l	0.46	APHA-3111B
31	Oil & Grease	mg/l	Nil	APHA-4500D
32	Total Coliform	MPN/100ml	1450	APHA-9230B

*Environmental Monitoring Data – SJK Powergen Ltd, Shahdol, | During July`16 ~ Dec`16*

<b>GMR Energy</b>	<b>Project Site Sample</b>	<b>SJK Powergen Ltd, Shahdol, Madhya Pradesh</b>		
	<b>Location</b>	<b>Noise Quality</b>		
	<b>Sampling Date</b>	<b>Ambient Noise Level</b>		
	<b>TEST RESULTS</b>			
<b>Location</b>	<b>Day Time Leq: dB (A)</b>	<b>Day Time Standard Leq: dB (A)</b>	<b>Night Time Leq: dB (A)</b>	<b>Night Time Standard Leq: dB (A)</b>
<b>Project Site</b>	53	77	41.7	70
<b>Village - Lalpur</b>	49	55	40	45
<b>Village - Kanchanpur</b>	53.5	55	41.9	45
<b>Village - Dhurvar</b>	52.7	55	42	45

# Half Yearly Report

## April – September 2016

### CSR Activities



**GMR**

**Varalakshmi Foundation**

**And**

**SJK Powergen Ltd.**

**(Shahdol, Madhya Pradesh)**

#### 1. Highlights of CSR Activities

*A. Facilitated selection and admission of 10 students in Navodaya & Gyanodaya Schools.*

- B. Reached out to 194 underserved households in Pre- school education program*
- C. Covered 102 students under Kid Smart Program*
- D. Registered 735 cases through 5 general health camps.*
- E. Technology transfer to 72 farmers in SRI, Maize & Ginger Cultivation*
- F. Covered 625 women through women SHG program*
- G. Network established with Nabard & leveraged funds for Farmers Club & Poultry activities*
- H. Structured program for Hand pump repair in collaboration with Gram Panchayat*

## **2. Introduction**

### **A. Location and Villages Covered**

**SJK Powergen Limited (a GMR Group Company)** is setting up a 1320MW thermal power plant near Lalpur village, Sohagpur block of Shahdol district in Madhya Pradesh. The village is 15 km from Shahdol district headquarters on NH 78.

**Lalpur Village:** Lalpur is one of the biggest villages in Sohagpur block. It is a Gram Panchayat with 20 wards and comprised of seven hamlets equidistant from Lalpur main hamlet. It has a population of around 7000 with around 47% of underserved communities. The village is having one Government High School, two Middle Schools, eight Primary Schools, six Aaganwadis and a Health Sub Center. All the land loser families belong to Lalpur village and GMRVF engagement with community started in August, 2010.

**Chhata Village:** Chhata village is around 4 Kms away from the proposed plant site and is part of Chhata Gram Panchayat. It is crucial for project in terms of railway siding activity. The village has population of around 1200 with 65% of ST community. It has Primary school, Middle school and Aaganwadi. GMRVF started its activities in this village in June, 2011.

### **B. GMRVF Team at Shahdol:**

Currently a Program Manager (based at Delhi) is leading a team of a Senior Program Assistant and fourteen dedicated volunteers. The volunteers are from village Lalpur itself and are from families who has supported the project by giving their land.

## **3. Education:**

In the FY 2016-17, the education programs of the location are being supported by CSR activities of Delhi International Airport Limited (DIAL), New Delhi with a mandate to cover 400 students through various learning enhancement programs. In the reporting period total 246 students have been covered.

### **A. Support to Government Schools:**

- a. Supplementary Classes:** Foundation has supported 2 Govt Primary Schools of village Lalpur where the teaching support is being provided to 72 students of standard I & II through deployment of Vidya volunteers. The schools do not have adequate number of teachers and requested for support.
- b. Felicitation of Meritorious Students:** 26 Students of project village Lalpur who have secured 1<sup>st</sup> division in X & XII standard examination were felicitated during the Independence Day celebrations

and have provided school bag. Gram Panchayat members along with SJKPL employee & parents graced the occasion. This has created huge goodwill amongst parents and community.

- c. **Shoe Distribution Program:** Foundation in collaboration with TOMS has distributed shoes to all the students of schools and Aaganwadis of villages Lalpur. In the reporting period total 1361 students were covered through this initiative. There was overwhelming support from the teachers and members of Parent Teachers Association (PTA) of all the schools in successful organization of activities.

#### B. Pre-School Education:

To provide quality pre-school education at the project location, GMRVF has established two Aaganwadi Centers in tribal dominated hamlets at Kakrahli and Barhai of village, Lalpur in May 2011. The centers have been established in collaboration with ICDS program of Women and Child Welfare Department (WCD), Shahdol where the ICDS supports mid-day meal, take home ration and vaccinations. The program focuses on pre-school learning of children through creative methods and fortnightly learning level tests are conducted. Total 51 children of age 3-6 years are being covered. In the Mother's meeting information about children progress, results of monthly learning test, nourishment and cleanliness is shared. Mangal Diwas events are celebrated every Tuesday of the month to reach out to different target groups. Besides this, the centers provide all the services of ICDS program such as supplementary nutrition to adolescent girls, pregnant and lactating women etc. Total 194 households with across two hamlets with population of 1207 are being covered through this initiative.



