SJVN Thermal Pvt. Ltd.

A wholly owned subsidiary of SJVN Ltd.-
A Mini
Ratna& Scheduled 'A' PSU
Buxar Thermal Power Project (1320 MW)

☎: 0612-2219224 🖷: 0612-2219370
CIN:U31908BR2007PTC017646 Email: liaisonpatna@gmail.com

STPL/BTPP/Envt./16- 174 **Dated: 30.04.2016**

To,

Director, IA division,
MoEF&CC, Govt. of India,
Indira Paryavaran Bhawan,
Jor Bagh, Aliganj,
New Delhi- 110003
Kind Attention: Sh. Manoj Kumar Gangeya, Director (MoEF&CC)

Subject: Approval of Terms of Reference for conducting EIA/EMP studies for SJVN Thermal Private Limited's (STPL's) 1320 MW Buxar Thermal Power Project (BTPP) in the state of Bihar- regarding

Dear Sir,

SJVN Thermal Pvt. Ltd., is a wholly owned subsidiary of SJVN Limited (a Mini Ratna & Schedule 'A' Central Public Sector Utility, under the Ministry of Power, Govt. of India). SJVN signed an MOU on 17.01.2013 with Bihar State Power (Holding) Company Limited & Bihar Power Infrastructure Company Limited to take over Buxar Bijlee Company Pvt. Ltd for the implementation of 1320 MW Buxar Thermal Power Project ***(Copy enclosed).*** The name of the Buxar Bijlee Company (P) Ltd. was subsequently changed to SJVN Thermal Pvt. Ltd. ***(Copy enclosed)***

It may be noted that the Terms of Reference (ToR) for carrying out the EIA studies were communicated by MoEF&CC vide letter dated 10.09.2008. The following are the chronology of events with respect to this project starting from ToR approval from MoEF&CC:

- Obtaining ToR approval for the project – 10th September 2008.
- Based on the approved ToR, EIA/EMP report was prepared and submitted to Bihar State Pollution Control Board for conducting public hearing on 31st May, 2010.
- The public hearing for the project was conducted on 30th July 2010 and the EIA/EMP report along with the public hearing CD and minutes of meeting was submitted to MoEF&CC on 19th Nov 2010. (Copy enclosed)
- MoEF&CC on 1st Nov 2010 issued an office memorandum stating that Projects having confirmed coal linkage would be considered for appraisal by EAC for Environment Clearance. Since the project was awaiting fuel linkage, the project was not listed for EAC.

- In Feb 2013, MoEF&CC issued an office memorandum which allowed consideration of Thermal Power Projects which are dependent on domestic coal supply from CIL/SCCL basket of Mines. The Project Company sent a request letter to MoEF&CC to consider the Buxar Power Project for appraisal as the project was also slated for domestic coal linkage.

  Coal block was allocated for the Project by Ministry of Coal on 6th Sep 2013. However, there was another office memorandum of MoEF&CC which stipulated getting first stage forest clearance to the allotted coal mine as a pre-requisite for considering the project for appraisal by EAC and therefore, the project was not taken-up for appraisal.
- STPL has now tied-up imported coal through MMTC for the intervening period of production of coal from coal block and proposed date of commissioning of the power plant. (Copy enclosed)
- STPL also invited "Expression of Interest (EoI)" for the off-take of fly ash from the proposed Power Plant and had obtained enough responses including comfort letters from Bihar Rural Construction Department and Road Department for tying-up the fly ash to be generated from the plant.
- So far as land acquisition for the project is concerned, out of the 1064.69 acres of Land Requirement for the project, about 1000.39 acres has already been acquired and compensation in line with Land Acquisition and Resettlement & rehabilitation Act, 2013 has also been disbursed to the rightful beneficiaries.
- In the meanwhile, STPL carried out revised baseline studies from March-May 2015 (Copy enclosed), wherein no significant change was observed when compared with the earlier EIA report. The District Magistrate (Buxar) on 23.05.2015 has certified that no major industries have been established in the vicinity of the project study area (Copy enclosed).
- Based on the revised baseline data, STPL prepared an addendum EIA report updating the data related to baseline, revised predictions and Environment Management Plan (EMP) and submitted its application to MoEF&CC on 11th April 2016 for seeking environment clearance for the Project.
- After examining the proposal, MoEF&CC opined that STPL should submit a fresh application for seeking approval of Terms of Reference (ToR).

Based on the above, please find enclosed the copy of filled-up Form-I, proposed terms of reference and the Pre-feasibility Report of the project, with the following requests:

a) To **issue ToR for conducting the EIA/EMP studies** of the project.

b) Considering that there is no change in baseline data from the earlier EIA study and the concerned DM Buxar has also confirmed that no new industries have come up in the project area, **usage of baseline data collected during the period March-June 2015 may be permitted for the purpose of preparation of the EIA/EMP report**.

c) Considering that about 90% of the land has already been acquired and compensation to the land owners has already been made without any resistance; (which shows that the local populace is more or less in favour of the project), also there is no change in the installed capacity, project components and features as envisaged earlier at the time of already conducted public hearing; **carrying out fresh public hearing be exempted**.

Considering that the Buxar Thermal Power Project is of national importance and will be instrumental in improving the power scenario and development in the state of Bihar in particular and the Nation as a whole and progress of the same is being monitored by PM Office, it is requested that fresh ToR may be issued with the above exemptions.

Submitted for your kind consideration please.

Yours faithfully,

30/04/2016

(Parveen Gupta)
Chief Executive Officer,
SJVN Thermal Pvt. Ltd.

Enclosures:

1. MoU dated 17.012013 amongst SJVN Limited, Bihar State Power (Holding) Company Limited & Bihar Power Infrastructure Company Limited.
2. Letter of incorporation of SJVN Thermal Private Limited.
3. Letter from Bihar State pollution control board to MoEF&CC.
4. Baseline data report (2015)
5. MoU dated 24.02.2016 amongst SJVN Thermal Private Limited & MMTC for supply of imported coal.
6. Letter from DM (Buxar) dated 23.05.2015.
7. Completed Form-I in respect of Buxar Thermal Power Project along with Pre-Feasibility Report, proposed terms of reference and survey of India Topo sheet.

Memorandum of Understanding for 2 X 660 MW Buxar Thermal Power Project (BTPP)

CP-4

भारतीय गैर न्यायिक

एक सौ रुपये Rs. 100

रु. 100 ONE HUNDRED RUPEES

भारत INDIA

INDIA NON JUDICIAL

H 432574

सुशील किशोर प्रसाद, मुद्रांक विक्रेता
हाo नं०-8/77, कलक्ट्रेट, पटना

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (hereinafter referred to as "MOU") is entered on 17th day of January Two Thousand Thirteen (17.01.2013) at Patna:

Amongst

Bihar State Power (Holding) Company Limited, a company incorporated under Companies Act, 1956 having its registered office at Vidyut Bhawan, Bailey Road, Patna, Bihar - 800021 (hereinafter referred as **"BSPHCL"**, which expression shall unless repugnant to the context thereof, include its successors and permitted assigns);

and

SJVN Limited, a Joint venture of Govt. of India and Govt. of Himachal Pradesh (a Mini Ratna & Schedule 'A' Public Sector Undertaking) having its registered office at Himfed Building, New Shimla, Shimla (HP) – 171009 (hereinafter referred as **"SJVNL"**, which expression shall unless repugnant to the context thereof, include its successors and permitted assigns).

and

Bihar Power Infrastructure Company Private Limited, incorporated under the Companies Act 1956, having its Registered Office at C/O IL&FS Infrastructure Corporation Ltd., 4B, First Floor, Shree Krishna Puri, Patna – 800001, (hereinafter referred to as **"BPIC"**, which expression shall be, unless repugnant to the context or meaning thereof, deemed to include its successors and permitted assigns).

(each of the "BSPHCL", "SJVNL", and "BPIC" are individually referred as "Party" and collectively to as the "Parties")

Chief Engineer (Transmission (O & M)
Bihar State Power (Holding) Com. Ltd., Patna

R. P. Singh
CMD
SJVN Limited
Himfed Building
New Shimla (H.P.)171009

Bihar Power Infrastructure Co. Pvt. Ltd. Patna

Whereas:

A) BSPHCL was constituted vide Bihar Government's Notification No. 999 dated 6th March 2012. BSPHCL was given the responsibility of undertaking planning, promoting and developing the power sector in the state of Bihar including generation, transmission, distribution and trading activities related to power.

B) BPIC, a 50:50 Joint Venture Company of Govt. of Bihar/ Bihar State Electricity Board (BSEB) and Infrastructure Leasing & Financial Services Limited (IL&FS) was formed under the Memorandum of Agreement (MOA) dated 14th December 2007, entered among Govt. of Bihar, Bihar State Electricity Board and IL&FS, for taking up the development of power projects in Bihar, including coal based thermal power projects.

C) BPIC in consultation with Govt. of Bihar and BSPHCL, *erstwhile BSEB*, initiated the project development activities for setting up of coal based thermal power generation facility having an installed capacity of 1320 MW near village Chausa, District Buxar in Bihar, comprising two power generating units, each having an installed capacity of 660 MW, together with all other related facilities and assets required for efficient and economic operation of the power generation facility (the "**Project**").The Project is housed in a Special Purpose Vehicle/ Company namely, Buxar Bijlee Company Private Limited (the **"Project Company"**). The Project got the approval of State Investment Promotion Board as well as the State cabinet. The Power Purchase Agreement (PPA) has already been executed between Bihar State Electricity Board and the Project Company on 05.01.2011 on the basis of norms of the CERC (Terms and Conditions of Tariff) Regulations, 2009 as amended from time to time.

D) SJVNL, a Joint Venture Company of Govt. of India (GOI) & Govt. of Himachal Pradesh (GOHP), approached the Govt. of Bihar and BSPHCL and expressed its keen interest for setting up of a coal based thermal power generation facility at District Buxar in Bihar.

E) BPIC had initiated discussions with SJVNL about potential opportunity for setting-up of thermal power project at Buxar in Bihar on Build, Own & Operate (BOO) basis. SJVNL expressed its keen interest for taking over the Buxar Project on BOO basis.

F) Subsequently, SJVNL has obtained the approval of its Investment Committee as well as its Board on 2nd and 3rd September 2012 respectively.

NOW THEREFORE IT IS HEREBY AGREED BETWEEN THE PARTIES HERETO AS UNDER:

1. **Definitions**

Power Purchase Agreement (PPA)

Shall mean the agreement entered between BSPHCL and the Buxar Bijlee Company Private Limited (Project Company) on 5.01.2011 pursuant to which the Project Company shall supply power to BSPHCL as per the terms

Chief Engineer (Transmission) (C & M)
Bihar State Power (Holding) Com. Ltd. Patna

R. P. Singh
CMD
SJVN Limited
Himfed Building
New Shimla (H.P.)171009

conditions specified therein including all its schedules, annexure, and all amendments or modifications. The copy of the signed PPA is enclosed at *"Annexure I"*.

2. Objective

The objectives of this MOU are as under:

1. To transfer entire 100% of equity capital of the Buxar Bijlee Company Private Limited (Project Company) to SJVNL.
2. To define the roles and responsibilities of the parties involved for successful transfer of the project and its implementation & operation.

3. Conditions subsequent to be satisfied by the Parties

The Parties agree and undertake to duly perform and complete the following milestones within a reasonable period of 24 months, as per the roles and responsibilities defined in Clause 5:

1. Approval of the Government of Bihar for transfer of Project to SJVNL.
2. Transfer the Buxar Bijlee Company Private Limited (Project Company) to SJVNL.
3. Letter of Assurance for long term coal linkage/ Allocation of Coal block.
4. Acquisition of land for the Project.

It is clarified that the conditions subsequent mentioned above are for the effectiveness of the PPA.

4. Equity Participation

The entire 100% equity capital in the Buxar Bijlee Company Private Limited (Project Company) shall be funded by SJVNL. However, SJVNL reserves the right, at its sole discretion, to divest its shares in the Company at a future date to any strategic Partner or Company. However, in no case SJVNL's equity will be less than 51%.

5. Roles and responsibilities of the parties

To accomplish the objectives as defined at Clause 2, each Party will be responsible for certain activities. These are summarized below:

5.1 Roles and responsibilities of BSPHCL

1. Obtain all necessary clearances/ approvals for the transfer of Project to SJVNL.
2. Support SJVNL in getting either coal linkage or for getting coal block allocation from Ministry of Coal. In case, coal block is allocated to BSPHCL/ GoB for power plant, transfer the block to Buxar thermal power project.
3. To execute PPA on the basis of norms of the CERC (Terms and Conditions of Tariff) Regulations, 2009 as amended from time to time.

Chief Engineer (Generation) (C...M)
Buxar Bijlee Power Holding Co. Ltd. Patna

R. P. Singh
GM
SJVN Limited
Working Position
New Delhi (M.P.T.) - 110

with Buxar Bijlee Company Private Limited (The PPA has already been executed between *erstwhile* Bihar State Electricity Board and Buxar Bijlee Company Private Limited (Project Company) on 05.01.2011 (Copy enclosed).

4. Coordinate with the government authorities and departments and support in getting Environment Clearance and land acquisition for the Project.
5. Provide all support and assistance for the approvals/ clearances, including the tariff approval by appropriate regulatory commission for the Project, etc, if required by the Buxar Bijlee Company Private Limited (Project Company).

5.2 Role & responsibilities of SJVNL

1. Obtain all approvals for the transfer of Buxar Bijlee Company Private Limited (Project Company).
2. Pay Equity Capital of the Buxar Bijlee Company Private Limited (Project Company), within a period of 90 days from the date of signing of this MOU.
3. Commit to supply BSPHCL not less than 85% power generation from the Project Company in line with the PPA executed by the Buxar Bijlee Company Private Limited (Project Company) and BSPHCL.
4. Payment of Transfer Price to BPIC as defined in Clause 6 .1 and Payment of cost of Land as defined in Clause 6.3.
5. Arrange finances for financing of the Project.
6. Follow-up with Ministry of Power and Ministry of Coal for coal linkage / coal block allocation. SJVNL may explore the option of use of alternate sources of long term supply arrangement of coal including imported coal and take consent of BSPHCL in this regard so as to expedite the Power generation from the Plant at the earliest possible time.
7. Perform all activities to design, construct, commission, manage, operate and maintain the project on Build Own Operate (BOO) basis.

5.3 Roles and responsibilities of BPIC

1. Obtain all necessary approvals from Board of Directors of BPIC for transfer of the Project to SJVNL.
2. Transfer 100% equity capital in the Buxar Bijlee Company Private Limited (Project Company) to SJVNL.
3. Coordinate with the government authorities and departments and support in getting the coal linkage/ coal block, Environment Clearance and land acquisition for the Project.
4. Provide all support and assistance for the approvals/ clearances, including the tariff approval by appropriate regulatory commission for the Project, etc, if required by the Buxar Bijlee Company Private Limited (Project Company).

R. P. Singh
CMD
SJVN Limited
Himfed Building
New Shimla (H.P.)171009

CP-2

6. Transfer Price and cost of land

6.1 The Transfer Price payable by SJVNL to BPIC, after verification of records and documents, include the following:

- All duly audited Expenses incurred by BPIC on account of Buxar Bijlee Company Pvt. Ltd. and/ or Buxar Thermal Power Project including applicable interests on loans/advances as per the provision of Clause 9 (a) read with Clause 2 (k) of the Memorandum of Agreement dated 14th Dec 2007 executed between GoB, BSEB and IL&FS and as notified by the Project Company (Buxar Bijlee Company Pvt. Ltd.) within 90 days of approval of transfer of Project to SJVNL by Govt. of Bihar.
- **Professional & Development (success) Fee** :

  The Professional & Development (success) Fee as notified in the Govt. of Bihar notification no. M-4-20/2007-119 ver(2) dated 04-01-2008 shall be payable in the manner as under within 90 days of completion of activities.

Sr. No.	Particulars	% of Total Professional & Development (success) Fee
1	On approval of Project transfer to SJVNL by Govt. of Bihar	25%
2	Signing of Agreement amongst BSPHCL, SJVNL and BPIC	15%
3	On or before transfer of Buxar Bijlee Company Private Limited (Project company) to SJVNL	20%
4	Readiness of Environment clearance application to MOEF & Presentation (except coal linkage)	15%
5	Issue of Section-4 notification for land acquisition	10%
6	Issue of Section-6 notification for land acquisition	10%
7	On completion of following activities a)Environment clearance for the Project from MOEF b)Acquisition of land for the Project	5%

6.2 The Transfer Fee shall be capitalized in the project cost.

Chief Engineer Transmission (O & M)
Bihar State Power (Holding) Com. Ltd., Patna

R. P. Singh
CMD
SJVN Limited
Himfed Building
New Shimla (H.P.)171009

6.3 Cost of land

The payment towards acquisition of land will be released by SJVNL on behalf of Buxar Bijlee Company Private Limited (Project Company) for cost of land plus 5% service charge to IDA after transfer of the Project to SJVNL, as and when required by the competent Government Authority.

7. Validity of the MOU

Unless extended by mutual consent, this MOU shall be valid and effective for 24 months from the date of signing of this MOU, during which period parties will take effective steps for the completion of activities outlined in this MOU. It is agreed between the parties that prior to the expiry of this MOU, the parties between them shall decide whether to extend the validity of this MOU or not. In the event it is decided to do so, the same shall be in the form of a written document signed by all the parties.

This MOU affirms the commitment of SJVNL to establish a Thermal Power Plant and assistance of the BSPHCL & BPIC for all project related clearances and coal linkage including access, rights of way and other inputs etc. as per applicable law and rules.

8. Termination

In case of failure on the part of any party to comply with its obligations provided under Clause 5, the affected party reserves the right to terminate the MOU with 60 days notice or any other extended period.

9. Assignment

This MOU shall ensure to the benefit of the Parties hereto and to their respective successors and permitted assigns. No Party shall assign this MOU to any other Party without the prior written consent of the other Party, which written consent shall not be unreasonably withheld by the other party.

10. Confidentiality

The Parties acknowledge that confidentiality of the information, which may be transferred between the Parties from time to time, is essential to this MOU and agree not to disclose the same to any third party. However, each Party shall be free to disclose such information as is:

- Part of the public domain at the time of disclosure, or;
- Required to be disclosed in accordance with the Applicable Law;
- To their professional advisors;
- To their officers, employees, agents or representatives, who need to have access to such information for the proper performance of their activities;

R. P. Singh
CMD
SJVN Limited
Himfed Building
New Shimla (H.P.)171009

Chief Engineer (Procurement) (C. & M.)
Bihar State Power (Holding) Com. Ltd., Patna

CB-1

11. Counterparts

This MOU may be executed by the Parties hereto in one or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same MOU.

