NABHA POWER LIMITED

Mailing Address: Aspire Tower, 4th floor, Plot No.55, Industrial and Business Park, Phase-I,
Chandigarh-160 002
Phone: 0172 4646846 • Fax: 0172 4646802

NPL/MoEF/EC/Dec/5870 **Date: 27.12.2017**

To,

The Director
Ministry of Environment, Forest and Climate Change
(Northern Region))
Bays Nos. 24-25, Sector 31-A,
Chandigarh-160030

Sub: Half Yearly Environment Clearance Compliance Report for the Period of April 2017 to Sep 2017.

Ref: Environmental Clearance No J-13011/44/2008- IA-II (T) dated 3rd October 2008 and as Amended on dated 15th November 2010.

Dear Sir,

Please find enclosed Half Yearly Environment Clearance Compliance Report of **M/s Nabha Power Ltd., Vill. Nalash, Distt- Patiala(Punjab)** for the period of 1st April 2017 to 30th Sep 2017.

Thanking You,

Yours Sincerely,

For Nabha Power Limited

(Rajiv Bhandari) 29/12/17
DGM-HSE

Encl: As above.

Cc: (i) The Executive Environment Engineer, Regional Office, Patiala, Ground Floor, Vatavaran Bhawan, Nabha Road, Patiala(Punjab)
(ii) In-charge-Central Pollution Control Board, Zonal Office (North) PICUP Bhawan Vibhuti Khand, Gomti Nagar, Lucknow (UP) - 226 010

SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE

NABHA POWER LIMITED

2×700 MW THERMAL POWER PLANT

VILL. NALASH

DISTT. PATIALA
(PUNJAB)

Submitted to:

MINISTRY OF ENVIRONMENT,FORESTS AND CLIMATE CHANGE
Regional Office (Northern Region)
Chandigarh-160030

Central Pollution Control Board, Lucknow

Punjab State Pollution Control Board, Patiala

Submitted By:

NABHA POWER LIMITED
VILL. NALASH

PATIALA (PUNJAB)

Period: April-2017 to September-2017

CONTENTS

Introduction

Nabha Power Limited (NPL), was established as Special Purpose Vehicle (SPV) by the erstwhile Punjab State Electricity Board (PSEB) to develop the Rajpura Thermal Power Project at a site near village Nalash, Distt Patiala, Punjab. An RfQ/RfP was floated by PSEB in line with the Case 2 competitive bidding guidelines, Govt of India (GoI) and L&T Power Development Limited (a wholly owned subsidiary of L&T) was identified as the lowest bidder. NPL has signed Power Purchase Agreement on 18th January, 2010 with PSEB and the NPL was also transferred to L&T Power Development Limited as its wholly owned subsidiary on 18th January, 2010.

The 1400 MW power plant is constructed as a unit configuration of 2 x 700 MW units, with one steam turbine and one boiler for each unit.

NPL is having two Pulverized Fuel Boilers, generating steam at 25.71MPa at 568 °C with two Condensing Turbo Generator Sets each having generating capacity of 700 MW of power. Installation of associated mechanical and electrical equipment, auxiliary units like coal, ash handling plant, water treatment plant, cooling water system, electrostatic precipitators (ESPs), NOx control equipment etc. are part of the total installation.

SALIENT FEATURES OF NABHA POWER LTD.

Total Capacity	2x700 MW (1400 MW)
Fuel Requirement and Source	5.7 MT/Year, SECL Mines
Water requirement and source	50 Cusec from Bhakra main canal
Status	Unit 1 Operational since 1st Feb 2014
	Unit 2 Operational since 10th July 2014

Project Proponent : **Nabha Power Ltd.**
Project Status : **U # I & U#II Synchronised on Feb-2014 and July-2014 respectively**
Reference : **Ministry of Environment & Forest- Environmental Clearance No.-J-13011/44/2008-IA-II (T) dated 3rd October 2008 and Amendment dated 15th November 2010.**