#### C. Tuition Centers:

Coaching classes for Navodaya and Eklavya School entrance examination in previous year has resulted in selection of 1 girl student in Navodaya School. This year admission of 9 more students were also facilitated in Gyanodaya School which is a district level residential school for BPL families. The students were facilitated and a hostel kit as part of scholarship was supported. This year 19 children are being provided coaching since Apr, 16 after completion of school level screening process. The parents are regularly sensitized through monthly meeting. A parent committee has been formed to facilitate the application form filling and submission process.

#### D. Kid Smart Centers:

The Kid Smart classes were organized with 102 students of Std II & IV in three different batches. There were 2 hour sessions daily in morning & afternoon hours. Regular classes as per the designed syllabus of were carried out followed by fortnightly tests. The progress is being shared in the monthly mothers meeting.

### 4. Health, Hygiene & Sanitation:

#### A. Medical Clinics:

Since the existing set up was in the outskirts of village the turnout and number of cases were very meager. It has been planned to relocate the clinic inside the village and a place has been identified. The new clinic will start functioning in first week of Oct, 16 on weekly basis.

#### **B. Health Camps:**

To provide quality and need based health services to rural populace and to reach out to community, 5 general health camps were organized in the reporting period. A total of 735 cases were registered and treated in these camps. The camps were strategically organized in the underprivileged hamlets which registered 80% cases from the target community. There has been an effort to build networks with Gram Panchayat, Women and Child Welfare Department (WCD), Health and departments etc in organizing health camps. A dental check up camp was also organized in schools. Around 68% of the cases are from women and children.



#### **C. Preventive Health Care:**

- a. **Adolescent Girls Program:** Under this activity 13 Kishori Shakti Groups (Groups of adolescent girls) with 114 members have been promoted across 8 Aaganwadis, where periodic training programs on personal health and hygiene aspects of adolescence period are conducted. To generate interest among group members an exchange library has been established with books on health awareness, general knowledge and hobbies.
- b. **Health Awareness Programs:** Awareness programs were organized focusing on diseases like Malaria, Vitamin A deficiency and skin diseases through community platforms like Self Help Groups and adolescent peer groups and Aaganwadis. Information on personal health & hygiene were shared and topics of physical & hormonal changes, personal cleanliness & nutritional aspects were discussed in the Mangal Diwas events.

#### **D. Swachh Bharat Abhiyan:**

In the FY 2016-17, the Swachh Bharat Abhiyan programs of the location are being supported by CSR activities of Delhi International Airport Limited (DIAL), New Delhi with a mandate to facilitate 2 toilets at Govt Schools/ Aaganwadis. In the reporting the ICDS department has given its consent to have establishment of toilet at one of the Aaganwadi in village Lalpur. The area has been demarcated and the structure design has been completed. The discussion is on with the Govt schools for having a toilet. The option of having individual sanitary latrines in households is also being weighed as per demand of the community.

### **5. Empowerment and Livelihoods:**

#### **A. Community Level Training Programs:**



a. **Training of Farmers on improved techniques:** Training of farmers on improved agricultural techniques was one of the prominent activities of the reporting period. Small and marginal farmers were targeted for support in Agriculture based livelihood programs. Season and crop based programs were conducted with demonstration plots; need based exposure visits and regular interaction as the core elements. Total 72 farmers were trained through the initiative. The Farmer's Information Centre provides information on Agri-extension activities on applicable technology with quality training inputs. It also has a pool of Agri-implements well suited for marginal and small farmers, which are being hired out on nominal charges. Farmers have taken membership of center by paying nominal yearly fee who meets on monthly basis to plan out their agricultural activities. There has been good support from Nabard & Krishi Vigya Kendra in term sof technical support and visits.

b. **Technology Transfer through Demonstrations:** In the reporting period interventions were done with crops of Paddy, Maize & Ginger. With successful implementation of SRI technique in last four years which had impacted in term of growth in production, the response from the farmers was overwhelming to adopt the technique. This time 53 demonstration plots with total area of 32 Acres have been raised. The farmers who have tried last year have increased their coverage 2-3 times. Field follow-up during raising nursery was carried out. The Line sowing technique



of transplantation was done through locally made rope / bamboo marker. Specially made weeders were facilitated through FIC for effecting weeding process. Similarly line sowing & plant to plant distance technique was initiated in Maize and good result in terms of 40% increase in production was observed across all the 36 plots. This time demonstration of Ginger as possible cash crop has been initiated with farmers. Meanwhile 3 Farmers clubs were established in village Lalpur with support from Nabard who will support Rs 0.10 Lakh per year per club for technology transfer process & maintenance of clubs. Preparations are on for demonstrations for potato crop.