12. Interpretation

No amendment, modification or waiver of any provision of this MOU shall in any event be effective unless the same has been made in writing and signed by a duly authorized representative(s) of each of the Parties, and approved in writing by other and any waiver or consent shall be effective only in the specific instance and for the specified purpose for which it is given.

13. Notices

13.1 Notices in Writing

Any notice or other communication given or made under or in connection with the matters contemplated by this MOU shall be in writing and in English.

13.2 Method of Service

Any such notice or other communication shall be addressed as provided in Clause 13.3 and, if so addressed, shall be deemed to have been duly given or made (unless it is obvious that it has not been) as follows:

- If sent by personal delivery, upon delivery at the address of the relevant Party
- If sent by registered post, five (5) days after dispatch, and
- If sent by facsimile transmission, when dispatched, but only if the sender's transmission report shows the entire facsimile to have been received by the recipient with 'OK' transmission report

13.3 Address for Notices

The relevant addressee, address and facsimile numbers of the Parties for the purposes of this MOU, subject to Clause 13.4 are:

If to BSPHCL

Party	:	Bihar State Power (Holding) Company Ltd.
Kind Attn.	:	Mr. P. K. Rai, Chairman-cum-Managing Director
Address	:	Vidyut Bhawan, Bailey Road, Patna (Bihar)
Fax No.	:	0612 2504968

R. P. Singh
CMD
SJVN Limited
Nirlaxi Building
New Shimla (H.P.)171009

If to SJVNL

Party	:	SJVN Limited
Kind Attn.	:	Mr. R. P. Singh, Chairman & Managing Director
Address	:	Himfed Building, New Shimla, Shimla (HP) – 171009
Fax No.	:	0177 2670893

If to BPIC

Party	:	Bihar Power Infrastructure Company Pvt. Ltd.
Kind Attn.	:	Mr. Haziq Beg, Managing Director
Address	:	4B, First Floor, Shree Krishna Puri, Patna
Fax No.	:	0612 2540250

13.4 Change of Address:

A Party may notify the other Party of a change to its name, addressee, address and telex or facsimile numbers for the purposes of Clause 13.3 provided that such notification shall only be effective on the date specified in the notification as the date on which the change is to take place, or if no date is specified, the date falling five days after notice of any such change has been given.

14. General

Parties shall at a subsequent date enter into definitive agreements in respect of project specific provisions.

IN WITNESS whereof the duly authorized representatives of the Parties have signed on the day and year first hereinbefore written.

For and on behalf of BSPHCL	For and on behalf of SJVNL	For and on behalf of BPIC
Chief Engineer Transmission (O & M) Bihar State Power (Holding) Com. Ltd., Patna	R. P. Singh CMD SJVN Limited Himfed Building New Shimla (H.P.)171009	Bihar Power Infrastructure Co. Pvt. Ltd. Patna
Name: Nirmal Kishore	Name: R. P. Singh	Name: Haziq Beg
Designation: Chief Engineer Transmission (O&M)	Designation: Chairman & Managing Director	Designation: Managing Director
Witness	**Witness**	**Witness**
	15.1.2015	S. Baskaran
Name: Rakesh	Name: R.K. Agarwal	Name: S. Baskaran
Designation: Electrical Executive Engineer (Interstate)	Designation: Executive Director (Business Development)	Designation: Director

Certificate towards change of name to SJVN Thermal Private Limited

भारत सरकार–कॉर्पोरेट कार्य मंत्रालय
कम्पनी रजिस्ट्रार कार्यालय, बिहार

नाम परिवर्तन के पश्चात नया निगमन प्रमाण–पत्र

कॉर्पोरेट पहचान संख्या : U31908BR2007PTC017646

मैसर्स Buxar Bijlee Company Private Limited

के मामले मे, मैं एतदद्वारा सत्यापित करता हूँ कि मैसर्स
Buxar Bijlee Company Private Limited

जो मूल रुप में दिनांक सात मई दो हजार सात को कम्पनी अधिनियम, 1956 (1956 का 1) के अतंर्गत मैसर्स
Machilipatnam Power Company Private Limited

के रुप में निगमित की गई थी, ने कम्पनी अधिनियम, 1956 की धारा 21 की शर्तों के अनुसार विधिवत आवश्यक विनिश्चय पारित करके तथा लिखित रुप में यह सूचित करके की उसे भारत का अनुमोदन, कम्पनी अधिनियम, 1956 की धारा 21 के साथ पठित, भारत सरकार, कम्पनी कार्य विभाग, नई दिल्ली की अधिसूचना सं. सा. का. नि 507 (अ) दिनांक 24.6.1985 एस.आर.एन B86518180 दिनांक 17/10/2013 के द्वारा प्राप्त हो गया है, उक्त कम्पनी का नाम आज परिवर्तित रुप में मैसर्स
SJVN Thermal Private Limited

हो गया है और यह प्रमाण–पत्र, कथित अधिनियम की धारा 23(1) के अनुसरण में जारी किया जाता है।

यह प्रमाण–पत्र पटना में आज दिनांक सत्राह अक्तूबर दो हजार तेरह को जारी किया जाता है।

GOVERNMENT OF INDIA - MINISTRY OF CORPORATE AFFAIRS
Registrar of Companies, Bihar

Fresh Certificate of Incorporation Consequent upon Change of Name

Corporate Identity Number : U31908BR2007PTC017646

In the matter of M/s Buxar Bijlee Company Private Limited

I hereby certify that Buxar Bijlee Company Private Limited which was originally incorporated on Seventh day of May Two Thousand Seven under the Companies Act, 1956 (No. 1 of 1956) as Machilipatnam Power Company Private Limited having duly passed the necessary resolution in terms of Section 21 of the Companies Act, 1956 and the approval of the Central Government signified in writing having been accorded thereto under Section 21 of the Companies Act, 1956, read with Government of India, Department of Company Affairs, New Delhi, Notification No. G.S.R 507 (E) dated 24/06/1985 vide SRN B86518180 dated 17/10/2013 the name of the said company is this day changed to SJVN Thermal Private Limited and this Certificate is issued pursuant to Section 23(1) of the said Act.

Given at Patna this Seventeenth day of October Two Thousand Thirteen.

Registrar of Companies, Bihar

कम्पनी रजिस्ट्रार, बिहार

*Note: The corresponding form has been approved by Uttam Sitaram Patole, Registrar of Companies and this certificate has been digitally signed by the Registrar through a system generated digital signature under rule 5(2) of the Companies (Electronic Filing and Authentication of Documents) Rules, 2006.

The digitally signed certificate can be verified at the Ministry website (www.mca.gov.in).

कम्पनी रजिस्ट्रार के कार्यालय अभिलेख में उपलब्ध पत्राचार का पता :
Mailing Address as per record available in Registrar of Companies office:

SJVN Thermal Private Limited
4B, First Floor, Shree Krishna Puri,
Patna - 800001,
Bihar, INDIA

Letter from Bihar State Pollution Control Board to MoEF&CC
(Public Hearing MOM)

Appendix-2

BY REGISTERED POST

BIHAR STATE POLLUTION CONTROL BOARD
BELTRON Bhawan, Shastri Nagar, Patna – 800 023
EPABX - 0612-2281250/2282265, Fax - 0612-2281050
E-mail–bspcb@vsnl.net, Website – http://bspcb.bih.nic.in

Ref. No.- PT6-63/10(PH) Patna, dated-

From

M.K.Singh
Member Secretary

TO

The Director
Ministry of Environment & Forests,
Govt. of India, C.G.O. Complex, Lodhi Road,
New Delhi 110003.

Sub: Public Hearing for 2x660MW Thermal Power Plant near Chausa, District- Buxar, Bihar by M/s Buxar Bijlee Co. Ltd.- minutes of Public Hearing- Regd.

Sir,

With reference to the subject noted above, this is to inform you that Public Hearings were conducted on the July 30, 2010. They were in accordance with the procedure laid in the EIA Notification, 2006 and the amendment therein.

Please find enclosed herewith the Minutes of Meetings along with its enclosures for favour of information and necessary action

Encl.: As above.

Yours faithfully,

(M.K. Singh)
Member Secretary

Memo No. Patna, dated:

Copy to: The District Magistrates, District- Buxar for information and necessary action. They are requested to display the Minutes of meeting on their notice board for information of public.

Encl.: As above.

(M.K. Singh)
Member Secretary

Memo No. T-11675 Patna, dated 19/11/10

Copy to: M/s Buxar Bijli Co. Ltd., C/o- IL&FS Ltd., Core 4B, 4th Floor, India Habitat Centre, Lodhi Road, New Delhi-110003 for information and necessary action.

Encl.: As above.

(M.K. Singh)
Member Secretary

लोक-सुनवाई वृत

मेसर्स बक्सर बिजली कंपनी प्राईवेट लिमिटेड द्वारा बिहार राज्य में बक्सर जिलांतर्गत चौसा में 2x660 मेगावाट का कोयला पर आधारित थर्मल पावर प्लांट परियोजना की पर्यावरणीय स्वीकृति हेतु नगर भवन बक्सर में दिनांक-30.07.2010 को 2.00 बजे अपराहन् से लोक-सुनवाई जिलाधिकारी, बक्सर की अध्यक्षता में की गयी। लोक-सुनवाई की सूचना दैनिक समाचार पत्र ''दैनिक जागरण'' एवं ''प्रभात खबर'' में दिनांक-26.06.2010 को प्रकाशित किया गया था। लोक-सुनवाई की कार्यवाही निम्नवत् है:

(i) लोक-सुनवाई के दौरान उपस्थित पदाधिकारियों एवं महानुभावों की उपस्थिति (अनुलग्नक-1)

(ii) लोक-सुनवाई की कार्यवाही जिलाधिकारी, बक्सर की अध्यक्षता में प्रारंभ किया गया। लोक-सुनवाई की कार्यवाही में बिहार राज्य प्रदूषण नियंत्रण पर्षद के अध्यक्ष उपस्थित थे। लोक-सुनवाई के प्रयोजन से संबंधित परिचय बिहार राज्य प्रदूषण नियंत्रण पर्षद् के पदाधिकारी द्वारा प्रस्तुत किया गया। लोक-सुनवाई में परियोजना विषयक पर्यावरणीय दृष्टिकोण से लोक-सुनवाई में उपस्थित महानुभावों के सुझाव, प्रतिक्रिया आदि के संबध में अपने-अपने विचार प्रस्तुत करने के प्रयोजन को बतलाया गया।

तदोपरांत प्रस्तावित थर्मल पावर प्लांट परियोजना का पर्यावरणीय प्रभाव मूल्यांकन (ई.आई.ए.) प्रतिवेदन के साथ प्रस्तावक के प्रतिनिधि द्वारा प्रस्तुत किया गया। मेसर्स बक्सर बिजली कंपनी प्राईवेट लिमिटेड का निर्माण बिहार राज्य विद्युत बोर्ड(बी.एस.ई.बी.)एवं इन्फ्रास्ट्रक्चर लीजींग एवं फाइनेंसियल सर्विसेस (आई.एल. एफ.एस.) की संयुक्त उपक्रम(50:50) कंपनी बनाकर किया गया है। प्रस्तुतीकरण में कहा गया है कि यह 2x660 मेगावाट का कोयला पर आधारित थर्मल पावर प्लांट बक्सर जिला के चौसा गांव के निकट स्थापना का प्रस्ताव है। इसके ई.आई.ए. रिपोर्ट के अनुसार इस परियोजना का पर्यावरणीय प्रभाव नगण्य है। फिर भी,

संभावित कुप्रभावों को नियंत्रित करने हेतु पर्याप्त उपाय किये गये है। सूचित किया गया है कि इस परियोजना से गांव के विस्थापन की समस्या नहीं है, और न ही कोई वन-भूमि, अभ्यारण्य या संवेदनशील स्थल प्रभावित होते है। परियोजना के लिए जमीन अधिग्रहण हेतु राज्य सरकार द्वारा निर्धारित नीति के अनुसार समुचित मुआवजा/क्षतिपूर्ति का भुगतान किया जायेगा।

लोक-सुनवाई के दौरान जिलाधिकारी द्वारा परियोजना से होने वाले लाभ एवं क्षेत्र के विकास संबंधी जानकारी से लोगों को अवगत कराया गया तथा क्षेत्र के लोगों से अपेक्षित सहयोग प्रदान करने की अपील की गयी। उक्त प्रस्तुतीकरण के उपरांत आम-जनों से उनकी प्रतिक्रिया/सुझाव देने हेतु अनुरोध किया गया। आम-जनों द्वारा किये गये प्रश्न के क्रम में प्रस्तावक द्वारा दिये गये जवाब निम्नवत् है:

1. प्रस्तावित स्थल पर थर्मल पावर प्लांट के विनिर्माण से बनारपुर एवं सिकरौर गांवों के जल प्लावित हो जाने का खतरा होगा। इस संबंध में प्रस्तावक के प्रतिनिधि द्वारा सूचित किया गया कि स्थल चयन से पूर्व इस संबंध में क्षेत्र में बाढ़ के आँकड़ों का अध्ययन के पश्चात ही इस स्थल का चयन किया गया किया है ताकि लोगों को किसी प्रकार का कोई नुकसान नहीं हो।
2. चौसा के उपजाऊ जमीन का चयन किया गया है, के जवाब में अवगत कराया गया कि परियोजना प्रभाव क्षेत्र में विस्तृत अध्ययन से पाया गया कि इस भूमि की उर्वर क्षमता नगण्य है।
3. प्रस्तावित स्थल घनी आबादी से सटा है, जमीन उपजाऊ है, थर्मल पावर से निकलने वाले छाई के कारण समस्या के संबंध में अवगत कराया गया कि EIA अधिसूचना के अनुरूप, अध्ययन क्षेत्र में और प्रस्तावित परियोजना से प्रभावित परिवारों के लिये विस्तृत R & R Plan बनाया गया है जो सरकार की नीति के अनुरूप है। छाई के भंडारण हेतु ऐश डाईक का निर्माण किया जायेगा, जिससे कोई छाई बाहर नहीं निकलेगा। साथ ही सम्पूर्ण छाई के पुर्नउपयोग की व्यवस्था भी प्रस्तावित है। प्रस्तावित स्थल के चयन के संबंध में पर्षद के पदाधिकारी द्वारा सूचित किया गया कि आबादी, रेलवे लाईन, नदी, उच्च पथ से न्यूनतम दूरी

500मीटर तथा वन भूमि क्षेत्र की सीमा से न्यूनतम दूरी 1कि0मी0 रहने की स्थिति में पर्षद द्वारा स्थापनार्थ सहमति निर्गत किया जायगा।

4. जल प्रदूषण के संबंध में पूछे गये सवाल के जवाब में कहा गया कि इकाई से उत्पन्न उत्प्रवाह को उपचारित करने हेतु बहिस्राव उपचार संयंत्र की व्यवस्था की गयी है तथा पुनर्उपयोग किया जायेगा।

उपरोक्त लोक-सुनवाई के दौरान प्रस्तावित योजना के भूमि अधिग्रहण से संबंधित मुद्दे पर पक्ष एवं विपक्ष के लोगों में आपसी वाद-विवाद होने के कारण सभा की कार्यवाही समाप्त की गयी।

(एस0पी0राय)	(नन्द कुमार)	(अजय यादव)
स0प0अभियन्ता	स0प0अभियन्ता	भा.प्र.से.
बि0रा0प्र0नियंत्रण पर्षद	बि0रा0प्र0नियंत्रण पर्षद	जिलाधिकारी
पटना।	पटना।	बक्सर।

Baseline Data Report 2015

ENVIRONMENT MONITORING REPORT

ANALYTICAL WORK ON BASELINE ENVIRONMENT STUDIES

AT

CHAUSA, BUXAR, BIHAR

FOR

Three Months Baseline Monitoring Studies- EIA of 2x660 MW Thermal Power Project at Chausa site in Buxar District of Bihar

11TH MARCH – 13TH JUNE 2015

(REPORT)

PREPARED BY:

AES LABORATORIES PVT. LTD.

LABORATORY B-118 Phase-II, Noida, U.P. 201304
Ph: 0120-4646700, 4646720, Fax: 0120-3047914

OFFICE: 122/122A, Hemkunt chamber, 89, Nehru Place, New Delhi-110019
Ph- 011-45066313, 30882233

CONTENTS

	Unit			Page no.
1.	Introduction		------	1-7
2.	Methodology		------	8-15
3.	Analysis Results			
		Ambient Air	------	16-21
		Water	------	22-23
		Soil	------	24
		Noise	------	25-30
		Micro Meteorology	------	31-79
4.	Exhibits		------	80-87
5.	Results & Discussion		------	88

1. INTRODUCTION

AES Laboratories Pvt. Ltd. was awarded the assignment of carrying out "Baseline Monitoring Studies for 2x660 MW Thermal Power Project at Chausa Site in Buxar District of Bihar State.

The monitoring locations for baseline study have been selected as the same locations for the earlier EIA study, which was conducted for proposed 2x660 MW Thermal Power Project at Chausa, Buxar District. The objective of this study is to find out environmental settings of the study area in the current period in order to assess whether any variation in the status of environment had taken place from the earlier period.