COMPLIANCE REPORT FOR THE PERIOD OF Apr 2017 to Sep 2017

S. No.	MOEF Conditions	Compliance Status
1.	The total land requirement for the project shall be restricted to 1278 acres.	The land requirement for 1400 MW has been restricted within 1278 acres only.
2.	Prior clearance from the competent authority shall be obtained for locating the proposed power plant in proximity (about 3 kms) of the defence installation. A copy of the same shall be furnished to the ministry and the regional office of this ministry within one month from the date of issue of this clearance letter.	NOC from Ministry of defence & AAI obtained on 25th May, 2009, Ref No.:No. 21(7)/2008/D(Coord) & 22ndJuly,2008, Ref No.: No. AAI/20012/664/ 2008-ARI (NOC) respectively.
3.	Sulphur & ash contents in the coal to be used in the project shall not exceed 0.5% & 34%.	Sulphur & ash contents in the coal being used are below 0.5% & 34%. Respectively. The Testing Reports are attached here as **Annexure 1 & 2.**
4.	A bi-flue stack of height 275 m shall be provided with continuous online monitoring equipment for SOx, NOx & particulate matter. Exit velocity of flue gas should not be less than 25 m/sec.	Continuous online monitoring equipment are functional at 275 Mtr. stack on both the flues attached to Boiler 1 & Boiler 2 and monitoring of PM, Sox & Nox. is being done. The exit velocity of flue gas is measured and is more than 25 m/sec. The Stack Emission Monitoring Reports from MoEF & CC approved laboratory is attached here as **Annexure-3.**
5.	High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure particulate emission doesn't exceed 50 mg/m^3.	The ESP's attached to Boiler 1 & 2 are functional and have efficiencies more than 99.99%. The SPM emissions are < 50 mg/Nm^3. The stack Emission Monitoring Reports from MoEF & CC approved laboratory is attached here as Annexure-**3**
6.	Space provision shall be kept for retrofitting for FGD, if required at later date.	Space provision for FGD has already been earmarked
7.	Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	The Dust extraction system & Dust suppression system (water sprinklers) is operational in the coal handling area, ash handling and at all transfer points. The photographs of the same is attached here as **Annexure-4**
8.	Fly ash to be collected in dry form in storage facility (silos) shall be provided. 100% utilization of fly ash shall be achieved from day one. Unutilized fly ash in emergency and bottom ash shall be disposed in ash pond and bottom ash in conventional slurry mode. Mercury and other heavy metals (Hg, Cr, Pb etc.) will be monitored in bottom ash and fly ash as also in the effluent emanating from ash pond.	Fly Ash Silos (3 Nos.) are fully operational. The utilization report of Fly ash is being submitted with the Regional Office, PPCB on monthly basis. However, the same is attached here as **Annexure-5** Monitoring of heavy metals is being done for both bottom & fly ash and reports are submitted with the Regional Office, MOEF & PPCB on 6 monthly basis. Latest reports are attached as **Annexure-6.**
9.	Ash pond shall be lined with HDPE lining. Adequate safety measures shall also be implemented to protect ash dyke from getting breached.	Ash Pond bed is provided with HDPE lining (500 micron thick) over 50 mm thick sand cushion and top of HDPE liner is protected with 300 mm earth cover
10.	Closed cycle cooling system with cooling towers shall be provided. Effluents shall be treated as per the prescribed norms.	Complied.
11.	The treated effluents confirming to the prescribed standard shall be re-circulated and reused within the plant. There shall be no discharge outside the plant	The Power plant is based on Zero Discharge (ZLD) concept and the treated effluents conforming to prescribed standards are