#### B. **Self Help Groups:**

The SHG program has been consolidated with increase in bank linkages and credit facilities. The program covers 625 women across 55 SHGs with fortnightly meetings. 80% of the members are from underserved communities. The program has 90% on time repayment. Regular training programs are organized for office bearers to clarify their roles and responsibilities, managing group meetings and bank related works. 3 more SHGs have been facilitated Cash Credit Limit (CCL) from Punjab National Bank (PNB) and credit limit has been increased in 2 SHGs. Similarly SHGs were also linked with National Rural Livelihood Mission (NRLM) an umbrella program of Central Govt for livelihoods. In the month of Sep, 15 cluster level sammelans were organized for dialogue on cluster structure, livelihood & finances was organized 5 clusters. Member's feedback on benefits of the program was taken and SHG wise members were selected to represent clusters.

#### C. **Promotion of Livelihood Activities:**

- a. **Backyard Poultry:** In the reporting period total sale of chicks was 4.50 MT with turnover of Rs 3.87 Lakh, which quite low in previous years. The activity suffered a setback due to intermittent heavy rains and low market demand and comparatively high input cost, which has refrained the members to invest in rearing rounds in this period. It is expected to have increase in selling rate in coming festive season onwards. Meanwhile the time was utilized to the increase the numbers at individual level and making of full-fledged poultry sheds. Discussion with local vendors were made for supply of chicks and poultry feed and buy back arrangements were made. It was negotiated to supply poultry feed on credit basis which will be adjusted against the buy back.

#### 6. Community Development :

- A. **Community Library:** The usage of library has registered around 225 footfalls per week mostly from children. To continue retention of visitors, creative activities on paper craft, origami and science were conducted. Indoor games like carom, chess, snake and ladders were included to the library. Monthly quiz competition on current affairs was organized and prizes were distributed. The membership drive has resulted in 81 regular members with the facility of issuing books on weekly basis on depositing of caution money.

B. **Hand pump repair drive:**

Hand pumps repair drive was continued in village Lalpur in consultation with Gram Panchayat. Total 38 hand pumps were repaired after receiving requisition letters from community duly forwarded by respective ward members. There has been great support from community in terms of labor and onward maintenance of hand pumps. In addition to this 9 hand pumps were repaired through MP Lok Seva Guarantee scheme.

#### 7. Employee Involvement:

The lone employee of SJK Powergen Limited, Shahdol is involved in organizing GMRVF events and supported the activities. There was continued support in making liaison with District Administration for various activities.

#### 8. Achievements and Challenges:

A. **Achievements:**

Through its initiatives GMRVF has built good rapport with the community and it has also developed strong networks with the Government Departments (WCD, Health, Tribal Development and Education), Institutions (Gram Panchayat, Banks, NABARD, Krishi Vigyan Kendra) and Programs (ICDS & NRLM). There was strategic focus on reaching out to underprivileged populace through Self Help Groups, Creative Learning and health camps. Facilitating selection and admission of students in Navodaya / Eklavya and institutionalization of Farmers Information center & Poultry producers group are the highlighted achievements for the reporting period.

B. **Challenges:**

To build and maintain the pace in execution of activities vis a vis to project's requirement within the budgetary limits is a challenge.

#### 9. AOP: 2016-17 Target Vs Achievements

S.No	Thrust Areas	Sub Heads	AOP Target	Achievement
1	Education	Pre School Education	400 Students	246 Students
		Govt School		
		Learning centers		
2	Health, Hygiene and Sanitation	Medical Clinic	750 Cases	0 Cases
		Medical Camps	12 Camps, 1200 Cases	5 Camps, 735 Cases
		Swach Bharat Abhiyan	2 Toilets	-
3	Empowerment and Livelihoods	Vocational Training	NIL	NIL
		Household Rs 500/ month Livelihood Training	150	116

### **10.Strategic Direction for the next half Year 2016-17:**

In the next half of the year focus will be on education & Swach Bharat activities as part of the CSR program of DIAL. There will also be focus of activities like Kid Smart Centre and Navodaya programs. Special focus will be given on under-privileged population and project affected families and leveraging from different stakeholders for the program.



-----\$ The End \$-----



Annexure 4

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**कृषि महोत्सव एवं फसल श्रीमा राशि प्रमाण-पत्र  
वितरण विषय पर चौदहवें कोफ्रेंसिंग आज**

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<b>आम सूचना</b>	
<b>एस.जे.के.पावरजेल लिमिटेड</b>	
2X660 मेगावाट सुपर ट्रेडिंकल कोसला आधारित ताप विद्युत संयंत्र लालपुर, जिला : शहडोल (म.प्र.)	
सर्वसाधारण को सूचित किया जाता है कि ऊपर उल्लिखित परियोजना को पूर्ण रूप से पूरा दि गई है। मजदूरी पत्र की प्रतियां राज्य प्रमुख निर्यात बोर्ड/संघों के साथ उपलब्ध हैं और इसे पर्यवेक्षण एवं वित्त प्रकल्प के वेबसाइट <a href="http://envfor.nic.in">http://envfor.nic.in</a> पर भी देखा जा सकता है।	
(निजीय न्यायिक नगरपालिकाई, 6040/87) आलायिकारी, प्रचारक तथा सुदूर जोड़सूचना 1 245924 (क) संपादन : पत्रसोदर विपरीत को.नं. 9425302010 प्रकाश संकाय : दूरत स्यादु गिवा (0)	

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