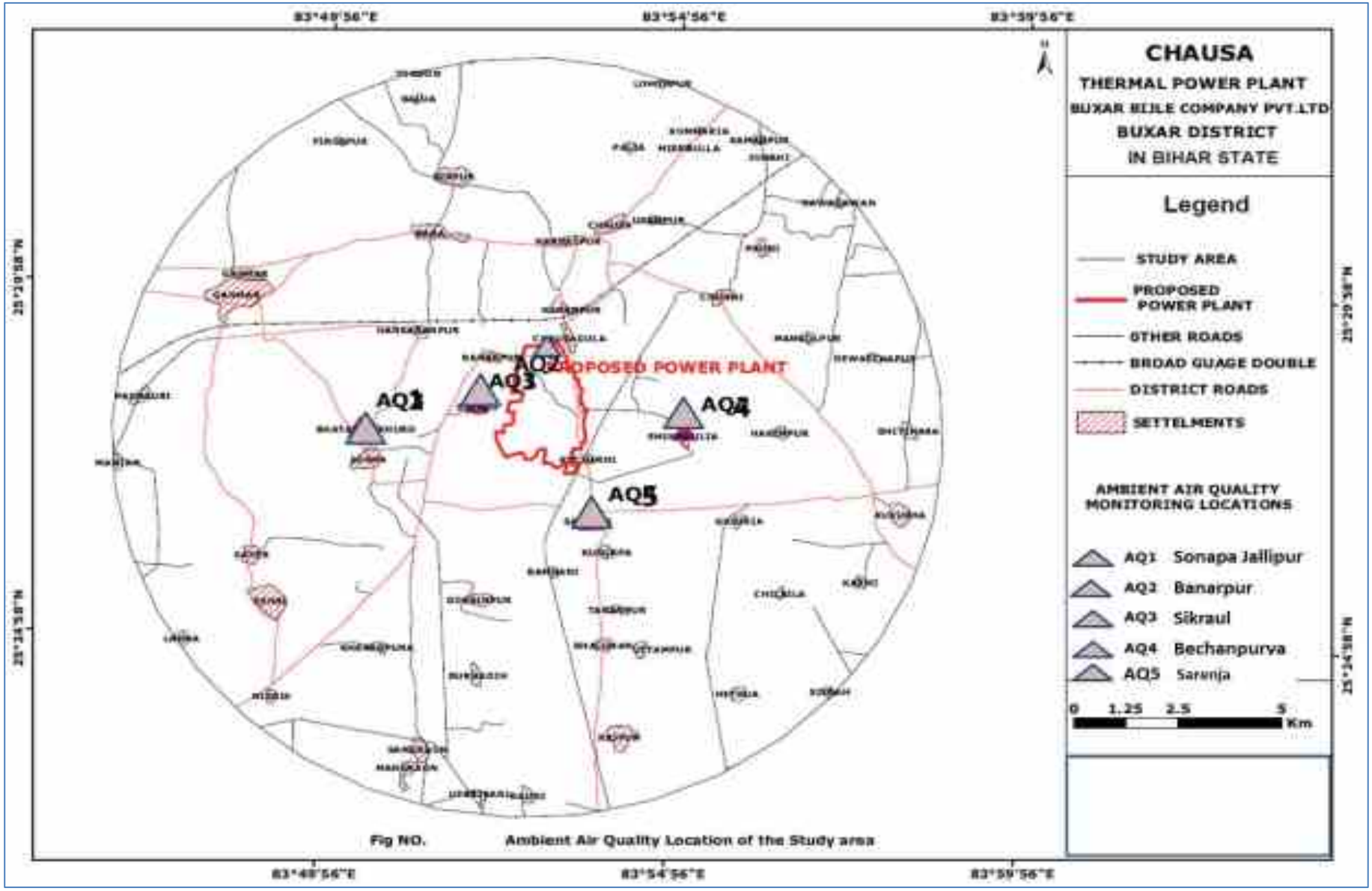
The locations for monitoring were identified with the help of representative of BPIC. The locations include:

- Five (5) locations for Ambient Air Quality for monitoring Respirable Particulate Matter (PM_{10}), Fine Particulate Matter ($PM_{2.5}$), Sulphur dioxide (SO_2), Oxides of Nitrogen (NO_x), Ammonia (NH_3), Ozone (O_3), Lead (Pb), Arsenic (As), Nickel (Ni),, , Carbon monoxide (CO), Hydrogen Sulphide (H2S), Mercury (Hg), Hydrocarbon (HC).

Table 1: Details of Ambient Air Quality Locations

Station Code	Station Name	Location	Distance w.r.t project site
A-1	Sonpa Jalilpur	N25°27'36.6" ; E083°50'08.7"	4.0 KM
A-2	Banarpur	N25°28'58.5" ; E083°52'19.0"	0.0 KM
A-3	Sikraul	N25°28'20.8" ; E083°52'06.1"	2.0 KM
A-4	Bechanpurva	N25°28'09.5" ; E083°53'41.1"	5.0 KM
A-5	Sarenja	N25°28'08.5" ; E083°53'41.4"	7.0 KM

Figure 1: Ambient Air Quality Locations



- Six (6) locations for Water Samples

Table 2: Details of Water Quality Sampling Locations

Station Code	Station Name	Location	Type
Surface Water (2)			
SW-1	Karmnasa River	N25°27'42.5" E083°50'23.6"	Surface Water from River
SW-2	Ganga River	N25°27'12.9" E083°54'07.2"	Surface Water from River
Ground Water (4)			
GW-1	Surkraulia	N25°28'11.8" E083°54'57.7"	Ground Water from Bore well
GW-2	Bhataura	N25°27'46.2" E083°50'17.2"	Ground Water from Bore well
GW-3	Sikraul	N25°28'59.0" E083°52'19.7"	Ground Water from Bore well
GW-4	Sarenja	N25°26'42.9" E083°53'38.7"	Ground Water from Bore well

- Four (4) locations for Soil

Table 3: Details of Soil Quality Sampling Locations

Station Code	Station Name	Location	Type
S-1	Chunni	N25°30'00.2" E083°55'12.6"	Agriculture Land
S-2	Surkraulia	N25°28'12.6" E083°54'59.0"	Agriculture Land
S-3	Bhataura	N25°27'45.1" E083°50'19.8"	Agriculture Land
S-4	Banarpur	N25°28'59.1" E083°52'20.0"	Agriculture Land

Figure 2: Details of Water Quality Sampling Locations

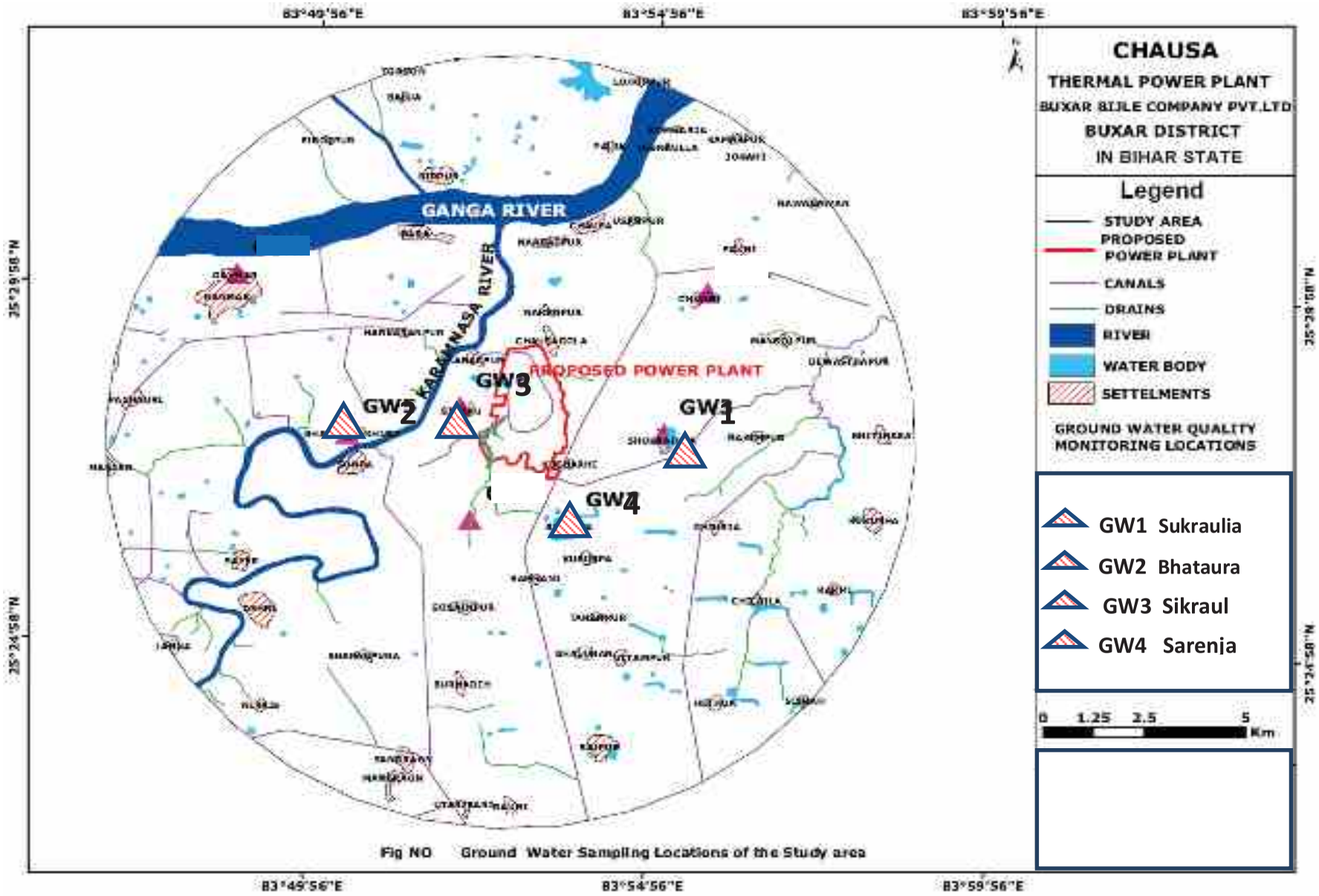
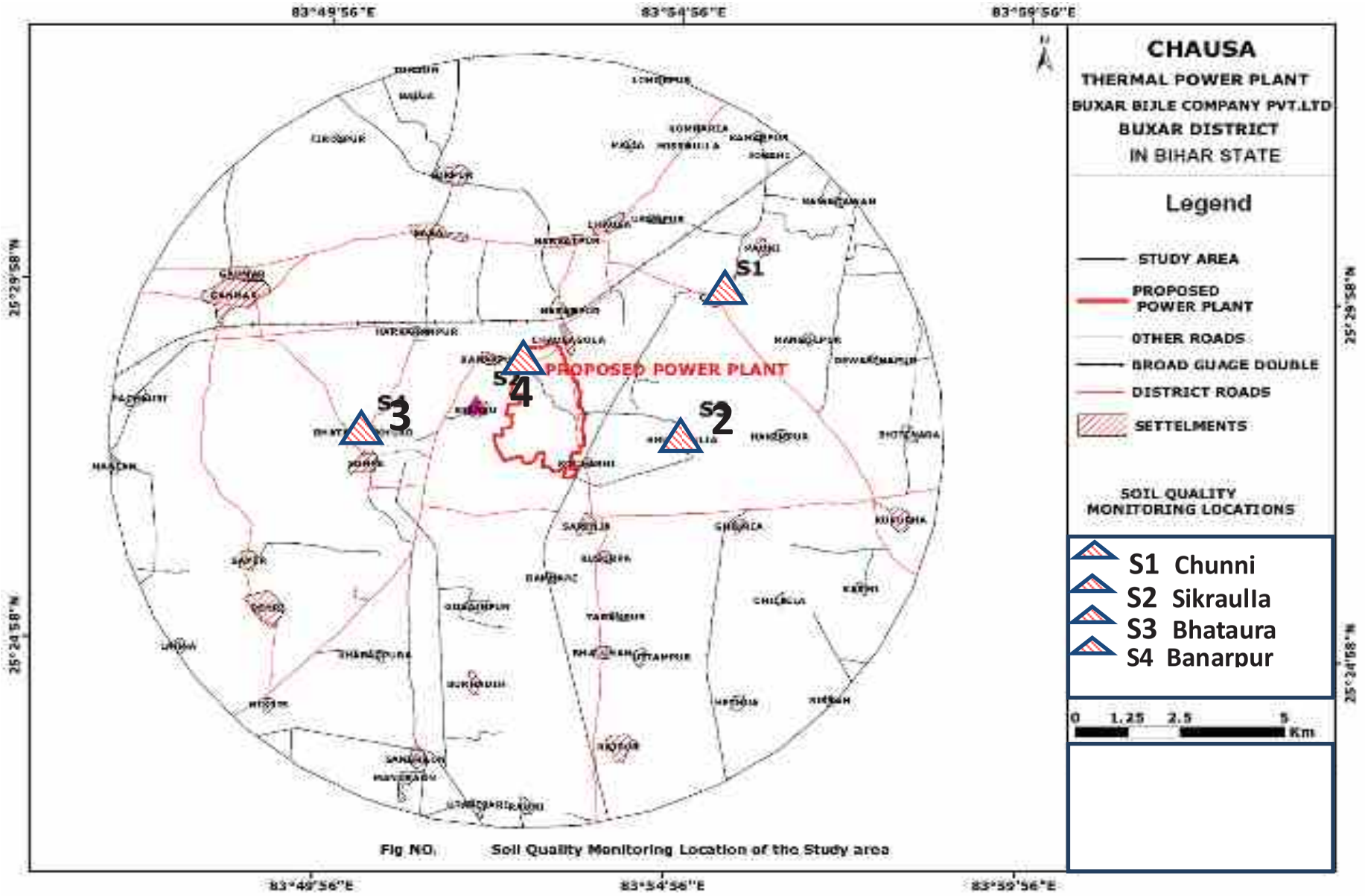


Figure 3: Details of Soil Quality Sampling Locations



- Five (5) locations for Noise

Table 4: Details of Noise Quality Sampling Locations

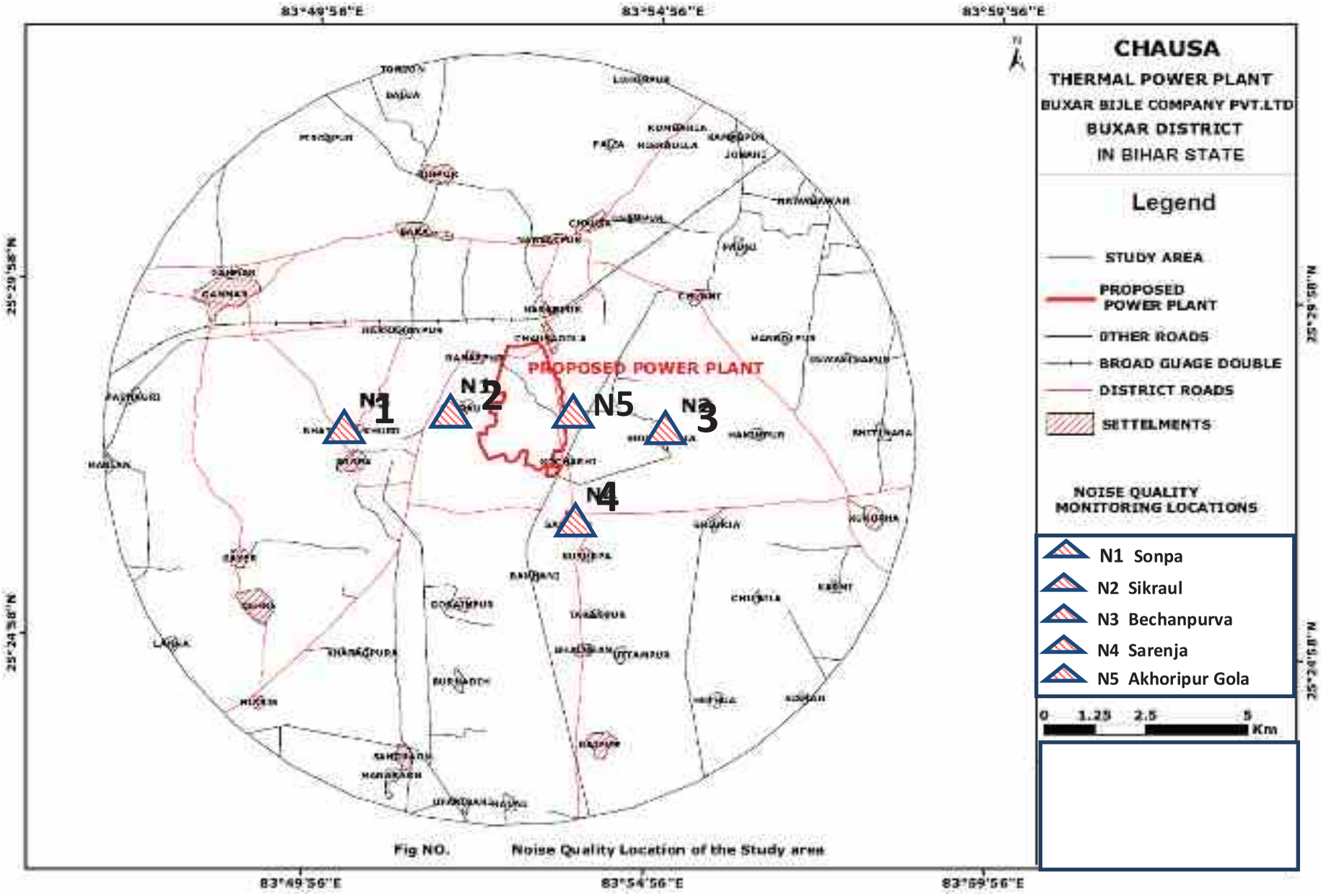
Station Code	Station Name	Location	Type of Area
N-1	Sonpa Jalilpur	N25°27'37.5" E083°50'29.7"	Residential Area
N-2	Sikraul	N25°28'19.8" E083°52'08.0"	Residential Area
N-3	Bechanpurva	N25°28'09.0" E083°53'41.9"	Residential Area
N-4	Sarenja	N25°28'09.0" E083°53'41.9"	Residential Area
N-5	Akhoripur Gola	N25°29'13.8" E083°53'14.5"	Commercial Area

- One (1) locations for Meteorology data recording

Station Code	Station Name	Location	Distance from Project site
M1	Banarpur (Near proposed project site)	N25°28'58.5" E083°52'19.0"	0.0 KM

The monitoring work includes Ambient Air, Micro-Meteorology, Water, Noise and Soil. The monitoring work was completed within Three (3) month. **AES** representatives have carried out the monitoring work, as assigned, from 11th March 2015 to 13th June 2015.

Figure 4: Details of Noise Quality Sampling Locations



2.0 METHODOLOGY OF MONITORING

2.1. AMBIENT AIR MONITORING

Sampling & Analytical Methodology

Ambient air monitoring was carried out at five (5) locations. Relevant IS were followed for sampling and analysis of the contaminants, as shown below in **Table-2.1**.

1. **Respirable Particulate Matter (PM_{10})**: Cyclone assembly for monitoring PM_{10} 24 hrly samples and gaseous sampler with impingers for sampling of sulphur dioxide, Nitrogen dioxide, Ammonia & Ozone 24 hrly samples.

2. **Fine Particulate Matter ($PM_{2.5}$):** Particulate matter less than 2.5 um in diameter is collected from ambient air over a 24-hr period**.** $PM_{2.5}$ filters are sampled on envirotech Instruments Fine particulate Sampler (FPS) low volume sampler. The net difference between pre and post-sampling filter weights is used to calculate the ambient air mass concentration.

3. **Sulphur Dioxide (SO_2):** Concentration of Sulphur dioxide (SO_2) samples collected in absorbing media by gaseous sampler with impingers attached with Cyclone assembly.