	boundary except during Monsoon. Arrangement shall be made that effluent & storm water do not get mix.	being re- circulated and reused within the Plant. There is no discharge outside the plant boundary.
12.	A Sewage Treatment Plant shall be provided, and treated sewage shall be used for raising green belt/plantation.	The Sewage treatment plant of 50 KLD capacities is in operation. The treated water is being used for Green belt development/Plantation. The treated effluent report is attached as **Annexure-7**
13.	Rain water harvesting should be adopted. Central Ground Water Authority/board shall be consulted for finalization of appropriate rain water harvesting technology with in a period of three months from the date of clearance and details shall be furnished.	Rain water harvesting pits have been made as per the Rain water harvesting scheme approved by CGWA.
14.	Adequate safety measures shall be provided in plant area to check/minimize spontaneous fire in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry at Chandigarh.	The safety measures submitted to MOEF vide letter ref: NPL/SKN/MOEF/1423 dated: 28th June 2012 have been implemented to check/minimize spontaneous fire in coal yard.
15.	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of project.	Adequate arrangements were made for construction labor such as toilets, STP, safe drinking water, medical health care etc.
16.	Storage facilities for liquid fuel such as LDO and HFO/LSHS shall be made in the plant area where risk is minimum to the storage facilities. Onsite and off-site disaster management plan shall be prepared to meet any eventuality in case of an accident taking place. Mock drills shall be conducted regularly and based on the same, modification required, if any shall be incorporated in the DMP.	The Storage tanks for LDO & HFO storage have been made after necessary risk assessment. On site and off-site disaster management plan is prepared and the adequacy of the Plan is being tested on regular basis through conducting mock drills.
17.	Regular monitoring of ground water in and around ash pond area shall be carried out, records maintained and six-monthly reports shall be furnished to Regional Office, Chandigarh.	Regular monitoring is being done and reports are being submitted to MOEF & PPCB on six monthly basis. Latest reports are attached as **Annexure-8**
18.	A green belt of adequate width and density shall be developed around plant periphery covering about 1/3rd of project area preferably with local species.	2.5 Lakh trees already planted @2500/ha with local species. The Green Belt Development Report is attached as **Annexure-9**
19.	Activities under CSR shall be enhanced with proper financial allocation. Details of these activities shall be submitted to the Regional Office of the Ministry, SPCB and the Ministry.	The management demonstrates its intention & commitment towards socio-economic development by providing various facilities to the nearby villages. The details of activities carried out in period of 1st April 2017 to 30th Sep 2017 is attached as **Annexure-10**.
20.	First aid & sanitation arrangement shall be made for the drivers and other contract workers during construction phase.	First aid centre & adequate sanitation arrangement for the drivers and other contract workers are in place.
21.	Noise level emanating from turbines shall be limited to 75 dB (A). For people working in the high noise area, requisite personal protective equipment like Earplug/ear muffs etc. shall be provided. Workers engaged in noisy area such as turbine area, air compressors etc. shall be periodically examined to maintain audiometry record and for any hearing loss including shifting to non-noisy/less noisy areas.	The Noise levels are maintained well below the prescribed standards. PPE's are being provided to all the workers depending upon the task being performed. Medical examination of the workers engaged in high noise area is being done on six monthly basis and records being maintained.
22.	Regular monitoring of ground level concentration of SO_2, NOx, SPM, RSPM and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed prescribed	Monitoring reports are regularly being submitted to Regional office of Ministry and PPCB. Latest report are attached as **Annexure-11**

	limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of the monitoring shall be decided in consultation with SPCB. Periodic report to be submitted to Regional office of this Ministry.	
23.	The project proponent shall advertise in two local newspaper widely circulated in the region around the project, one of which shall be in the vernacular language of the locality/Municipal area/Gram Panchayat concerned and on the company's website within seven days from the date of clearance letter, informing that the project has been accorded environment clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at website of the ministry of Environment and forests at http://envfor.nic.in.	Complied.
24.	A separate Environment Management Cell with qualified staff to be set up for implementation of the stipulated environmental safeguards.	EMC comprising of qualified staff with adequate experience and knowledge is in place to cater environmental responsibilities.
25.	Half yearly report on status of implementation of the stipulated conditions and environmental safeguards shall be submitted to this Ministry/Regional Office/CPCB/SPCB.	Complied.
26.	Regional office of the Ministry of Environment & Forests located at Chandigarh will monitor implementation of stipulated conditions. A complete set of documents including EIA report & EMP report along with additional information submitted from time to time shall be forwarded to the regional office for their use during monitoring.	Complied.
27.	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes & year wise expenditure should be reported to Ministry.	Being Complied
28.	The project authorities shall inform the regional office as well as the Ministry regarding the date of financial closure and final approval of project by concerned authorities and the dates of start of land development work and commissioning of plant.	Plant is in Operation and generation capacity is 1400 MW
29.	Full co-operation should be extended to the scientists/officers from the Ministry/Regional office of the Ministry at Chandigarh/the CPCB/the SPCB who would be monitoring compliance of environmental status.	The NPL is providing full co-operation to the scientists/officers from the Ministry/Regional office of the Ministry at Chandigarh/the CPCB/the SPCB who are monitoring compliance of environmental status, time to time.
30.	No additional coal consumption beyond 5.8 MTPA (at 85 % PLF) earlier envisaged for 2 x 660 MW and no additional land for the enhanced capacity shall be permitted.	Being Complied.
31.	The project proponent shall upload the status of compliance of the conditions stipulated in the environmental clearance issued vide Ministry's letter of even no. dated 03.10.2008, in its website and update periodically and also simultaneously send the same by email to regional office of Ministry of Environment and Forests.	NPL website is live & the compliance reports &Monthly Environment Monitoring Reports are uploaded periodically on website. Website address: http://www.lntnabhapower.com

32.	Critical pollutants levels including NOx, $RPSM_{10 \text{ and } 2.5}$, SO_2 shall be regularly monitored and results displayed in your website and also at main gate of the power plant.	Being Complied.