4. **Oxides of Nitrogen (NO_x):** Concentration of Oxides of Nitrogen (NO_x) samples collected in absorbing media by gaseous sampler with impingers attached with Cyclone assembly.

5. **Carbon Monoxide:** Concentration of Carbon Monoxide (CO) samples collected in Tedlar Bag with the help of SKC Pump

6. **Ammonia:** Concentration of Ammonia (NH_3) samples collected in absorbing media by gaseous sampler with impingers attached with Cyclone assembly.

7. **Ozone:** Concentration of Ozone (O_3) samples collected in absorbing media by gaseous sampler with impingers attached with Cyclone assembly.

8. **Lead**: Cyclone assembly used for taking 24 hrs sample of Particulates on 8”x10’’ Filter Paper.

9. **Arsenic:** Cyclone assembly used for taking 24 hrs sample of Particulates on 8”x10’’ Filter Paper.

10. **Nickel:** Cyclone assembly used for taking 24 hrs sample of Particulates on 8”x10’’ Filter Paper.

11. **Hydrogen sulphide:** Concentration of Hydrogen sulphide (H_2S) samples collected in absorbing media by gaseous sampler with impingers attached with Cyclone assembly.

12. **Mercury:** Cyclone assembly used take 24 hrs sample of Particulates on 8”x10’’ Filter Paper.

13. **Hydrocarbon:** Concentration of Hydrocarbon (HC) samples collected in Teddler Bag by SKC pump.

TABLE- 2.1: RELEVANT IS METHODS AND TECHNIQUES USED

S. No.	Parameters	Relevant IS Procedure	Technique
1.	Respirable Particulate Matter (PM_{10}), [µg/m^3]	IS: 5182 (Part-23):1999	Gravimetric
2.	Fine Particulate Matter ($PM_{2.5}$), [µg/m^3]	AES/TD/ENV/SOP 7.0	Gravimetric
3.	Sulphur Dioxide (SO_2), [µg/m^3]	IS 5182 (P-2):2001	Visible Absorption Spectrometry
4.	Nitrogen Dioxide (NO_x), [µg/m^3]	IS: 5182 (Part-6):2006	Visible Absorption Spectrometry
5.	Ammonia, [ug/m^3]	Indophenol blue method	Visible Absorption Spectrometry
6.	Ozone, [ug/m^3]	IS: 5182 (Part-9):1974	Visible Absorption Spectrometry
7.	Carbon Monoxide, [mg/m^3]	IS: 5182 (Part-10):1999	GC-FID
8.	Lead , [µg/m^3]	EPM 2000 + AAS	AAS
9.	Arsenic [ng/m^3]	EPM 2000 + AAS	AAS
10.	Nickel [ng/m^3]	EPM 2000 + AAS	AAS
11.	Hydrogen Sulphide [µg/m^3]	IS 5182 (P-2):2001	Visible Absorption Spectrometry
12.	Mercury [ug/m^3]	EPM 2000 + AAS	AAS
13.	Hydrocarbon [ug/m^3]	GC-FID	GC-FID

2.2. WATER SAMPLING

Surface water-Two (2) & Groundwater-Four (4), samples were picked up of each of the above mentioned locations and brought to the lab for analysis.

TABLE NO-2.2: Relevant (IS: 10500:2012) Methods for Surface Water

S. No.	Parameters	Test Method	Limits	Ex. Limits
1	Colour, Hazen	APHA 2120 (B)	Max. 5	Max. 15
2	Taste	IS 3025 (P-8):1984	Agreeable	-
3	Odour	IS 3025 (P-5):1983	Agreeable	-
4	pH at 25oC	APHA 4500 (B)	6.5-8.5	No Relaxation
5	Turbidity, NTU	APHA 2130 (B)	Max. 1	Max. 5
6	Dissolved Oxygen, mg/L	APHA 4500 (C)	NS	NS
7	Biochemical oxygen demand, mg/L	IS 3025 (P-44)	NS	NS
8	Chemical Oxygen Demand, mg/L	APHA 5220 (B)	NS	NS
9	Oil and Grease, mg/L	APHA 5220 (B)	NS	NS
10	Total Dissolved Solids, mg/L	APHA 2540 (C)	Max. 500	Max. 2000
11	Total Suspended Solids, mg/L	APHA 2540 (D)	NS	NS
12	Total Hardness (as CaCO3), mg/L	APHA 2340 (C)	Max. 200	Max. 600
13	Total Alkalinity, mg/L	IS 3025 (P-23): 1986	Max. 200	Max. 600
14	Phenolphthalein Alkalinity, mg/L	IS 3025 (P-23): 1986	NS	NS
15	Silica, mg/L	APHA 4500 (C)	NS	NS
16	Chlorides (as Cl), mg/L	IS 3025 (P-32):1988	Max. 250	Max. 1000
17	Total Residual Chlorine, mg/L	IS 3025 (P-26): 1998	Max. 0.2	Max. 1
18	Sulphate (as SO 2-), mg/L	IS 3025 (P-24): 1986	Max. 200	Max. 400
19	Fluoride (as F-), mg/L	APHA 4500 (D)	Max. 1	Max. 1.5
20	Nitrate (as NO -), mg/L	IS 3025 (P-34)	Max. 45	No Relaxation
21	Iron (as Fe), mg/L	APHA 3500 (B)	Max. 0.3	No Relaxation
22	Sodium (as Na), mg/L	APHA 3500	NS	NS
23	Potassium (as K), mg/L	APHA 3500	NS	NS
24	Calcium (as Ca), mg/L	APHA 3500 (B)	Max. 75	Max. 200
25	Magnesium (as Mg), mg/L	APHA 3500 (B)	Max. 30	Max. 100
26	Cyanide (as CN), mg/L	APHA 4500 (C)	Max. 0.05	No Relaxation
27	Aluminium (as Al), mg/L	IS 3025 (P-55): 2003	Max. 0.03	Max. 0.2
28	Boron (as B), mg/L	IS 3025 (P-57)	Max. 0.5	Max. 1
29	Phenolic Compounds (as C6H5OH), mg/L	IS 3025 (P-43): 1992	Max. 0.001	Max. 0.002
30	Anionic Detergent (as MBAS), mg/L	APHA 5540	0.2	1
31	Chromium (as Cr6+), mg/L	APHA 3500 (B)	Max. 0.05	No Relaxation

S. No.	Parameters	Test Method	Limits	Ex. Limits
32	Zinc (as Zn), mg/L	APHA 3111 (B)	Max. 5	Max. 15
33	Chromium (as Cr), mg/L	APHA 3111 (B)	Max. 0.05	No Relaxation
34	Copper (as Cu), mg/L	APHA 3111 (B)	Max. 0.05	Max. 1.5
35	Manganese (as Mn), mg/L	APHA 3111 (B)	Max. 0.1	Max. 0.3
36	Cadmium (as Cd), mg/L	IS 3025 (P-41)	Max. 0.003	No Relaxation
37	Lead (as Pb), mg/L	APHA 3111 (B)	Max. 0.01	No Relaxation
38	Selenium (as Se), mg/L	IS 3025 (P-56)	Max. 0.01	No Relaxation
39	Nickel (as Ni), mg/L	APHA 3113 (B)	Max. 0.02	No Relaxation
40	Total Coliform, MPN/100 ml	IS 1622:1981	Absent	-
41	Total Pesticides	AES/TD/RES/SOP 1.1	0.005	-
Pesticide Residues				
1	DDT (o,p & p,p-isomers of DDT, DDE & DDD)	AES/TD/RES/SOP 1.1	Max. 0.001	NS
2	gamma-BHC (Lindane)	AES/TD/RES/SOP 1.1	Max. 0.002	NS
3	α β & γ-HCH	AES/TD/RES/SOP 1.1	Max. 0.00001	NS
4	Endosulphan (α β & Sulphate)	AES/TD/RES/SOP 1.1	Max. 0.0004	NS
5	Monocrotophos	AES/TD/RES/SOP 1.1	Max. 0.001	NS
6	Ethion	AES/TD/RES/SOP 1.1	Max. 0.003	NS
7	Chlorpyriphos	AES/TD/RES/SOP 1.1	Max. 0.03	NS
8	Phorate, phorate sulphoxide & phorate sulphone	AES/TD/RES/SOP 1.1	Max. 0.002	NS
9	2,4 D	AES/TD/RES/SOP 1.2	Max. 0.03	NS
10	Butachlor	AES/TD/RES/SOP 1.1	Max. 0.125	NS
11	Isoproturon	USEPA 532	Max. 0.009	NS
12	Alachlor	AES/TD/RES/SOP 1.1	Max. 0.02	NS
13	Atrazine	AES/TD/RES/SOP 1.1	Max. 0.002	NS
14	Methyl Parathion & methyl paraxon	AES/TD/RES/SOP 1.1	Max. 0.0003	NS
15	Malathion & malaoxon	AES/TD/RES/SOP 1.1	Max. 0.19	NS
16	Aldrin	AES/TD/RES/SOP 1.1	Max. 0.00003	NS
17	Dieldrin	AES/TD/RES/SOP 1.1	Max. 0.00003	NS

TABLE NO- 2.3: Relevant (IS: 10500:2012) Methods for Ground Water

S. No.	Parameters	Test Method	Limits	Ex. Limits
1	pH at 25ºC	APHA 4500 (B)	6.5-8.5	No Relaxation
2	Temperature oC	IS 3025 (P-9):1984	NS	NS
3	Turbidity,NTU	APHA 2130 (B)	Max. 1	Max. 5
4	Colour,Hazen	APHA 2120 (B)	Max. 5	Max. 15
5	T.alkalinity (as CaCO3),mg/l	IS 3025 (P-23): 1986	Max. 200	Max. 600
6	Total Dissolved Solids, mg/L	APHA 2540 (C)	Max. 500	Max. 2000
7	Total suspended solids (mg/l)	APHA 2540 (D)	NS	NS
8	Oil and Grease (mg/l)	APHA 2540 (D)	NS	NS
9	Chemical Oxygen Demand, mg/L	APHA 5220 (B)	NS	NS
10	Biochemical oxygen demand, mg/L	IS 3025 (P-44)	NS	NS
11	Dissolved Oxygen (mg/l)	IS 3025 (P-38):1989	NS	NS
12	Chloride (as Cl),mg/l	IS 3025 (P-32):1988	Max. 250	Max. 1000
13	Sulphate (as SO4),mg/l	IS 3025 (P-24):1986	Max. 200	Max. 400
14	Fluoride (as F-), mg/L	APHA 4500 (D)	Max. 1	Max. 1.5
15	Total Hardness (as CaCO3),mg/l	APHA 2340 (C)	Max. 200	Max. 600
16	Calcium Hardness(as CaCO3),mg/l	IS 3025 (P-40):1991	NS	NS
17	Magnesium Hardness (as MgCO3),mg/l	IS 3025 (P-46):1994	NS	NS
18	Sodium (as Na), mg/L	APHA 3500	NS	NS
19	Total Nitrogen (as N) (mg/ml)	IS 3025 (P-34):1988	NS	NS
20	Potassium (as K), mg/L	APHA 3500	NS	NS
21	Phosphorous (mg/ml)	IS 3025 (P-31):1988	NS	NS
22	Total iron (as Fe),mg/l	APHA 3500 (B)	Max. 0.3	No Relaxation
23	Copper (as Cu),mg/l	APHA 3111 (B)	Max. 0.05	Max. 1.5
24	Zinc (as Zn), mg/L	APHA 3111 (B)	Max. 5	Max. 15
25	Lead (as Pb),mg/l	APHA 3111 (B)	Max. 0.01	No Relaxation
26	Cadmium (as Cd),mg/l	IS 3025 (P-41)	Max. 0.003	No Relaxation
27	Chromium (as Cr),mg/l	APHA 3111 (B)	Max. 0.05	No Relaxation
28	Phenolic Compounds (as C6H5), mg/l	IS 3025 (P-43):1992	Max. 0.001	Max. 0.002
29	Total Coliform MPN/100 ml	IS 1622:1981	Absent	-
30	Faecal Coliform MPN/100 ml	APHA 9221 (E)	Absent	-

2.3. SOIL SAMPLING

Soil samples were collected from different soil types and / or land use were collected from different depths 0-30, (+) 30 to 60, and (+) 60-90 cm. Four soil samples were picked up of the above mentioned locations and brought to the lab for analysis.

Table No-2.4: Relevant IS/USEPA Methods for Soil

S. No.	Parameters		Methods
1	pH		USEPA-846-9045(C)
2	Electrical conductivity (us/cm)		APHA 2500(B)
3	Organic carbon(%)		IS 2720(P22):1972
4	Total nitrogen(mg/kg)		APHA 4500
5	Total phosphorous(mg/kg)		AES/TD/ENV/SOP 59.0
6	Potassium(mg/kg)		EPASW-846 Method 7610:1986
7	Iron(mg/kg)		USEPA 6010C:2007
8	Water holding capacity(%)		IS 2720
9	Zinc(mg/kg)		USEPA 6010C:2007
10	Copper(mg/kg)		USEPA 6010C:2007
11	Texture	Sand (%)	IS 2720(P4)
		Silt (%)	IS 2720(P4)
		Clay (%)	IS 2720(P4)
12	Acidity (mg/kg)		APHA 2310 B
13	Alkalinity (mg/kg)		APHA 2320 B
14	Chlorides (mg/kg)		EPASW-846 Method 9253:1986
15	Moisture Content (%)		IS 2720 (Part2):1970
16	Specific Gravity		IS 2720 (P3)
17	Cadmium (mg/kg)		USEPA 6010C:2007
18	Chromium(mg/kg)		USEPA 6010C:2007
19	Cation Exchange Capacity(meq/100gm)		By Calculation
20	Sodium Absorb Ratio		By Calculation
21	Permeability (cm/sec)		IS 2720 (P17)
22	Lead (mg/kg)		USEPA 6010C:2007
23	Porosity (%)		By Calculation

2.4. NOISE MONITORING

Ambient noise-level monitoring was done over a 24 hour time period at 5 locations. These two time-lags gives an assessment of the Day and Night time noise levels.

Instantaneous noise level readings were taken every 3 minutes each hour time bracket mentioned above. Hence, the total number of reading collected during each time bracket was five (05) and the total number of values collected for all the brackets at any given location was One twenty (120) for 24 hr. The first sixteen (16) brackets constituted the noise levels during the day-time (80 readings), while the last eight (8) brackets constituted noise levels for the night time (40 readings).

Based on the recorded noise levels, various statistical parameters have been presented in Table 3.12 to 3.17. The data presentation includes the following:

L_{eq}: It is the level of a theoretical steady noise equivalent in energy to the real fluctuation noise over a given period. The L_{eq} presented in the data includes all the One Hundred Twenty (120) values recorded at any given station.

L_{10}, L_{90}, L_{max} & L_{min}: These statistical parameters represent the 90^{th}, 10^{th} percentile, maximum and minimum values respectively, from the data set consisting of all the One Hundred Twenty (120) values recorded values at any given station.

2.5. METEOROLOGICAL DATA (IS 8829-1978)

Micro-meteorogical data was collected by setting up a weather station as per IS: 8829 - 1978 at Banarpur near proposed project site, chausa, Buxar. The other details of Banarpur village house roof are as under:

Coordinates: Latitude: N25^{o}28’58.5” ; Longitude: E083^{o}52’19.0”

The micrometeorological data was collected using a fully automated, self recording professional quality weather station (Davis Vantage Pro2 Instruments). The weather station was wirelessly connected to a black box housing receiver that is connected to the computer interface which was used as recording for selected parameters with a one hour interval.

The location of installation of a weather station is very critical to the accuracy of data measured and recorded by it. The weather station was located at a height of about 20 meters as per IS:8829-1978 from the ground level to ensure that it was clear of obstacles like nearby structures and shady trees. This ensured

that the wind sensor could record the wind speed correctly without any obstructions as well as to avoid the rain shadow effect where rain, that otherwise might fall into the gauge, is captured or deflected by obstructions upstream. It was ensured that the top edge of the rain collector was not less than twice the height away from any obstruction such as a fence, tree, or building.

This weather station was equipped with the following sensors to record the hourly micrometeorological data of interest as per IS:8829-1978:

Temperature: The temperature sensor was used for measuring the outdoor temp. The units of measurement were degrees Celsius (˚C). Accuracy of measurement, absolute temperature measured correct upto 0.1^{o}c.

Humidity: The humidity sensor was used for the measurement of relative humidity in %. Since the humidity was measured directly using the humidity sensor, no wet bulb temperature data was collected. The main purpose of collection of wet bulb temperature is to mathematically compute the relative humidity.

Anemometer: This sensor in combination with a wind vane measures the wind speed as well as the wind direction. The least count for measurement of wind speed was 1 mph (1.6 km) and the wind direction was measured with an accuracy of 1 degree. The primary wind directions recorded are 0 or 360 degrees (North), 90 degrees (East), 180 degrees (South) and 270 degrees (West). The wind direction recorded by the weather station indicated the direction from where the wind was blowing. Accuracy of measurement, wind speed correct upto 1.6 km/hr and wind direction measured correct upto 5^{o} arc

Rainfall: Rainfall is recorded in mm. Accuracy of measurement; rainfall was measured correct upto 0.1 mm.

Cloud Cover: Cloud Cover was measured 1/8 of sky (Oktas)

3.0 ANALYSIS RESULT: The analysis results along with the parameters monitored /analyzed are given in the following tables;

Table No-2.5: Ambient Air Quality Levels, Location: Sonpa Jalilpur (A1)

S.No.	Date of Monitoring	RESULTS																									
		PM 10[ug/m3]		SO2 [ug/m3]		NO2 [ug/m3]		O3 [ug/m3]		NH3 [ug/m3]		PM 2.5[ug/m3]		CO [mg/m3]		Lead [ug/m3]		Arsenic [ng/m3]		Nickel [ng/m3]		H2S [ug/m3]		Hg [ug/m3]		HC [ug/m3]	
		IS: 5182 (Part 23) 2006		IS: 5182 (Part 2):2001		IS: 5182 (Part 6) 2006		IS: 5182 (Part-9):1974		Indophenol Blue Method		AES/TD/ENV/SOP7.0		IS: 5182 (Part 10) 1999		EPM 2000+AAS		EPM 2000+AAS		EPM 2000+AAS		IS: 5182 (Part 7):1973		EPM 2000+AAS		GC-FID	
		Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit
1	11-Mar	35.4	100	10.2	80	13.3	80	4.3	100	<10	400	18.7	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
2	12-Mar	33.4	100	9.7	80	11.6	80	4.5	100	<10	400	17.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
3	18-Mar	34.7	100	10.0	80	13.1	80	4.7	100	<10	400	17.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
4	19-Mar	37.4	100	10.5	80	12.9	80	4.9	100	<10	400	18.8	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
5	25-Mar	37.0	100	10.3	80	12.3	80	5.0	100	<10	400	16.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
6	26-Mar	33.2	100	10.5	80	11.7	80	5.0	100	<10	400	17.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
7	1-Apr	37.7	100	11.2	80	13.2	80	5.0	100	<10	400	19.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
8	2-Apr	36.8	100	10.8	80	14.3	80	5.1	100	<10	400	16.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
9	8-Apr	40.4	100	12.3	80	12.9	80	5.1	100	<10	400	17.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
10	9-Apr	44.2	100	12.9	80	14.4	80	5.1	100	<10	400	16.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
11	15-Apr	33.7	100	10.5	80	13.1	80	5.2	100	<10	400	17.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
12	16-Apr	35.6	100	9.9	80	12.4	80	5.3	100	<10	400	17.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
13	22-Apr	34.2	100	10.5	80	13.0	80	5.3	100	<10	400	19.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
14	23-Apr	34.4	100	11.2	80	12.7	80	5.5	100	<10	400	16.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
15	29-Apr	32.8	100	10.1	80	13.1	80	5.5	100	<10	400	16.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
16	30-Apr	36.5	100	10.4	80	11.8	80	5.6	100	<10	400	22.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
17	6-May	35.5	100	10.8	80	12.1	80	6.1	100	<10	400	21.0	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
18	7-May	33.7	100	11.1	80	13.0	80	6.1	100	<10	400	18.0	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
19	13-May	34.8	100	10.5	80	12.5	80	6.1	100	<10	400	16.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
20	14-May	35.1	100	9.7	80	11.6	80	6.2	100	<10	400	20.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
21	20-May	33.8	100	9.9	80	13.2	80	6.2	100	<10	400	17.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
22	21-May	36.7	100	10.1	80	13.0	80	6.2	100	<10	400	16.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
23	27-May	38.8	100	11.5	80	12.7	80	6.3	100	<10	400	18.0	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
24	28-May	35.6	100	11.8	80	13.2	80	6.3	100	<10	400	16.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
Max		44.2		11.5		14.4		6.3		<10		22.5		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	
Min.		32.8		9.7		11.6		4.3		<10		16.2		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	
Average		35.9		10.7		12.8		5.4		<10		17.9		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	
C98		42.5		12.6		14.4		6.3		<10		21.8		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	
C95		40.2		12.2		14.2		6.3		<10		20.9		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	

Table No-2.6: Ambient Air Quality Levels, Location: Banarpur (near proposed project site) (A2)

S.No.	Date of Monitoring	RESULTS																							
		PM 10[ug/m3]		SO2 [ug/m3]		NO2 [ug/m3]		O3 [ug/m3]		NH3 [ug/m3]		PM 2.5[ug/m3]		CO [mg/m3]		Lead [ug/m3]		Arsenic [ng/m3]		Nickel [ng/m3]		H2S [ug/m3]		Hg [ug/m3]		HC [ug/m3]	
		IS: 5182 (Part 23) 2006		IS: 5182 (Part 2):2001		IS: 5182 (Part 6) 2006		IS: 5182 (Part-9):1974		Indophenol Blue Method		AES/TD/ENV/SOP7.0		IS: 5182 (Part 10) 1999		EPM 2000+AAS		EPM 2000+AAS		EPM 2000+AAS		IS: 5182 (Part 7):1973		EPM 2000+AAS		GC-FID	
		Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit
1	11-Mar	41.0	100	11.4	80	13.9	80	6.2	100	<10	400	23.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
2	12-Mar	41.5	100	14.3	80	15.6	80	6.3	100	<10	400	24.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
3	18-Mar	42.9	100	11.7	80	15.0	80	6.5	100	<10	400	23.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
4	19-Mar	38.8	100	13.1	80	14.1	80	6.4	100	<10	400	23.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
5	25-Mar	41.8	100	11.6	80	14.5	80	6.9	100	<10	400	20.6	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
6	26-Mar	42.3	100	14.5	80	15.6	80	7.1	100	<10	400	22.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
7	1-Apr	45.7	100	11.5	80	13.5	80	7.3	100	<10	400	27.7	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
8	2-Apr	39.7	100	12.1	80	14.9	80	7.5	100	<10	400	21.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
9	8-Apr	40.8	100	11.8	80	13.6	80	7.6	100	<10	400	22.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
10	9-Apr	41.9	100	12.3	80	14.2	80	7.7	100	<10	400	25.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
11	15-Apr	39.7	100	11.7	80	13.4	80	7.9	100	<10	400	21.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
12	16-Apr	38.7	100	11.3	80	13.9	80	8.1	100	<10	400	20.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
13	22-Apr	38.3	100	12.5	80	15.8	80	8.3	100	<10	400	22.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
14	23-Apr	40.9	100	12.1	80	14.6	80	8.4	100	<10	400	20.6	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
15	29-Apr	41.5	100	14.8	80	15.9	80	8.5	100	<10	400	20.7	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
16	30-Apr	42.3	100	14.5	80	14.8	80	8.6	100	<10	400	21.6	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
17	6-May	40.3	100	13.3	80	14.4	80	8.7	100	<10	400	20.7	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
18	7-May	39.4	100	14.3	80	15.6	80	8.8	100	<10	400	21.6	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
19	13-May	42.5	100	16.3	80	17.5	80	8.9	100	<10	400	20.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
20	14-May	39.3	100	11.8	80	14.5	80	9.1	100	<10	400	22.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
21	20-May	39.9	100	13.7	80	15.5	80	9.3	100	<10	400	23.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
22	21-May	40.9	100	12.6	80	14.4	80	9.5	100	<10	400	24.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
23	27-May	39.5	100	13.1	80	14.8	80	9.7	100	<10	400	21.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
24	28-May	39.7	100	14.0	80	15.2	80	10.0	100	<10	400	20.8	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
Max		45.7		16.3		17.5		10.0		<10		27.7		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
Min.		38.3		11.3		13.4		6.2		<10		20.1		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
Average		40.8		12.9		14.8		8.1		<10		22.3		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
C98		44.4		15.6		16.8		9.9		<10		26.6		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
C95		42.8		14.8		15.9		9.7		<10		25.2		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	

Table No-2.7: Ambient Air Quality Levels, Location: Sikraul (A3)

S.No.	Date of Monitoring	RESULTS																									
		PM 10[ug/m3]		SO2 [ug/m3]		NO2 [ug/m3]		O3 [ug/m3]		NH3 [ug/m3]		PM 2.5[ug/m3]		CO [mg/m3]		Lead [ug/m3]		Arsenic [ng/m3]		Nickel [ng/m3]		H2S [ug/m3]		Hg [ug/m3]		HC [ug/m3]	
		IS: 5182 (Part 23) 2006		IS: 5182 (Part 2):2001		IS: 5182 (Part 6) 2006		IS: 5182 (Part-9):1974		Indophenol Blue Method		AES/TD/ENV/SOP7.0		IS: 5182 (Part 10) 1999		EPM 2000+AAS		EPM 2000+AAS		EPM 2000+AAS		IS: 5182 (Part 7):1973		EPM 2000+AAS		GC-FID	
		Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit
1	13-Mar	39.8	100	11.5	80	15.0	80	5.4	100	<10	400	21.6	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
2	14-Mar	37.6	100	10.9	80	13.1	80	5.8	100	<10	400	19.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
3	20-Mar	39.0	100	11.2	80	14.7	80	5.6	100	<10	400	20.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
4	21-Mar	42.1	100	11.8	80	14.5	80	5.7	100	<10	400	21.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
5	27-Mar	41.6	100	11.6	80	13.8	80	5.8	100	<10	400	18.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
6	28-Mar	37.3	100	11.8	80	13.2	80	5.9	100	<10	400	19.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
7	3-Apr	42.4	100	12.6	80	14.9	80	6.3	100	<10	400	22.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
8	4-Apr	40.5	100	12.2	80	16.1	80	6.6	100	<10	400	18.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
9	10-Apr	45.5	100	13.8	80	14.5	80	6.7	100	<10	400	19.6	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
10	11-Apr	49.7	100	14.5	80	16.2	80	6.8	100	<10	400	18.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
11	17-Apr	38.0	100	11.8	80	14.7	80	6.9	100	<10	400	20.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
12	18-Apr	40.5	100	11.1	80	13.9	80	7.0	100	<10	400	19.7	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
13	24-Apr	38.5	100	11.8	80	14.7	80	7.1	100	<10	400	21.8	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
14	25-Apr	38.8	100	12.7	80	14.3	80	7.2	100	<10	400	19.8	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
15	1-May	36.9	100	11.3	80	14.6	80	7.6	100	<10	400	18.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
16	2-May	41.0	100	11.7	80	13.2	80	8.0	100	<10	400	25.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
17	8-May	39.9	100	12.1	80	13.5	80	7.7	100	<10	400	23.6	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
18	9-May	38.5	100	12.5	80	14.6	80	8.2	100	<10	400	20.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
19	15-May	39.1	100	11.8	80	14.1	80	8.1	100	<10	400	18.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
20	16-May	40.4	100	10.8	80	13.1	80	7.4	100	<10	400	23.0	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
21	22-May	38.6	100	11.1	80	14.8	80	7.7	100	<10	400	19.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
22	23-May	41.3	100	11.4	80	14.6	80	7.4	100	<10	400	18.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
23	29-May	43.6	100	12.9	80	14.3	80	8.0	100	<10	400	20.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
24	30-May	39.7	100	13.3	80	14.0	80	7.4	100	<10	400	18.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
Max		49.7		14.5		16.2		8.2		<10		25.3		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
Min.		36.9		10.8		13.1		5.4		<10		18.2		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
Average		40.4		12.0		14.4		6.9		<10		20.2		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
C98		47.8		14.2		16.2		8.2		<10		24.5		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
C95		45.2		13.7		15.9		8.1		<10		23.5		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	

Table No-2.8: Ambient Air Quality Levels, Location: Bechanpurva (A4)

S.No.	Date of Monitoring	RESULTS																							
		PM 10[ug/m3]		SO2 [ug/m3]		NO2 [ug/m3]		O3 [ug/m3]		NH3 [ug/m3]		PM 2.5[ug/m3]		CO [mg/m3]		Lead [ug/m3]		Arsenic [ng/m3]		Nickel [ng/m3]		H2S [ug/m3]		Hg [ug/m3]		HC [ug/m3]	
		IS: 5182 (Part 23) 2006		IS: 5182 (Part 2):2001		IS: 5182 (Part 6) 2006		IS: 5182 (Part-9):1974		Indophenol Blue Method		AES/TD/ENV/ SOP7.0		IS: 5182 (Part 10) 1999		EPM 2000+AAS		EPM 2000+AAS		EPM 2000+AAS		IS: 5182 (Part 7):1973		EPM 2000+AAS		GC-FID	
		Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit
1	13-Mar	46.9	100	16.6	80	19.1	80	10.6	100	<10	400	24.8	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
2	14-Mar	44.0	100	15.3	80	18.1	80	9.8	100	<10	400	30.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
3	20-Mar	61.7	100	19.2	80	24.1	80	8.7	100	<10	400	36.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
4	21-Mar	49.9	100	16.4	80	19.2	80	9.2	100	<10	400	28.0	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
5	27-Mar	42.0	100	13.6	80	16.7	80	9.4	100	<10	400	24.8	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
6	28-Mar	45.2	100	13.4	80	17.2	80	9.8	100	<10	400	26.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
7	3-Apr	44.5	100	15.5	80	18.5	80	10.8	100	<10	400	27.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
8	4-Apr	44.0	100	17.5	80	20.7	80	11.2	100	<10	400	25.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
9	10-Apr	48.7	100	21.1	80	23.5	80	10.9	100	<10	400	28.6	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
10	11-Apr	43.4	100	15.7	80	16.0	80	12.3	100	<10	400	23.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
11	17-Apr	50.9	100	19.6	80	20.2	80	13.2	100	<10	400	29.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
12	18-Apr	42.8	100	15.3	80	18.3	80	10.8	100	<10	400	25.7	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
13	24-Apr	46.6	100	16.5	80	19.4	80	11.3	100	<10	400	28.0	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
14	25-Apr	48.9	100	20.3	80	29.5	80	11.8	100	<10	400	31.0	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
15	1-May	43.3	100	17.4	80	19.1	80	15.1	100	<10	400	24.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
16	2-May	49.6	100	16.3	80	18.2	80	15.1	100	<10	400	32.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
17	8-May	41.7	100	13.9	80	16.3	80	15.9	100	<10	400	25.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
18	9-May	42.3	100	15.1	80	17.5	80	14.6	100	<10	400	26.0	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
19	15-May	44.0	100	17.3	80	19.6	80	14.7	100	<10	400	29.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
20	16-May	45.4	100	15.8	80	17.4	80	13.9	100	<10	400	23.6	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
21	22-May	47.9	100	18.2	80	21.4	80	13.8	100	<10	400	27.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
22	23-May	47.2	100	17.8	80	19.4	80	14.1	100	<10	400	24.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
23	29-May	48.7	100	14.1	80	16.5	80	15.2	100	<10	400	26.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
24	30-May	43.3	100	15.4	80	18.2	80	15.3	100	<10	400	23.7	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.001	NS	<1.0	NS
Max		61.7		21.1		29.5		15.9		<10		36.2		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	
Min.		41.7		13.4		16.0		8.7		<10		23.6		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	
Average		46.4		16.6		19.3		12.4		<10		27.2		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	
C98		56.7		20.7		27.0		15.6		<10		34.7		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	
C95		50.7		20.2		24.0		15.3		<10		32.6		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	

Table No-2.9: Ambient Air Quality Levels, Location: Sarenja (A5)

S.No.	Date of Monitoring	RESULTS																							
		PM 10[ug/m3]		SO2 [ug/m3]		NO2 [ug/m3]		O3 [ug/m3]		NH3 [ug/m3]		PM 2.5[ug/m3]		CO [mg/m3]		Lead [ug/m3]		Arsenic [ng/m3]		Nickel [ng/m3]		H2S [ug/m3]		Hg [ug/m3]		HC [ug/m3]	
		IS: 5182 (Part 23) 2006		IS: 5182 (Part 2):2001		IS: 5182 (Part 6) 2006		IS: 5182 (Part-9):1974		Indophenol Blue Method		AES/TD/ENV/SOP7.0		IS: 5182 (Part 10) 1999		EPM 2000+AAS		EPM 2000+AAS		EPM 2000+AAS		IS: 5182 (Part 7):1973		EPM 2000+AAS		GC-FID	
		Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit	Result	CPCB Limit
1	16-Mar	49.8	100	12.6	80	16.8	80	8.1	100	<10	400	31.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
2	17-Mar	42.4	100	13.7	80	18.3	80	8.4	100	<10	400	28.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
3	23-Mar	43.6	100	13.2	80	17.1	80	8.2	100	<10	400	24.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
4	24-Mar	57.2	100	19.2	80	22.0	80	8.9	100	<10	400	33.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
5	30-Mar	46.5	100	17.2	80	19.0	80	9.0	100	<10	400	27.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
6	31-Mar	41.2	100	12.4	80	16.2	80	8.9	100	<10	400	23.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
7	6-Apr	45.4	100	13.0	80	16.5	80	9.7	100	<10	400	25.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
8	7-Apr	44.2	100	14.6	80	17.6	80	9.8	100	<10	400	24.9	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
9	13-Apr	45.7	100	13.4	80	16.6	80	9.1	100	<10	400	26.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
10	14-Apr	42.1	100	12.2	80	16.0	80	9.9	100	<10	400	23.0	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
11	20-Apr	43.3	100	12.7	80	17.3	80	10.2	100	<10	400	24.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
12	21-Apr	41.7	100	14.6	80	16.9	80	10.4	100	<10	400	27.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
13	27-Apr	46.1	100	17.4	80	21.1	80	10.6	100	<10	400	25.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
14	28-Apr	50.2	100	12.3	80	16.5	80	11.0	100	<10	400	29.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
15	4-May	43.5	100	13.3	80	15.4	80	11.2	100	<10	400	24.4	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
16	5-May	42.4	100	12.7	80	16.7	80	11.4	100	<10	400	26.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
17	11-May	40.1	100	11.8	80	17.3	80	11.5	100	<10	400	23.0	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
18	12-May	43.9	100	15.0	80	15.5	80	11.9	100	<10	400	21.7	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
19	18-May	40.7	100	14.0	80	15.1	80	10.8	100	<10	400	26.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
20	19-May	42.4	100	13.6	80	16.8	80	9.9	100	<10	400	24.7	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
21	25-May	41.9	100	15.8	80	16.4	80	11.0	100	<10	400	25.5	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
22	26-May	41.1	100	17.1	80	16.7	80	11.3	100	<10	400	22.1	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
23	1-Jun	46.9	100	17.6	80	19.3	80	12.1	100	<10	400	28.3	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
24	2-Jun	42.2	100	16.5	80	16.5	80	12.0	100	<10	400	22.2	60	<1.0	2	<0.1	1	<1.0	6	<1.0	20	<4.0	NS	<0.01	NS	<1.0	NS
Max		57.2		19.2		22.0		12.1		<10		33.1		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
Min.		40.1		11.8		15.1		8.1		<10		21.7		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
Average		44.4		14.4		17.2		10.2		<10		25.8		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
C98		54.0		18.5		21.6		12.1		<10		32.5		<1.0		<0.1		<1.0		<1.0		<4.0		<0.01		<1.0	
C95		50.1		17.6		20.8		12.0		<10		31.5		<1.0		<0.1		<1.0		<1.0		<4.0		<0.001		<1.0	

Table No.2.10: Summary of Ambient Air Quality Levels for "2x660 MW Thermal Power Project at Chausa site in Buxar District of Bihar".