Reference: Ministry of Environment & Forest-Environmental Clearance No -J-13011/44/2008- IA-II (T) dated 3rd October 2008 and Amendment dated 15th November 2010.Validity Extension Dated 5.02.2014

S. No.	MOEF Conditions	Compliance Status
33	Harnessing solar power within the premises of the plant particularly at the available roof tops shall be under taken and status of implementation shall be submitted periodically to regional office of ministry	Solar panels on Hostel roof and CHP are already provided.
34	A long-term study on radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute. Thereafter mechanism for an in-built continuous monitoring for radio-activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	Radioactive and Heavy metal contents in Coal report is attached as Annexure-10
35	Exit velocity of flue gases shall not be less than 22 m/s. Mercury emissions from stack shall also be monitored on periodic basis.	The exit velocity of flue gases is more than 22 m/s. Mercury emissions from the stack is regularly monitored and the reports are being submitted to MOEF / PPCB on periodic basis. Latest report is attached as **Annexure-3**
36	Fugitive emissions shall be controlled to prevent impact on agriculture or non-agriculture land.	Adequate measures to control fugitive emissions already in place.
37	No ground water shall be extracted for use in operation of power plant even in lean season.	Complied.
38	Source sustainability of water requirement shall be carried out by an institute of repute. The study shall also specify the source of water for meeting the requirement during lean season. The report shall be submitted to the Regional Office of ministry within six months.	The Source Sustainability Study of water was conducted before granting the EC by MOEF to know the source of fulfilment of water requirement by the purposed Plant. For Nabha Power Limited the source of water is Bhakhra Canal and necessary permissions in this regard was taken from Irrigation Department, Punjab and was submitted with your kind office before grant of Environmental Clearance. When we had applied for Extn. of EC, our plant was already Commissioned, and we were having valid Consent to Operate from State Pollution Control Board. **Therefore, the said condition is not applicable on us.**
39	Hydro geological study of the area shall be reviewed annually and report submitted to the ministry. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up/ operation of the power plant.	No Ground Water abstraction is being done. We are only using Canal water for generation of Power. **Therefore, the said condition is not applicable on us.**
40	Minimum required environment flow suggested by the competent authority of the state government shall be maintained in the Channel / Rivers (as applicable) even in lean season.	Agreed
41	C.O.C of 5.0 shall be adopted	Adopted and being complied.
42	Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as an option for fly ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option for mine void filing is to be adopted, prior detailed study of soil characteristics of mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close coordination with the State Pollution Control Board	Agreed

43	Green belt consisting of 3 tiers of plantations of native species around the plant and at least 100m width shall be raised. Wherever 100m width is not feasible a 50 m width shall be raised and adequate justification shall be submitted to Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 75 %.	Complied. The Green Belt Development Report is attached as Annexure-9
44	Three tier green belt shall be developed all around ash pond over and above the green belt around the plant boundary.	Complied.
45	A common **Green Endowment Fund** shall be created and the interest earned out of it shall be used for the development and management of Green cover of the area.	Being complied
46	The project proponent shall also adequately contribute in the development of the neighboring villages. Special package with implementation schedule for free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	Same has been complied. Support provided to three villages for supply of Clean drinking water. Various initiatives already being undertaken for development of surrounding areas viz. Infrastructure Development, Support to needy families under various welfare schemes, Free Skill training for girls, Support to educational institutions/govt schools/Aganwari Centers, Tree plantation and support for other various community based need/requirement.
47	An amount of Rs 22 Crores shall be earmarked as one time capital cost for CSR program. Subsequently a recurring expenditure of Rs 4.4 Crores per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with the road map for implementation.	Same has been complied. CSR Spent during since plant inception Rs. 22 Cr. Spend during 2016-17 Rs. 4.47 Crore for CSR activities. Proposed for 2017-18 : Rs. 4.40 Cr
48	CSR scheme should address Public Hearing issues and shall be undertaken based on need based assessment in and around villages within 5.0 km of the site and in constant consultation with the village Panchayat and District administration. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall also be undertaken. Development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such program. Company shall provide separate budget for community development activities and income generating programs. Vocational training program for possible self-employment and jobs shall be imparted to identify villagers free of cost.	Complied. Presently working in 49 villages falls under the radius of 5 kms and implemented various CSR schemes in the target villages in coordination with village panchayats. Free skill training in Beautician, Tailoring, and Embroidery is being imparted to girls thorough 11 Training centers. Local youth are being given preference for jobs in plant as per their skills, qualification and criteria set for the job. Govt. ITI at Rajpura has been adopted for Upgradation of facilities. Advanced welding workshop and refurbishment works at ITI are being supported.
49	It shall be ensured that in-built monitoring mechanism for the schemes identified is in place and annual social audit shall be got done from the nearest government institute of repute in the region. The project proponent shall also submit the status of implementation of the scheme from time to time.	A CSR committee is already constituted at NPL level who is monitoring the CSR activities. Meetings are being organized with the Panchayats of the target villages to get their feedback/suggestions for ongoing CSR activities.
50	An Environmental cell shall be created at the project site itself and shall be headed by an officer of the company of appropriate seniority and qualification. It shall be ensured that the head of the cell shall directly report to the Head of the organization.	Environmental Cell Headed by DGM-HSE is already in place who directly reports to the Chief Executive (Head of Organization).
51	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to the Regional Office of this ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	Regular monitoring of ground water quality including heavy metals is being carried out regularly in and around the Ash Dykes. Piezometer wells are established around the ash pond area and being regularly monitored by Punjab Pollution Control Board on quarterly basis. Latest reports are attached as **Annexure-8**