Parameters		Results				
		(A1)	(A2)	(A3)	(A4)	(A5)
		Sonpa Jalilpur	Banarpur	Sikraul	Bechanpurva	Sarenja
PM 10[ug/m3]	Max	44.2	45.7	49.7	61.7	57.2
	Min.	32.8	38.3	36.9	41.7	40.1
	Avg.	35.9	40.8	40.4	46.4	44.4
SO2 [ug/m3]	Max	11.5	16.3	14.5	21.1	19.2
	Min.	9.7	11.3	10.8	13.4	11.8
	Avg.	10.7	12.9	12.0	16.6	14.4
NO2 [ug/m3]	Max	14.4	17.5	16.2	29.5	22.0
	Min.	11.6	13.4	13.1	16.0	15.1
	Avg.	12.8	14.8	14.4	19.3	17.2
O3 [ug/m3]	Max	6.3	10.0	8.2	15.9	12.1
	Min.	4.3	6.2	5.4	8.7	8.1
	Avg.	5.4	8.1	6.9	12.4	10.2
NH3 [ug/m3]	Max	<10	<10	<10	<10	<10
	Min.	<10	<10	<10	<10	<10
	Avg.	<10	<10	<10	<10	<10
PM 2.5[ug/m3]	Max	22.5	27.7	25.3	36.2	33.1
	Min.	16.2	20.1	18.2	23.6	21.7
	Avg.	17.9	22.3	20.2	12.4	25.8
CO [mg/m3]	Max	<1.0	<1.0	<1.0	<1.0	<1.0
	Min.	<1.0	<1.0	<1.0	<1.0	<1.0
	Avg.	<1.0	<1.0	<1.0	<1.0	<1.0
Lead [ug/m3]	Max	<0.1	<0.1	<0.1	<0.1	<0.1
	Min.	<0.1	<0.1	<0.1	<0.1	<0.1
	Avg.	<0.1	<0.1	<0.1	<0.1	<0.1
Arsenic [ng/m3]	Max	<1.0	<1.0	<1.0	<1.0	<1.0
	Min.	<1.0	<1.0	<1.0	<1.0	<1.0
	Avg.	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel [ng/m3]	Max	<1.0	<1.0	<1.0	<1.0	<1.0
	Min.	<1.0	<1.0	<1.0	<1.0	<1.0
	Avg.	<1.0	<1.0	<1.0	<1.0	<1.0
H2S [ug/m3]	Max	<4.0	<4.0	<4.0	<4.0	<4.0
	Min.	<4.0	<4.0	<4.0	<4.0	<4.0
	Avg.	<4.0	<4.0	<4.0	<4.0	<4.0
Hg [ug/m3]	Max	<0.001	<0.001	<0.001	<0.001	<0.001
	Min.	<0.001	<0.001	<0.001	<0.001	<0.001
	Avg.	<0.001	<0.001	<0.001	<0.001	<0.001
HC [ug/m3]	Max	<1.0	<1.0	<1.0	<1.0	<1.0
	Min.	<1.0	<1.0	<1.0	<1.0	<1.0
	Avg.	<1.0	<1.0	<1.0	<1.0	<1.0

Results of Ground Water, Surface Water & Soil Quality

Table No- 2.11: Surface Water Results

Sr. No.	Parameters	Test Method	Results			
			Limits as per IS 10500:2012	Ex. Limits as per IS 10500:2012	(SW-1)	(SW-2)
1	Colour, Hazen	APHA 2120 (B)	Max. 5	Max. 15	<1.0	<1.0
2	Taste	IS 3025 (P-8):1984	Agreeable	-	Agreeable	Agreeable
3	Odour	IS 3025 (P-5):1983	Agreeable	-	Unobjectionable	Unobjectionable
4	pH at 25oC	APHA 4500 (B)	6.5-8.5	No Relaxation	7.95	7.98
5	Turbidity, NTU	APHA 2130 (B)	Max. 1	Max. 5	<1.0	<1.0
6	Dissolved Oxygen, mg/L	APHA 4500 (C)	NS	NS	7.8	7.6
7	Biochemical oxygen demand, mg/L	IS 3025 (P-44)	NS	NS	6	4
8	Chemical Oxygen Demand, mg/L	APHA 5220 (B)	NS	NS	48	28
9	Oil and Grease, mg/L	APHA 5220 (B)	NS	NS	<1.0	<1.0
10	Total Dissolved Solids, mg/L	APHA 2540 (C)	Max. 500	Max. 2000	258	304
11	Total Suspended Solids, mg/L	APHA 2540 (D)	NS	NS	18	24
12	Total Hardness (as CaCO3), mg/L	APHA 2340 (C)	Max. 200	Max. 600	136	164
13	Total Alkalinity, mg/L	IS 3025 (P-23): 1986	Max. 200	Max. 600	144	156
14	Phenolphthalein Alkalinity, mg/L	IS 3025 (P-23): 1986	NS	NS	Nil	Nil
15	Silica, mg/L	APHA 4500 (C)	NS	NS	0.5	0.4
16	Chlorides (as Cl), mg/L	IS 3025 (P-32):1988	Max. 250	Max. 1000	16	31.32
17	Total Residual Chlorine, mg/L	IS 3025 (P-26): 1998	Max. 0.2	Max. 1	Nil	Nil
18	Sulphate (as SO 2-), mg/L	IS 3025 (P-24): 1986	Max. 200	Max. 400	5.47	19.15
19	Fluoride (as F-), mg/L	APHA 4500 (D)	Max. 1	Max. 1.5	ND (<0.1)	ND (<0.1)
20	Nitrate (as NO -), mg/L	IS 3025 (P-34)	Max. 45	No Relaxation	ND(<1.0)	ND(<1.0)
21	Iron (as Fe), mg/L	APHA 3500 (B)	Max. 0.3	No Relaxation	ND (<1.0)	0.06
22	Sodium (as Na), mg/L	APHA 3500	NS	NS	27.1	35.9
23	Potassium (as K), mg/L	APHA 3500	NS	NS	3.2	4.1
24	Calcium (as Ca), mg/L	APHA 3500 (B)	Max. 75	Max. 200	34	38.4
25	Magnesium (as Mg), mg/L	APHA 3500 (B)	Max. 30	Max. 100	12.63	16.52
26	Cyanide (as CN), mg/L	APHA 4500 (C)	Max. 0.05	No Relaxation	ND (<0.01)	ND (<0.01)
27	Aluminium (as Al), mg/L	IS 3025 (P-55): 2003	Max. 0.03	Max. 0.2	ND (<0.01)	ND (<0.01)
28	Boron (as B), mg/L	IS 3025 (P-57)	Max. 0.5	Max. 1	ND (<0.01)	ND (<0.01)
29	Phenolic Compounds (as C6H5OH), mg/L	IS 3025 (P-43): 1992	Max. 0.001	Max. 0.002	ND (<0.005)	ND (<0.005)
30	Anionic Detergent (as MBAS), mg/L	APHA 5540	0.2	1	ND (<0.1)	ND (<0.1)
31	Chromium (as Cr6+), mg/L	APHA 3500 (B)	Max. 0.05	No Relaxation	ND (<0.01)	ND (<0.01)
32	Zinc (as Zn), mg/L	APHA 3111 (B)	Max. 5	Max. 15	ND (0.05)	ND (0.05)
33	Chromium (as Cr), mg/L	APHA 3111 (B)	Max. 0.05	No Relaxation	ND (<0.02)	ND (<0.02)
34	Copper (as Cu), mg/L	APHA 3111 (B)	Max. 0.05	Max. 1.5	ND (<0.02)	ND (<0.02)
35	Manganese (as Mn), mg/L	APHA 3111 (B)	Max. 0.1	Max. 0.3	ND (<0.02)	ND (<0.02)
36	Cadmium (as Cd), mg/L	IS 3025 (P-41)	Max. 0.003	No Relaxation	ND (<0.004)	ND (<0.004)
37	Lead (as Pb), mg/L	APHA 3111 (B)	Max. 0.01	No Relaxation	ND (<0.01)	ND (<0.01)
38	Selenium (as Se), mg/L	IS 3025 (P-56)	Max. 0.01	No Relaxation	ND (<0.005)	ND (<0.005)
39	Nickel (as Ni), mg/L	APHA 3113 (B)	Max. 0.02	No Relaxation	ND (<0.03)	ND (<0.03)
40	Total Coliform, MPN/100 ml	IS 1622:1981	Absent	-	Absent	Absent
41	Total Pesticides	AES/TD/RES/SOP 1.1	0.005	-	ND (<0.00001)	ND (<0.00001)
	Pesticides					
1	DDT (o,p & p,p-isomers of DDT, DDE & DDD)	AES/TD/RES/SOP 1.1	Max. 0.001	NS	ND (<0.00001)	ND (<0.00001)
2	gamma-BHC (Lindane)	AES/TD/RES/SOP 1.1	Max. 0.002	NS	ND (<0.00001)	ND (<0.00001)
3	α β & γ-HCH	AES/TD/RES/SOP 1.1	Max. 0.00001	NS	ND (<0.00001)	ND (<0.00001)
4	Endosulphan (α β & Sulphate)	AES/TD/RES/SOP 1.1	Max. 0.0004	NS	ND (<0.00001)	ND (<0.00001)
5	Monocrotophos	AES/TD/RES/SOP 1.1	Max. 0.001	NS	ND (<0.000025)	ND (<0.000025)
6	Ethion	AES/TD/RES/SOP 1.1	Max. 0.003	NS	ND (<0.000025)	ND (<0.000025)
7	Chlorpyriphos	AES/TD/RES/SOP 1.1	Max. 0.03	NS	ND (<0.00001)	ND (<0.00001)
8	Phorate, phorate sulphoxide & phorate sulphone	AES/TD/RES/SOP 1.1	Max. 0.002	NS	ND (<0.00004)	ND (<0.00004)
9	2,4 D	AES/TD/RES/SOP 1.2	Max. 0.03	NS	ND (<0.00003)	ND (<0.00003)
10	Butachlor	AES/TD/RES/SOP 1.1	Max. 0.125	NS	ND (<0.000038)	ND (<0.000038)
11	Isoproturon	USEPA 532	Max. 0.009	NS	ND (<0.00004)	ND (<0.00004)
12	Alachlor	AES/TD/RES/SOP 1.1	Max. 0.02	NS	ND (<0.000038)	ND (<0.000038)
13	Atrazine	AES/TD/RES/SOP 1.1	Max. 0.002	NS	ND (<0.000015)	ND (<0.000015)
14	Methyl Parathion & methyl paraxon	AES/TD/RES/SOP 1.1	Max. 0.0003	NS	ND (<0.000015)	ND (<0.000015)
15	Malathion & malaoxon	AES/TD/RES/SOP 1.1	Max. 0.19	NS	ND (<0.00001)	ND (<0.00001)
16	Aldrin	AES/TD/RES/SOP 1.1	Max. 0.00003	NS	ND (<0.000075)	ND (<0.000075)
17	Dieldrin	AES/TD/RES/SOP 1.1	Max. 0.00003	NS	ND (<0.00002)	ND (<0.00002)

Location Description Surface Water

SW-1 Karamnasa river

SW-2 Ganga river

Abbreviations:

Ex.-Extended ND-Not Detected

Max. - Maximum NS-Not Specified

Table No- 2.12: Ground Water Results

Sr. No.	Parameters	Test Method	Results					
			Limits as per IS 10500:2012	Ex. Limits as per IS 10500:2012	(GW-1)	(GW-2)	(GW-3)	(GW-4)
1	pH at 25^{o}C	APHA 4500 (B)	6.5-8.5	No Relaxation	7.45	7.57	7.57	6.87
2	Temperature oC	IS 3025 (P-9):1984	NS	NS	28.7	28.7	28.7	28.7
3	Turbidity,NTU	APHA 2130 (B)	Max. 1	Max. 5	<1.0	<1.0	<1.0	<1.0
4	Colour,Hazen	APHA 2120 (B)	Max. 5	Max. 15	<1.0	<1.0	<1.0	<1.0
5	T.alkalinity (as CaCO3),mg/l	IS 3025 (P-23): 1986	Max. 200	Max. 600	364	296	228	432
6	Total Dissolved Solids, mg/L	APHA 2540 (C)	Max. 500	Max. 2000	602	418	308	1308
7	Total suspended solids (mg/l)	APHA 2540 (D)	NS	NS	8	12	4	6
8	Oil and Grease (mg/l)	APHA 2540 (D)	NS	NS	<1.0	<1.0	<1.0	<1.0
9	Chemical Oxygen Demand, mg/L	APHA 5220 (B)	NS	NS	32	28	18	40
10	Biochemical oxygen demand, mg/L	IS 3025 (P-44)	NS	NS	2	2	<1.0	2.5
11	Dissolved Oxygen (mg/l)	IS 3025 (P-38):1989	NS	NS	7.6	7.4	7.2	7.8
12	Chloride (as Cl),mg/l	IS 3025 (P-32):1988	Max. 250	Max. 1000	70.48	25.45	4	362.17
13	Sulphate (as SO4),mg/l	IS 3025 (P-24):1986	Max. 200	Max. 400	39.15	10.10	ND(<1.0)	151.58
14	Fluoride (as F-), mg/L	APHA 4500 (D)	Max. 1	Max. 1.5	0.15	0.12	ND (<0.1)	0.49
15	Total Hardness (as CaCO3),mg/l	APHA 2340 (C)	Max. 200	Max. 600	272	308	212	1080
16	Calcium Hardness(as CaCO3),mg/l	IS 3025 (P-40):1991	NS	NS	100	196	140	660
17	Magnesium Hardness (as MgCO3),mg/l	IS 3025 (P-46):1994	NS	NS	41.8	27.21	17.5	420
18	Sodium (as Na), mg/L	APHA 3500	NS	NS	124.6	42.8	21.3	144.6
19	Total Nitrogen (as N) (mg/ml)	IS 3025 (P-34):1988	NS	NS	<1.0	<1.0	<1.0	<1.0
20	Potassium (as K), mg/L	APHA 3500	NS	NS	<1.0	2.2	1.7	125.1
21	Phosphorous (mg/ml)	IS 3025 (P-31):1988	NS	NS	0.05	ND<(0.01)	0.19	0.17
22	Total iron (as Fe),mg/l	APHA 3500 (B)	Max. 0.3	No Relaxation	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
23	Copper (as Cu),mg/l	APHA 3111 (B)	Max. 0.05	Max. 1.5	ND(<0.02)	ND<(0.02)	ND<(0.02)	ND<(0.02)
24	Zinc (as Zn), mg/L	APHA 3111 (B)	Max. 5	Max. 15	ND (<0.05)	0.09	ND<(0.05)	ND<(0.05)
25	Lead (as Pb),mg/l	APHA 3111 (B)	Max. 0.01	No Relaxation	ND(<0.01)	ND<(0.01)	ND<(0.01)	ND<(0.01)
26	Cadmium (as Cd),mg/l	IS 3025 (P-41)	Max. 0.003	No Relaxation	ND(<0.04)	ND(<0.04)	ND(<0.04)	ND(<0.04)
27	Chromium (as Cr),mg/l	APHA 3111 (B)	Max. 0.05	No Relaxation	ND (<0.02)	ND (<0.02)	ND (<0.02)	ND (<0.02)
28	Phenolic Compounds (as C6H5), mg/l	IS 3025 (P-43):1992	Max. 0.001	Max. 0.002	ND (<0.005)	ND (<0.005)	ND (<0.005)	ND (<0.005)
29	Total Coliform MPN/100 ml	IS 1622:1981	Absent	-	Absent/100 ml	Absent/100 ml	Absent/100 ml	Absent/100 ml
30	Faecal Coliform MPN/100 ml	APHA 9221 (E)	Absent	-	Absent	Absent	Absent	Absent

Location Description Ground Water

GW-1 Shukraulia

GW-2 Bhataura

GW-3 Sikraul

GW-4 Sarenja

Abbreviations:

Ex.-Extended ND-Not Detected

Max. - Maximum NS-Not Specified

Table No- 2.13: Soil Results

Sr.No.	Parameters		Test Method	(S-1)	(S-2)	(S-3)	(S-4)
1	pH		USEPA-846-9045(C)	6.93	10.17	7.02	8.08
2	Electrical conductivity (us/cm)		APHA 2500(B)	154.6	298	34.9	71.1
3	Organic carbon(%)		IS 2720(P22):1972	0.57%	0.1	0.3	0.25
4	Total nitrogen(mg/kg)		APHA 4500	83.2	78	77	77.65
5	Total phosphorous(mg/kg)		AES/TD/ENV/SOP 59.0	0.55	71.92	4.7	11.06
6	Potassium(mg/kg)		EPASW-846 Method 7610:1986	21.00	282	33	83
7	Iron(mg/kg)		USEPA 6010C:2007	22	18.46	32	28.62
8	Water holding capacity(%)		IS 2720	31.47	31.81	24.55	38.06
9	Zinc(mg/kg)		USEPA 6010C:2007	20.87	11.8	30.27	40
10	Soil Texture	Sand(%)	IS 2720(P4)	2.05	16.4	2.8	8.02
		Silt(%)	IS 2720(P4)	69.95	63.6	71.2	65.98
		Clay(%)	IS 2720(P4)	28	20	26	26
11	Copper(mg/kg)		USEPA 6010C:2007	24.15	20.62	26.27	32.25
12	Acidity (mg/kg)		APHA 2310 B	119.23	Nil	79.43	117.68
13	Alkalinity (mg/kg)		APHA 2320 B	238.47	2062.8	238.31	274.6
14	Chlorides (mg/kg)		EPASW-846 Method 9253:1986	238.4	323.47	60	39.27
15	Moisture Content (%)		IS 2720 (Part2):1970	7.64	1.38	9.66	9.61
16	Specific Gravity		IS 2720 (P3)	1.25	1.36	1.3	1.21
17	Cadmium (mg/kg)		USEPA 6010C:2007	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0)
18	Chromium(mg/kg)		USEPA 6010C:2007	24.67	18.0	31.95	28.12
19	Cation Exchange Capacity(meq/100gm)		By Calculation	1.56	5.15	1.2	1.64
20	Sodium Absorb Ratio		By Calculation	1.82	0.58	0.69	1.29
21	Permeability (cm/sec)		IS 2720 (P17)	2.7 × 10-4	4.5 × 10-5	3.4 × 10-6	2.6 × 10-6
22	Lead (mg/kg)		USEPA 6010C:2007	4.7	10.4	8.7	7.5
23	Porosity (%)		By Calculation	58.7	58.4	50.2	52.2

Location Description Soil:
S-1 Chunni village
S-2 Sukraulia
S-3 Bhataura
S-4 Banarpur (near proposed project site)

Table No–2.14: Noise Monitoring for "Baseline Monitoring Studies for 2x660 MW Thermal Power Project at Chausa Site in Buxar District of Bihar

Name of the Station			**:**	**Sonpa Jalilpur (N1)**						
Name of the Project			**:**	**Baseline Studies for 2x 660 mw Thermal Power Project at Chausa site in Buxar District of Bihar**						
Sample Collected By			**:**	**AES Laboratories (P) Ltd, Noida, U.P**						
Date of Monitoring			**:**	**11/3/2015**						
Day Time (6.00AM - 9.00PM)										
Hours	**R1**	**R2**	**R3**	**R4**	**R5**	**L_{min}**	**L_{90}**	**L_{eq}**	**L_{10}**	**L_{max}**
6:00 AM	60.00	61.20	62.20	63.10	61.01	60.00	60.40	61.63	62.74	63.10
7:00 AM	59.01	60.10	61.01	62.20	63.02	59.01	59.45	61.30	62.69	63.02
8:00 AM	61.20	62.02	63.01	64.20	65.10	61.20	61.53	63.34	64.74	65.10
9:00 AM	60.20	61.10	62.20	63.01	64.02	60.20	60.56	62.31	63.62	64.02
10:00 AM	59.10	60.01	61.20	62.02	63.10	59.10	59.46	61.31	62.67	63.10
11:00 AM	60.20	61.10	62.02	63.01	64.20	60.20	60.56	62.33	63.72	64.20
12:00 PM	61.10	62.01	63.20	64.10	65.02	61.10	61.46	63.31	64.65	65.02
1:00 PM	59.20	60.02	61.01	62.20	63.30	59.20	59.53	61.40	62.86	63.30
2:00 PM	58.20	59.31	60.02	61.01	62.20	58.20	58.64	60.37	61.72	62.20
3:00 PM	60.30	61.20	60.02	63.30	64.01	60.02	60.13	62.07	63.73	64.01
4:00 PM	59.20	60.20	60.01	62.30	63.02	59.20	59.52	61.20	62.73	63.02
5:00 PM	57.01	58.20	59.02	60.10	61.20	57.01	57.49	59.35	60.76	61.20
6:00 PM	55.10	54.20	53.00	52.20	51.10	51.10	51.54	53.35	54.74	55.10
7:00 PM	52.30	51.02	50.10	49.02	48.20	48.20	48.53	50.37	51.79	52.30
8:00 PM	54.20	53.10	52.00	51.02	50.10	50.10	50.47	52.33	53.76	54.20
9:00 PM	53.10	52.02	51.30	50.20	49.10	49.10	49.54	51.36	52.67	53.10
Day Time Results						**48.20**	**57.43**	**59.21**	**60.60**	**65.10**
Night Time (10.00PM - 5.00AM)										
Hours	**R1**	**R2**	**R3**	**R4**	**R5**	**L_{min}**	**L_{90}**	**L_{eq}**	**L_{10}**	**L_{max}**
10:00 PM	55.20	54.30	53.01	52.02	51.30	51.30	51.59	53.40	54.84	55.20
11:00 PM	53.01	52.20	51.02	50.10	49.20	49.20	49.56	51.32	52.69	53.01
12:00 AM	52.03	51.20	50.10	49.01	48.00	48.00	48.40	50.31	51.70	52.03
1:00 AM	55.10	54.30	53.02	52.20	51.10	51.10	51.54	53.38	54.78	55.10
2:00 AM	54.20	53.10	52.02	51.01	50.02	50.02	50.42	52.32	53.76	54.20
3:00 AM	53.30	52.10	51.02	50.30	49.01	49.01	49.53	51.39	52.82	53.30
4:00 AM	55.10	54.02	53.30	52.20	50.01	50.01	50.89	53.25	54.67	55.10
5:00 AM	52.03	51.02	50.10	49.01	47.20	47.20	47.92	50.17	51.63	52.03
Night Time Results						**47.20**	**49.98**	**51.94**	**53.36**	**55.20**

Table No–2.15: Noise Monitoring for "Baseline Monitoring Studies for 2x660 MW Thermal Power Project at Chausa Site in Buxar District of Bihar

Name of the Station			**:**	**Sikraul (N2)**						
Name of the Project			**:**	**Baseline Studies for 2x 660 mw Thermal Power Project at Chausa site in Buxar District of Bihar**						
Sample Collected By			**:**	**AES Laboratories (P) Ltd, Noida, U.P**						
Date of Monitoring			**:**	**13/03/2015**						
Day Time (6.00AM - 9.00PM)										
Hours	**R1**	**R2**	**R3**	**R4**	**R5**	**L_{min}**	**L_{90}**	**L_{eq}**	**L_{10}**	**L_{max}**
6:00 AM	40.02	41.20	42.01	43.20	44.01	40.02	40.49	42.31	43.69	44.01
7:00 AM	41.10	42.30	43.10	44.20	45.30	41.10	41.58	43.44	44.86	45.30
8:00 AM	47.20	48.10	49.01	50.20	51.30	47.20	47.56	49.41	50.86	51.30
9:00 AM	46.20	47.10	48.01	49.30	50.10	46.20	46.56	48.37	49.78	50.10
10:00 AM	42.20	43.02	44.30	45.02	46.10	42.20	42.53	44.35	45.67	46.10
11:00 AM	43.10	44.02	45.30	46.10	47.02	43.10	43.47	45.33	46.65	47.02
12:00 PM	40.10	41.30	42.20	43.01	44.20	40.10	40.58	42.39	43.72	44.20
1:00 PM	41.02	42.01	43.02	44.20	45.10	41.02	41.42	43.31	44.74	45.10
2:00 PM	47.10	48.02	49.10	50.01	50.02	47.10	47.47	48.99	50.02	50.02
3:00 PM	46.01	49.30	48.02	49.10	50.20	46.01	46.81	48.74	49.84	50.20
4:00 PM	42.10	43.02	44.01	45.20	46.10	42.10	42.47	44.32	45.74	46.10
5:00 PM	44.10	44.30	45.10	46.20	47.01	44.10	44.18	45.49	46.69	47.01
6:00 PM	43.10	42.02	41.02	40.30	39.02	39.02	39.53	41.32	42.67	43.10
7:00 PM	47.30	46.20	45.01	44.02	43.10	43.10	43.47	45.38	46.86	47.30
8:00 PM	46.20	45.30	44.10	43.20	42.02	42.02	42.49	44.41	45.84	46.20
9:00 PM	45.01	44.20	43.20	42.02	41.10	41.10	41.47	43.33	44.69	45.01
Day Time Results						**39.02**	**43.25**	**45.06**	**46.39**	**51.30**
Night Time (10.00PM - 5.00AM)										
Hours	**R1**	**R2**	**R3**	**R4**	**R5**	**L_{min}**	**L_{90}**	**L_{eq}**	**L_{10}**	**L_{max}**
10:00 PM	43.01	42.20	41.30	40.20	39.02	39.02	39.49	41.37	42.69	43.01
11:00 PM	44.20	43.10	42.01	41.02	40.10	40.10	40.47	42.33	43.76	44.20
12:00 AM	41.01	40.30	39.20	38.10	37.02	37.02	37.45	39.36	40.73	41.01
1:00 AM	40.30	39.20	38.01	37.20	36.01	36.01	36.49	38.40	39.86	40.30
2:00 AM	42.30	41.10	40.02	39.01	38.02	38.02	38.42	40.35	41.82	42.30
3:00 AM	46.10	45.02	44.01	43.02	42.20	42.20	42.53	44.29	45.67	46.10
4:00 AM	48.02	47.10	46.30	45.20	44.02	44.02	44.49	46.35	47.65	48.02
5:00 AM	41.10	40.01	39.02	38.30	37.10	37.10	37.58	39.32	40.66	41.10
Night Time Results						**36.01**	**39.61**	**41.47**	**42.85**	**48.02**

Table No–2.16: Noise Monitoring for "Baseline Monitoring Studies for 2x660 MW Thermal Power Project at Chausa Site in Buxar District of Bihar

Name of the Station	**:**	**Bechan Purva (N3)**
Name of the Project	**:**	**Baseline Studies for 2x 660 mw Thermal Power Project at Chausa site in Buxar District of Bihar**
Sample Collected By	**:**	**AES Laboratories (P) Ltd, Noida, U.P**
Date of Monitoring	**:**	**14/03/2015**

Day Time (6.00AM - 9.00PM)

Hours	R1	R2	R3	R4	R5	L_{min}	L_{90}	L_{eq}	L_{10}	L_{max}
6:00 AM	45.10	46.02	47.01	48.20	49.30	45.10	45.47	47.38	48.86	49.30
7:00 AM	41.20	42.30	43.40	44.02	45.01	41.20	41.64	43.38	44.61	45.01
8:00 AM	46.30	47.20	48.40	49.01	50.20	46.30	46.66	48.43	49.72	50.20
9:00 AM	45.10	46.01	47.20	48.10	49.30	45.10	45.46	47.39	48.82	49.30
10:00 AM	47.20	48.03	49.02	50.20	51.01	47.20	47.53	49.31	50.69	51.01
11:00 AM	48.01	49.30	50.03	51.02	52.20	48.01	48.53	50.35	51.73	52.20
12:00 PM	46.30	47.20	48.10	49.01	50.02	46.30	46.66	48.32	49.62	50.02
1:00 PM	49.20	50.01	50.02	52.10	53.01	49.20	49.52	51.11	52.65	53.01
2:00 PM	50.02	51.02	52.01	53.10	54.30	50.02	50.42	52.35	53.82	54.30
3:00 PM	47.20	48.30	49.02	50.01	51.02	47.20	47.64	49.31	50.62	51.02
4:00 PM	48.10	49.30	50.30	51.20	52.30	48.10	48.58	50.48	51.86	52.30
5:00 PM	49.01	50.02	51.10	52.20	53.02	49.01	49.41	51.31	52.69	53.02
6:00 PM	47.20	46.30	45.01	44.02	43.10	43.10	43.47	45.38	46.84	47.20
7:00 PM	46.20	45.02	44.30	43.10	42.20	42.20	42.56	44.39	45.73	46.20
8:00 PM	45.01	44.03	43.02	42.01	41.10	41.10	41.46	43.26	44.62	45.01
9:00 PM	41.30	40.20	39.02	38.01	37.30	37.30	37.58	39.41	40.86	41.30
Day Time Results						**37.30**	**45.79**	**47.60**	**48.98**	**54.30**

Night Time (10.00PM - 5.00AM)

Hours	R1	R2	R3	R4	R5	L_{min}	L_{90}	L_{eq}	L_{10}	L_{max}
10:00 PM	44.01	43.01	42.03	41.20	40.02	40.02	40.49	42.27	43.61	44.01
11:00 PM	46.01	45.02	44.30	43.04	42.05	42.05	42.45	44.31	45.61	46.01
12:00 AM	47.30	46.02	45.01	44.20	43.30	43.30	43.66	45.39	46.79	47.30
1:00 AM	48.01	47.01	46.02	45.30	44.02	44.02	44.53	46.29	47.61	48.01
2:00 AM	46.02	45.20	44.30	43.01	42.03	42.03	42.42	44.35	45.69	46.02
3:00 AM	45.10	44.01	43.02	42.02	41.20	41.20	41.53	43.29	44.66	45.10
4:00 AM	44.20	43.02	42.30	41.01	40.10	40.10	40.46	42.36	43.73	44.20
5:00 AM	43.10	42.20	41.30	40.01	36.02	36.02	37.62	41.11	42.74	43.10
Night Time Results						**36.02**	**41.65**	**43.67**	**45.06**	**48.01**

Table No–2.17: Noise Monitoring for "Baseline Monitoring Studies for 2x660 MW Thermal Power Project at Chausa Site in Buxar District of Bihar

Name of the Station			**:**	**Sarenja (N4)**						
Name of the Project			**:**	**Baseline Studies for 2x 660 mw Thermal Power Project at Chausa site in Buxar District of Bihar**						
Sample Collected By			**:**	**AES Laboratories (P) Ltd, Noida, U.P**						
Date of Monitoring			**:**	**16/03/2015**						
Day Time (6.00AM - 9.00PM)										
Hours	**R1**	**R2**	**R3**	**R4**	**R5**	**L_{min}**	**L_{90}**	**L_{eq}**	**L_{10}**	**L_{max}**
6:00 AM	40.10	41.01	42.03	43.20	49.30	40.10	40.46	44.62	46.86	49.30
7:00 AM	42.40	43.03	44.02	45.01	45.01	42.40	42.65	44.02	45.01	45.01
8:00 AM	44.30	45.20	46.01	47.10	50.20	44.30	44.66	47.09	48.96	50.20
9:00 AM	46.10	47.20	48.20	49.02	49.30	46.10	46.54	48.12	49.19	49.30
10:00 AM	48.10	48.01	48.30	49.20	51.01	48.01	48.05	49.08	50.29	51.01
11:00 AM	44.20	45.30	46.03	47.02	52.20	44.20	44.64	48.02	50.13	52.20
12:00 PM	43.10	44.01	45.02	46.30	50.02	43.10	43.46	46.44	48.53	50.02
1:00 PM	40.10	41.02	45.20	43.01	53.01	40.10	40.47	47.42	49.89	53.01
2:00 PM	41.02	42.01	43.10	44.20	54.30	41.02	41.42	48.38	50.26	54.30
3:00 PM	45.10	46.02	47.01	48.01	51.02	45.10	45.47	47.96	49.82	51.02
4:00 PM	43.20	44.03	45.01	46.20	52.30	43.20	43.53	47.63	49.86	52.30
5:00 PM	40.10	41.03	42.10	43.10	53.02	40.10	40.47	47.16	49.05	53.02
6:00 PM	45.10	44.20	43.01	42.30	41.10	41.10	41.58	43.37	44.74	45.10
7:00 PM	44.30	43.02	42.02	41.30	40.20	40.20	40.64	42.40	43.79	44.30
8:00 PM	41.10	40.01	39.20	38.30	37.01	37.01	37.53	39.35	40.66	41.10
9:00 PM	45.20	44.30	43.03	42.01	41.10	41.10	41.46	43.38	44.84	45.20
Day Time Results						**37.01**	**42.69**	**45.90**	**47.62**	**54.30**
Night Time (10.00PM - 5.00AM)										
Hours	**R1**	**R2**	**R3**	**R4**	**R5**	**L_{min}**	**L_{90}**	**L_{eq}**	**L_{10}**	**L_{max}**
10:00 PM	43.30	40.02	41.30	40.10	39.20	39.20	39.53	41.04	42.50	43.30
11:00 PM	41.20	40.02	39.01	38.10	37.20	37.20	37.56	39.33	40.73	41.20
12:00 AM	44.01	43.02	42.30	41.03	40.01	40.01	40.42	42.30	43.61	44.01
1:00 AM	45.10	44.20	43.30	42.20	41.01	41.01	41.49	43.39	44.74	45.10
2:00 AM	42.01	41.02	40.20	39.10	38.10	38.10	38.50	40.30	41.61	42.01
3:00 AM	43.10	42.20	41.30	40.03	39.02	39.02	39.42	41.37	42.74	43.10
4:00 AM	40.02	39.10	38.20	37.03	36.30	36.30	36.59	38.34	39.65	40.02
5:00 AM	41.01	40.20	39.10	38.02	37.20	37.20	37.53	39.33	40.69	41.01
Night Time Results						**36.30**	**38.88**	**40.67**	**42.03**	**45.10**

Table No–218: Noise Monitoring for "Baseline Monitoring Studies for 2x660 MW Thermal Power Project at Chausa Site in Buxar District of Bihar

Name of the Station	:	**Akhoripur Gola (N5)**
Name of the Project	:	**Baseline Studies for 2x 660 mw Thermal Power Project at Chausa site in Buxar District of Bihar**
Sample Collected By	:	**AES Laboratories (P) Ltd, Noida, U.P**
Date of Monitoring	:	**17/03/2015**

Day Time (6.00AM - 9.00PM)

Hours	R1	R2	R3	R4	R5	L_{min}	L_{90}	L_{eq}	L_{10}	L_{max}
6:00 AM	70.10	71.20	72.01	73.20	74.01	70.10	70.54	72.32	73.69	74.01
7:00 AM	68.02	69.01	70.10	71.30	72.02	68.02	68.42	70.33	71.73	72.02
8:00 AM	71.02	72.01	73.02	74.20	75.01	71.02	71.42	73.29	74.69	75.01
9:00 AM	67.03	68.03	69.20	70.10	71.01	67.03	67.43	69.30	70.65	71.01
10:00 AM	69.02	70.03	71.02	72.20	73.10	69.02	69.42	71.32	72.74	73.10
11:00 AM	70.10	71.01	72.20	73.30	74.40	70.10	70.46	72.47	73.96	74.40
12:00 PM	71.30	72.02	73.01	74.02	75.01	71.30	71.59	73.28	74.61	75.01
1:00 PM	66.02	67.10	68.02	69.20	70.10	66.02	66.45	68.33	69.74	70.10
2:00 PM	69.10	70.30	71.03	72.01	73.20	69.10	69.58	71.35	72.72	73.20
3:00 PM	72.20	73.02	74.20	75.10	76.01	72.20	72.53	74.32	75.65	76.01
4:00 PM	70.02	74.01	72.03	73.40	74.01	70.02	70.82	72.93	74.01	74.01
5:00 PM	73.20	74.10	75.01	76.02	77.30	73.20	73.56	75.37	76.79	77.30
6:00 PM	65.10	64.30	63.02	62.01	61.10	61.10	61.46	63.35	64.78	65.10
7:00 PM	60.01	59.20	58.01	57.10	56.30	56.30	56.62	58.33	59.69	60.01
8:00 PM	62.30	61.03	60.01	59.02	58.20	58.20	58.53	60.36	61.79	62.30
9:00 PM	63.20	62.01	61.02	60.20	59.01	59.01	59.49	61.33	62.72	63.20
Day Time Results						**56.30**	**67.40**	**69.25**	**70.62**	**77.30**

Night Time (10.00PM - 5.00AM)

Hours	R1	R2	R3	R4	R5	L_{min}	L_{90}	L_{eq}	L_{10}	L_{max}
10:00 PM	61.30	60.02	59.20	57.10	57.02	57.02	57.05	59.24	60.79	61.30
11:00 PM	60.10	59.20	58.00	57.02	56.01	56.01	56.41	58.31	59.74	60.10
12:00 AM	65.20	64.01	63.02	62.20	61.10	61.10	61.54	63.34	64.72	65.20
1:00 AM	66.30	65.20	64.03	63.20	62.10	62.10	62.54	64.41	65.86	66.30
2:00 AM	61.01	60.02	59.01	58.10	57.30	57.30	57.62	59.29	60.61	61.01
3:00 AM	63.10	62.02	60.02	60.00	59.20	59.20	59.52	61.12	62.67	63.10
4:00 AM	65.20	64.10	63.01	62.02	61.02	61.02	61.42	63.32	64.76	65.20
5:00 AM	60.30	59.02	58.30	57.01	56.02	56.02	56.42	58.39	59.79	60.30
Night Time Results						**56.01**	**59.07**	**60.93**	**62.37**	**66.30**

Table No–2.19 Summary of Noise Monitoring for "Baseline Monitoring Studies for 2x660 MW Thermal Power Project at Chausa Site in Buxar District of Bihar

Name of the Project :	Baseline Studies for 2x 660 mw Thermal Power Project at Chausa site in Buxar District of Bihar
Sample Collected By :	AES Laboratories (P) Ltd, Noida, U.P

S.No.	Sample Location	Sample Code	Date of Sampling	Time Frequency	L_{min}	L_{90}	L_{eq}	L_{10}	L_{max}
1	Sonpa Jalilpur	N1	11/3/2015	Day	48.20	57.43	59.21	60.60	65.10
				Night	47.20	49.98	51.94	53.36	55.20
2	Sikraul	N2	13-03-15	Day	39.02	43.25	45.06	46.39	51.30
				Night	36.01	39.61	41.47	42.85	48.02
3	Bechan Purva	N3	14-03-15	Day	37.30	45.79	47.60	48.98	54.30
				Night	36.02	41.65	43.67	45.06	48.01
4	Sarenja	N4	16-03-15	Day	37.01	42.69	45.90	47.62	54.30
				Night	36.30	38.88	40.67	42.03	45.10
5	Akhoripur Gola	N5	17-03-15	Day	56.30	67.40	69.25	70.62	77.30
				Night	56.01	59.07	60.93	62.37	66.30

Table No – 2.20: CPCB Noise Standards

Area Code	Category	Limits in dB(A)	
		Day time	Night time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residentail Area	55	45
D	Silence Zone	50	40

4.4 Ambient Air Monitoring

Banarpur (Near proposed project site)

Bechanpurva

4.5 Weather Monitoring

Weahter Monitoring Station Banarpur (Near proposed project site)

Cloud Cover Measurement

4.6 Noise Monitoring

Sarenja

Akhoripur Gola

4.7 Surface & Ground Water Monitoring

Surface Water Karmnasa River

Ground Water at Sikraul

4.8: Soil Monitoring

Surkraulia

Banarpur

5.0 DISCUSSION OF RESULTS & CONCLUSION

5.1 AMBIENT AIR:

- Ambient air quality according to CPCB standards parameters Respirable Particulate Matter (PM_{10}), Fine Particulate Matter ($PM_{2.5}$), Sulphur dioxide (SO_2), Oxides of Nitrogen (NO_x), Ammonia (NH_3), Ozone (O_3), Lead (Pb), Arsenic (As), Nickel (Ni),, , Carbon monoxide (CO), Hydrogen Sulphide (H2S), Mercury (Hg), Hydrocarbon (HC). at five(5) locations Sonpa Jalilpur, Banarpur, Sikraul, Bechanpurva, Sarenja, are all well within limits.