52	Monitoring of the surface quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	No Ground Water is being abstracted as we are using Canal water for generation of Power. The quality and quantity of the canal water is monitored, and records are being maintained. We are already monitoring Heavy metals in Ground Water by taking sample thru Piezometer and submitting the respective reports to Regional office of the ministry at Chandigarh. Latest reports are attached as **Annexure-8**
53	The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.	Complied. Last Environmental Report was submitted On 28.09.2017 with Regional Office of the Ministry at Chandigarh and PPCB, Patiala.
54	The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	HSE Policy has been framed and accordingly officers have been designated for achieving the objectives by adherence to the Policy. We are certified for Integrated Management System requirements (ISO 9001, 14001 & OHSAS 18001) by LRQA & Bureau Veritas respectively.

Annexure-1

Test Report of Sulphur % in Coal

Annexure-1

Mitra S. K. Private Limited

TESTING • INSPECTION

Mobile No. [illegible]
P.O. & Village : Raipur, Baneriseepara, Maheshtala
Dist : 24 Parganas (South)
Kolkata : 700 141
CIN : U51909WB1956PTC023037

T : +91 33 2492 6142 / F : +91 33 2265 0008
E : centrallab@mitrask.com
W : www.mitrask.com

Name & Address of the customer
M/s Nabha Power Limited.
Rajpura, Thermal Power Plant, Village Nalash
Rajpura Dist. Patiala, Punjab

T-0148

TEST REPORT

Test Report No.: C/17-18/ 114 *Date:* 18.05.17
Sample No. : MSK/KOL/17-18/ 114 *Page No.* 1 of 1

Certified that the Sample has been analyzed with the following results.
Submitted to the laboratory ☑

1. Description of sample *(As declared by customer)* : Coal (Feed Coal 31st March, 2017)
2. Date of receipt of sample at laboratory : 16.05.17
3. Date of performance of tests : 16.05.17-18.05.17
4. *Analysis Results:*

PARAMETER	VALUES	UNIT	TEST METHOD
C*	51.00*	%	ASTM D5373-14e1
H*	4.10		
N*	1.19		
S*	0.46		ASTM D 4239-14e2, Method. B
O*	12.42	weight%	ASTM D3176-15

* *Analyzed on air dry basis.*
[a] *Not in NABL Accredited Scope.*

for **Mitra S.K.Private Limited**

Name : Mr. Sabir Laskar
Designation : Sr. Executive Chemist

- *The results relate only to the items tested.*
- *This Test Report shall not be reproduced without the permission of Mitra S.K.Pvt. Ltd.*
- *Samples, shall be retained for 90 days from the date of issue of the Test Report.*

Analysis Report

Print Date

Report Control no.

SAMPLE SUBMITTED BY LABORATORY

Sample Despatched By: Customer as

Customer Name

Customer Address

City

State

Sample Mode

Sample Weight

Postal Code

Country

Registration Date

Test End Date

Test Name	Test Protocol	Test Results

End of Report

Remark: CHN Analysis Subcontracted to SGS Bhubaneswar Lab which is accreditated by NABL Certificate Number: TC-5867

Annexure-2

Test Report of Ash % in Coal

Annexure-2

Details of Average Ash Content in Coal in %

Month	Average Ash Content in Coal in %
Apr-17	32.62
May-17	32.37
Jun-17	30.103
Jul-17	29.60
Aug-17	30.26
Sep-17	33.29
Average Ash Content(%)	**31.37**

Annexure-3

Stack Emission Monitoring Results and Photograph of Continuous Emission Monitoring System (CEMS).

PUNJAB POLLUTION CONTROL BOARD

AIR LABORATORY, HEAD OFFICE, VATAVARAN BHAWAN, PATIALA
Email:- airlabppcb@gmail.com Telefax: 0175- 2302392

JE-2

1.	Laboratory Sample No.	157-158/ H.O.Lab./Air/Monitoring/2017-18
2.	Name of Industry	M/s Nabha Power Limited, Vill- Nalash, Rajpura.
3.	Name of Sample collecting Officer	Er. Rajeev Gupta, A.E.E., Er. Mohit Bisht, J.E.E., Sh. Harpreet Singh, J.S.O.
4.	Designation of Authorizing Test	EE, RO, Patiala
5.	Type of Sample	Stack Emission
6.	Date & Time of Sample Collection	22.05.2017
7.	Date & Time of Sample receipt in Lab.	23.05.2017
8.	Point of Sample collection	Details as Given Below

ਸ:ਡ.ਦਿ:-1/2/3/S.A.
ਹਵਾ ਭਾਗ
ਦਿ: ਦਿ:
ਡਾਇਰੀ ਨੰ. 2520 ਮਿਤੀ 31/5/17

Results

Point of Sample Collection	Parameter	Results
From Port hole on stack of Boiler I after APCD	Particulate Matter	45 mg/Nm^3
From Port hole on stack of Boiler II after APCD	Particulate Matter	39 mg/Nm^3

SCIENTIFIC OFFICER PPCB AIR LABORATORY

Scientific Officer
(Air Laboratory)

Endst. No: 2324-25 Dt. 26/5/17

A copy of the above is forwarded to the following for information and necessary action:-

1. The Senior Environmental Engineer, Punjab Pollution Control Board, Zonal Office-I, Patiala.
2. The Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala.

Scientific Officer
(Air Laboratory)

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

TEST REPORT

Test Report No. :EL260617GA001	ECH-18/7435	Page No. 1/2
Customer	Nabha Power Limited PO Box 28, Near Village-Nalash Distt Patiala, Rajpura-140101	
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016	
Type of Sample	Stack Emission	
Mode of Collection of Sample	Sampling by laboratory	
Date of Sampling	23/06/2017 to 24/06/2017	
Sampling Location	Boiler	
Sampling Protocol	IS: 11255 (P-1) 1985 R-2003 and Customer's Requirements	
Date of Receipt of Sample	26/06/2017	
Period of Analysis	26/06/2017 to 28/06/2017	
Date of Reporting	28/06/2017	
Testing Protocol	EPA: GSR 176 (E), April 2, 1996	
Environmental Conditions	Clear Sky	

Not Valid for Consent Purpose

Source of emission	Stack attached to Boiler (Unit-1)
Identification/Make	MHI
Capacity	2322 TPH
Type of Fuel Used	Coal
Fuel Quantity/hour	340 ton/hr
APCD Details (If provided)	Electrostatic Precipitator
Stack Identification	Single
Stack Description (Shape & Material)	Circular and Metal
Dimension of Stack (m/inch))	7.5m
Sampling Port hole/Platform	Sampling done by standing on platform
Height of Stack from ground level (m)	275m
Height of Stack from nearest roof top (m)	172m
Stack Temperature (°C)	137
Sampling Time	52 Minutes
Velocity (m/s)	21.86

PTO

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL260617GA001 EL-17-18/7435

RESULTS

S.No.	Test Parameter	Unit	Result	Limits	Method
1	Particulate Matter (PM) at 12% CO2	mg/Nm3	35.2	50	IS 11255 (Pt-1) 1985
2	Sulphur Dioxide (SO2)	ppm	435	-	Lab SOP No EL/SOP/SE/12 Issue No: 3 Issue Date 03.01.01.2016
3	Nitrogen Oxides (NOx)	ppm	210		Lab SOP No EL/SOP/SE/12 Issue No: 3 Issue Date 03.01.01.2016
4	Carbon Monoxide (CO)	%	0.08		Lab SOP No EL/SOP/SE/12 Issue No: 3 Issue Date 03.01.01.2016
5	Mercury as Particulate Phase (HgP)	µg/m3	<0.01	-	USEPA Metthod-29