5.2 MICRO-METEOROLOGY:

The weather data was collected for a study period of three month i.e. from March.17, 2015 to June.13, 2015 on hourly basis. This data is tabulated on hourly basis as well as summarized under Table 1.21 (summary for the entire study period).

5.3 NOISE:

Noise levels according to CPCB standards Parameters Leq over a 24 hour period for day & night at 5 locations N-1 Sonpa Jalilpur, N-2 Sikraul, N-3 Bechanpurva, N-4 Sarenja, N-5 Akhoripur Golar are all well within limits.

5.4 WATER:

Ground Water Quality according to IS 10500 all the parameters (30) at Four locations are all well within limits. Surface Water Quality according to IS 10500 all the parameters (41) at two locations are all well within limits.

5.5 SOIL:

Soil is of good quality

Overall it can be concluded that the baseline ambient air, noise, micro-meteorology, water quality and soil quality environment in the study are of good quality.

MOU dated 24.2.2016 amongst SJVN Thermal Power Limited MMTC for supply of imported coal

INDIA NON JUDICIAL

Government of National Capital Territory of Delhi

e-Stamp

सत्यमेव जयते

Certificate No.	:	IN-DL18984396671021O
Certificate Issued Date	:	23-Feb-2016 01:04 PM
Account Reference	:	IMPACC (IV)/ dl851303/ DELHI/ DL-DLH
Unique Doc. Reference	:	SUBIN-DLDL85130336624628079022O
Purchased by	:	SJVN THERMAL PRIVATE LIMITED
Description of Document	:	Article 5 General Agreement
Property Description	:	Not Applicable
Consideration Price (Rs.)	:	0 (Zero)
First Party	:	SJVN THERMAL PRIVATE LIMITED
Second Party	:	MMTC LIMITED
Stamp Duty Paid By	:	SJVN THERMAL PRIVATE LIMITED
Stamp Duty Amount(Rs.)	:	100 (One Hundred only)

.....Please write or type below this line.....

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (hereinafter referred to as "**MOU**") entered into on this 24.. Day of ..Feb.....2016 by and between:

A. M/s. MMTC Limited, a Government of India Enterprise having its Registered office at Core 1, Scope complex, 7,Institutional area, Lodhi Road, New Delhi - 110 003, (hereinafter referred to as 'MMTC" which expression shall unless the context requires otherwise, include its successors and permitted assigns) of the **First Part**

Parveen Gupta
Chief Executive Officer
SJVN Thermal Pvt. Limited
Plot No. 192, Circle No. 06, Talpatra Lane,
Buddha Marg, Patna - 800 001 (Bihar)

and

B. The SJVN THERMAL PVT. LIMITED (A Wholly Owned Subsidiary of SJVN LIMITED, A Joint venture of Govt. of India & Govt. of Himachal Pradesh), a corporation incorporated under the Companies Act, 1956/2013, having its **Registered Office** at 69/5, T.N Banerjee Road, Near Gandhi Maidan, Chhajjubag, Patna- 800001 (hereinafter called as " STPL" which expression shall unless the context requires otherwise, include its successors and permitted assigns) of the **Second Part**.

WHEREAS:

a) STPL is executing 1320 MW (2X 660 MW) Buxar Thermal Power Project at Chausa, Distt Buxar (hereinafter referred to as "**Project**") situated in Bihar; The project is expected to be commissioned by FY 2020-21.

b) Ministry of Coal, Govt of India has allocated Deocha Pachami Coal Block (2102 MT), Distt Birbhum (hereinafter referred to as "**Coal Block**") situated in West Bengal to Buxar Thermal Power Plant along with State Power Utilities of Punjab, Uttar Pradesh, Bihar, Karnataka, Tamilnadu and West Bengal. The production of Coal from the said allocated Coal Block is expected to start at later date from the date of commissioning of project.

c) STPL propose to operate the plant with imported coal after scheduled commissioning and till production of coal from Coal Block; However, after the start of production from Coal Block , the requirement of imported coal may be reduced depending upon the quantity of production from the coal Block

d) MMTC is one of the major importer of imported steam coal in India having vast experience in supplying imported coal to various thermal plants in India;

e) MMTC has agreed to supply imported coal of about 4.50 Million tonnes per annum (4.50 MTPA) for the above proposed project at the request of STPL.

f) For the aforesaid purpose, the parties hereby agree to sign these presents on mutually agreed terms and conditions mentioned hereunder:

NOW THEREFORE THIS MEMORANDUM OF UNDERSTANDING (MOU) WITNESSTH AS FOLLOWS:

1. INTENT:

Parveen Gupta
Chief Executive Officer
SJVN Thermal Pvt. Limited
Plot No. 192, Circle No. 06, Talpatra Lane
Buddha Marg, Patna - 800 001 (Bihar)

a) MMTC shall import coal for Long term supply for operation of Buxar Thermal Power Project (2x660 MW). The imported coal shall be non- coking coal (steaming).

b) The characteristics of imported coal shall be:-

(A) CHARACTERISTICS OF IMPORTED COAL

PARAMETER	UNIT	ACCEPTABLE RANGE
Total Moisture (ARB)	%	Upto 32%
Ash (ADB)	%	Upto 12%-Max
Fixed Carbon (ADB)	%	30-50 Typical
Volatile Matter (ADB)	%	25-45%
Sulphur (ADB)	%	Upto 0.80% Max.
Gross Calorific Value (ADB)	Kcal/ Kg	5300-5800
HGI	-	45-60
IDT under reducing atom.	Degree Centigrade	1100-1250
SIZE	MM	Up to 50mm However, size of coal less than 2.36 mm shall not be more than 25% of quantity received.

Guaranteed Parameters for coal under this tender for Price Basis are as under:

Total Moisture (ARB)	:	25%
Ash (ADB)	:	12%
Sulphur (ADB)	:	0.80%
Gross Calorific Value (ADB)	:	5700 Kcal/Kg
Size(less than 2.36mm)	:	Not exceeding 25% of quantity received at power plant

Remarks: The above-specified values are broad quality parameters. However, at the time of procurement the same shall be within the prevailing MOEF&CC guidelines.

c) STPL shall intimate exact date of commissioning of the Project to MMTC in advance (i.e. three months) so that MMTC shall arrange necessary logistics.

Parveen Gupta
Chief Executive Officer
SJVN Thermal Pvt. Limited
Plot No. 192, Circle No. 06, Taipatra Lane,
Buddh... - 800 001 (Bihar)

d) STPL shall furnish month-wise requirement of coal to MMTC sufficiently in advance for supply of coal.
e) The imported coal shall be brought at Project, if Railway Track is available, or the nearest railway siding and MMTC shall arrange Panamax Vessels for transporting the coal.
f) MMTC shall follow CVC guidelines and other Govt. notifications issued from time to time for procurement of imported coal through transparent Competitive bidding process.
g) MMTC shall furnish the split up details of imported coal including taxes, duties, insurance charges, Load transportation, port charges and all other incidental expenses such as pilotage and berth hire charges, light dues, harbour dues, clearing and forwarding, assessment and other charges with respect to the vessels at port of discharge. The rates shall also include overhead charges of MMTC.
h) MMTC and STPL shall mutually discuss and agree on the price of coal every year for the supply of imported coal.
i) MMTC shall arrange for sampling Analysis weighment of coal shipment at load port through mutually agreed Internationally accredited Inspection Agency.
j) C&F Price shall be adjusted for Gross Calorific Value, Total moisture, ash and sulphur as per mutually agreed terms before shipment.
k) This MoU is prepared basis the prevailing market conditions, availability of coal, expected date of commissioning of project etc . MMTC will, however, enter into agreement with STPL prior to commencement of supplies elaborating all terms & conditions prevailing at that time.
l) MMTC & STPL shall mutually discuss and agree on MMTC's trade margin every year for supply of imported coal to the said project.

2. Exclusivity for Sourcing Imported Coal

(a) STPL to exclusively buy imported coal through MMTC under the MoU.
(b) The exclusivity period shall mean the period starting from the date of signing of MoU and ends after lapse of three(3) years from commissioning of the project.
(c) During the exclusivity period, STPL will neither directly nor indirectly, through any employee or agent or otherwise invite or accept offer relating to purchase of imported coal for said project.
(d) STPL will initiate process of purchase of imported coal for said Project if MMTC refuses to supply imported coal.

Parveen Gupta
Chief Executive Officer
SJVN Thermal Pvt. Limited
Plot No. 182, Circle No. 06, Talpatra Lane,
Boring Road, Patna - 800 001 (Bihar)

3. REPRESENTATION AND WARRANTIES:

Neither party shall have the right of power to bind the other party to any agreement without the prior written consent of the other party. Unless specifically agreed in writing, no party is authorized to make commitments, representations, warranties to agreements on behalf of the other party and each party agrees that it will not hold itself out as having such authority. If any party acts in violation of the foregoing, the said party agrees to indemnify, defend and hold the other parties harmless from and against any and all claims, demands, losses, damages, liabilities, law suits and other proceedings, judgments and awards, the reasonable cost and expenses, (including but not limited to reasonable attorneys fee) arising directly or indirectly in whole or in part, out of the breach of this article by such party whether committed by the indemnifying party, its employees, agents, successors or assigns.

4. LIMITATION OF LIABILITY:

Neither party shall be liable to each other for any financial liability or any consequential loss incurred by the party individually in respect of the MOU.

5. ASSIGNMENT:

The assignment by any party of all its rights and obligations under this MOU to a third party shall be subject to the written consent of the other party provided that such assignee shall also specifically agrees in writing to be bound by the terms of this MOU.

6. SETTLEMNT OF DISPUTES AND ARBITRATION:

In the event of any difference/dispute arising between the parties hereof under these presents, such disputes/difference shall in the first instance be resolved amicably by mutual consultation within 45 days of the reference of dispute by either party.

If amicable settlement is not reached between the parties in any dispute or difference , whatsoever arising between the parties out of or relating to the construction , meaning , scope, operation or effect of this MOU or the validity or the breach thereof shall be settled by arbitration in accordance with the Rule of Arbitration of the Indian Council of Arbitration and the award made in pursuance thereof shall be binging on the parties. The provisions of Arbitration and

Parveen Gupta
Chief Executive Officer
SJVN Thermal Pvt. Limited
Plot No. 102, Circle No. 06, Talpatra Lane,
Bundhu Park, Patna - 800 001 (Bihar)

Conciliation act 1996 shall apply to such Arbitration proceedings. The venue of the Arbitration shall be at New Delhi.

7. GOVERNING LAWS & JURISDICTION :

This MOU shall be governed by the laws of India and the rules framed thereunder. The Courts of New Delhi shall have exclusive jurisdiction in all matters relating to or arising out of this MOU.

8. NOTICE:

Any notice to be given under this MOU shall be in writing and shall be deemed to have been duly and properly served upon the Parties hereto if delivered against acknowledgement or by registered mail with acknowledgement or by registered mail with acknowledgement due, addressed to the Parties herein at the following addresses or such changed addresses as will be duly notified by the Parties from time to time.

Address

Attention

MMTC Limited, represented by General Manager (Coal)
Core 1, Scope complex,
7,Institutional area,
Lodhi Road,
New Delhi - 110003
Tel No. :011-24366305,
E-mail : mmtc@mmtclimited.com

Attention

SJVN Thermal Private Limited represented by Chief Executive Officer (STPL)

Plot 192, Circle 6, Ward 2,
Talpatra Lane,
Budh Marg,
Patna-800001
Tel: 0612-2219340
Fax : 0612-2239341
E-mail :ceostpl@gmail.com

9. CONFIDENTIALITY:

a. The parties, to the extent of their respective rights to do so, shall exchange such technical information and data as is reasonably required of each party to perform its responsibilities under this MOU. Each party agrees to keep in confidence and to use the same degree of care as it uses with respect to its own proprietary data to prevent the disclosure to third parties of all technical information, data and confidential business information (hereinafter referred to as "Data").

Parveen Gupta
Chief Executive Officer
Pvt. Limited
Talpatra Lane,
Patna)

b. Exchange, use and maintenance of confidential data shall be mutually discussed and agreed to by the parties.

c. The preceding provisions of confidentially and restriction on use of data shall not apply to the Parties for-

- Information in the public domain of information, which subsequently enter into public domain without committing breach of this clause.
- Information in possession of the party at the time of disclosure and was not acquired, directly or indirectly, from the other party.
- Information which a party is required to disclose under law, rules or regulations to any judicial or other authorities.
- Consultants / advisors, provided they, in turn, sign undertaking of confidentially.

10. Validity OF MOU:

a. The MOU shall be deemed to be in force from the date of signing of MoU and shall continue to remain valid upto three(3) years from the date of commissioning of the project.

b. The MoU may be extended for further period on mutual consent of both the parties.

11. TERMINATION OF MOU:

The MOU shall stand terminated without any liability on either party,

i) If the parties hereto by mutual consent agree that the MOU could not be continued for any reason whatsoever, or

ii) On expiry of the notice period if either party gives a written notice of not less than three months expressing inability to continue with the MOU.

12. COMPLIANCE WITH GOVT. ORDERS:

Coal to be imported under the proposed agreement is meant for the purpose of generation of power at STPL Power station at Chausa, Buxar.

Parveen Gupta
Chief Executive Officer
SJVN Thermal Pvt. Limited
Plot No. 192, Circle No. 06, Talpatra Lane,
Buddha Marg, Patna - 800 001 (Bihar)

MMTC shall ensure compliance of all regulations / conventions / policies / guidelines / orders/etc. enforced related to any or all of the activities covered in the imports, including shipping of consignments, Insurance, Clearing, Handling and Forwarding and Inlands Transportation etc.

In case of any modification in any of the provisions in respect of supply of imported coal during the pendency of the proposed agreement, the same shall become applicable and binding on MMTC and STPL with immediate effect.

13. EFFECTIVE DATE:

This MOU shall come into force as soon as it is signed for all purposes and intents.

IN WITNESS WHEREOF, the parties hereto have signed this Memorandum of Understanding at New Delhi on the date first mentioned above in the presence of witnesses as mentioned hereunder.

For and behalf of MMTC Limited

GENERAL MANAGER/MMTC

For and behalf of STPL

CHIEF EXECUTIVE OFFICER

Parveen Gupta
Chief Executive Officer
SJVN Thermal Pvt. Limited
Plot No. 102, Circle No. 06, Talpatra Lane,
Buddha Marg, Patna - 800 001 (Bihar)

WITNESSES:

1. S. K. SINGH
Head (Contracts)
STPL, Patna

2. Mohit Upadhyay
Engineer (Mech)
SJVN LTD. (DELHI)

1. HEMANT BIST
CHIEF MANAGER (COAL)
MMTC LTD, N. DELHI

2. Achal Meena
ACHAL MEENA
MANAGER, COAL
MMTC LTD, New Delhi

Certificate from District Magistrate, Buxar

समाहरणालय, बक्सर

(विकास शाखा)

पत्रांक 05 - 1380 /वि0

प्रेषक,

जिला पदाधिकारी,
बक्सर।

सेवा में,

जेनरल मेनेजर/हेड ऑफ प्रोजेक्ट
एस0जे0भी0एन0 थर्मल प्राईवेट लि0,
चौसा।

दिनांक 23 / 05 /2015

विषयः– Environment Clearance of Buxar Thermal Power Plant.

प्रसंगः– आपका पत्रांक 44, दिनांक 22.05.2015.

महाशय,

उपर्युक्त विषय एवं प्रसंग के आलोक में प्रमाणित किया जाता है कि चौसा विद्युत प्रोजेक्ट के आस–पास अभी तक किसी प्रकार का वृहद उद्योग स्थापित नहीं हुआ है।

सूचनार्थ प्रेषित।

विश्वासभाजन

23.5.15

जिला पदाधिकारी,
बक्सर।

जिला पदाधिकारी
बक्सर

अमित
22.05.2015