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd

Lab Incharge

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

TEST REPORT

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Test Report No. :EL260617GA002 EC-17-18/7436	Page No. 1/2
Customer	Nabha Power Limited PO Box 28, Near Village-Nalash Distt Patiala, Rajpura-140101 Not Valid for Consent Purpose
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016
Type of Sample	Stack Emission
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	23/06/2017 to 24/06/2017
Sampling Location	Boiler (Unit-2)
Sampling Protocol	IS: 11255 (P-1) 1985 R-2003 and Customer's Requirements
Date of Receipt of Sample	26/06/2017
Period of Analysis	26/06/2017 to 28/06/2017
Date of Reporting	28/06/2017
Testing Protocol	EPA: GSR 176 (E), April 2, 1996
Environmental Conditions	Clear Sky

Source of emission	Stack attached to Boiler (Unit-2)
Identification/Make	MHI
Capacity	2322 TPH
Type of Fuel Used	Coal
Fuel Quantity/hour	340 Ton/hr
APCD Details (If provided)	Electrostatic Precipitator
Stack Identification	Single
Stack Description (Shape & Material)	Circular and Metal
Dimension of Stack (m/inch))	7.5m
Sampling Port hole/Platform	Sampling done by standing on platform
Height of Stack from ground level (m)	275m
Height of Stack from nearest roof top (m)	172m
Stack Temperature (°C)	138
Sampling Time	54 Minutes
Velocity (m/s)	20.2

PTO

Test Report No. :EL260617GA002 EL-17-18/7436

RESULTS

S.No.	Test Parameter	Unit	Result	Limits	Method
1	Particulate Matter (PM) at 12% CO2	mg/Nm3	40.61	50	IS 11255 P
2	Sulphur Dioxide (SO2)	ppm	478	-	Lab SOP No. EL/SOP/SE Issue No. Issue Date 03 & 01.01.2016
3	Nitrogen Oxides (NOx)	ppm	250	-	Lab SOP No. EL/SOP/SE/12 Issue No. 3 Issue Date 03 & 01.01.2016
4	Carbon Monoxide (CO)	%	0.09	-	Lab SOP No. EL/SOP/SE/12 Issue No. 3 Issue Date 03 & 01.01.2016
5	Mercury as Particulate Phase (HgP)	µg/m3	<0.01	-	USEPA Method-29

Remarks (if any)

End of Report

Lab Incharge

For Eco Laboratories & Consultants Pvt. Ltd.

Authorized Signatory

PUNJAB POLLUTION CONTROL BOARD

AIR LABORATORY, HEAD OFFICE, VATAVARAN BHAWAN, PATIALA

Email:- airlabppcb@gmail.com Telefax: 0175- 2302392

1. Laboratory Sample No. 960/ H.O.Lab./Air/Monitoring/2016-17
2. Name of Industry M/s Nabha Power Limited, Vill- Nalash, Rajpura.
3. Name of Sample collecting Officer Er. Rajeev Gupta, A.E.E., Er. Mohit Bisht, J.E.E., Sh. Harpreet Singh, J.S.O.
4. Designation of Authorizing Test EE, RO, Patiala
5. Type of Sample Stack Emission
6. Date & Time of Sample Collection 26.09.2017
7. Date & Time of Sample receipt in Lab. 03.10.2017
8. Point of Sample collection Details as Given Below

ਸ:ਵ:ਫ਼ਿ: Y/2/3/S.A.

ਡਾਇਰੀ ਨੰ...4043...ਮਿਤੀ...10/10/17

Results

Point of Sample Collection	Parameter	Results
From Port hole on stack of Boiler II after APCD	Particulate Matter	45 mg/Nm^3

SCIENTIFIC OFFICER P.P.C.B. AIR LABORATORY

9/10/17
Scientific Officer
(Air Laboratory)

Endst. No: 39517-18 Dt. 9-10-17

A copy of the above is forwarded to the following for information and necessary action:-
1. The Senior Environmental Engineer, Punjab Pollution Control Board, Zonal Office-I, Patiala.
2. The Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala.

9/10/17
Scientific Officer
(Air Laboratory)

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

TEST REPORT

Not Valid for Consent Purpose

Test Report No. :EL130917GA001 EL-17-18/8342	Page No. 1/2
Customer	Nabha Power Limited PO Box 28, Near Village-Nalash Distt Patiala, Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016
Type of Sample	Stack Emission
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	12/09/2017
Sampling Location	Boiler (Unit-1)
Sampling Protocol	IS: 11255 (P-1) 1985 R-2003 and Customer's Requirements
Date of Receipt of Sample	13/09/2017
Period of Analysis	13/09/2017 to 16/09/2017
Date of Reporting	16/09/2017
Testing Protocol	EPA: GSR 176 (E), April 2, 1996
Environmental Conditions	Clear Sky

Source of emission	Stack attached to Boiler (Unit-1)
Identification/Make	MHI
Capacity	2322 TPH
Type of Fuel Used	Coal
Fuel Quantity/hour	340 ton/hr
APCD Details (If provided)	Electrostatic Precipitator
Stack Identification	Single
Stack Description (Shape & Material)	Circular and Metal
Dimension of Stack (m/inch))	7.5m
Sampling Port hole/Platform	Sampling done by standing on platform
Height of Stack from ground level (m)	275m
Height of Stack from nearest roof top (m)	172m
Stack Temperature (°C)	139
Sampling Time (Minutes)	48
Velocity (m/s)	22.3

PTO

PPCB-Ref. No. Lab/3233892
Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL130917GA001	Page No. 2/2

RESULTS

S.No.	Test Parameter	Unit	Result	Method
1	Particulate Matter (PM) at 12% CO2	mg/Nm3	40.3	IS: 11255 (P-1) 1985
2	Sulphur Dioxide (SO2)	ppm	550	Lab SOP No. EL/SOP/SE/12, Issue No. & Issue Date 03 & 01.01.2016
3	Nitrogen Oxides (NOx)	ppm	152	Lab SOP No. EL/SOP/SE/12, Issue No. & Issue Date 03 & 01.01.2016
4	Carbon Monoxide (CO)	ppm	6.23	Lab SOP No. EL/SOP/SE/12, Issue No. & Issue Date 03 & 01.01.2016

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

TEST REPORT

Test Report No. :EL130917GA002 EL-17-18/8343		Page No. 1/2
Customer	Nabha Power Limited PO Box 28, Near Village-Nalash Distt Patiala, Rajpura-140101	
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016	
Type of Sample	Stack Emission	
Mode of Collection of Sample	Sampling by laboratory	
Date of Sampling	12/09/2017	
Sampling Location	Boiler (Unit-2)	
Sampling Protocol	IS: 11255 (P-1) 1985 R-2003 and Customer's Requirements	
Date of Receipt of Sample	13/09/2017	
Period of Analysis	13/09/2017 to 16/09/2017	
Date of Reporting	16/09/2017	
Testing Protocol	EPA: GSR 176 (E), April 2, 1996	
Environmental Conditions	Clear Sky	

Source of emission	Stack attached to Boiler (Unit-2)
Identification/Make	MHI
Capacity	2322 TPH
Type of Fuel Used	Coal
Fuel Quantity/hour	340 ton/hr
APCD Details (If provided)	Electrostatic Precipitator
Stack Identification	Single
Stack Description (Shape & Material)	Circular and Metal
Dimension of Stack (m/inch))	7.5m
Sampling Port hole/Platform	Sampling done by standing on platform
Height of Stack from ground level (m)	275m
Height of Stack from nearest roof top (m)	172m
Stack Temperature (°C)	139
Sampling Time (Minutes)	51
Velocity (m/s)	20.8

PTO

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL130917GA002 | Page No. 2/2

RESULTS

S.No.	Test Parameter	Unit	Result	Method
1	Particulate Matter (PM) at 12% CO2	mg/Nm3	41.5	IS: 11255 (P-1) 1985
2	Sulphur Dioxide (SO2)	ppm	508	Lab SOP No. EL/SOP/SE/12, Issue No. & Issue Date 03 & 01.01.2016
3	Nitrogen Oxides (NOx)	ppm	135	Lab SOP No. EL/SOP/SE/12, Issue No. & Issue Date 03 & 01.01.2016
4	Carbon Monoxide (CO)	ppm	14.23	Lab SOP No. EL/SOP/SE/12, Issue No. & Issue Date 03 & 01.01.2016

Remarks (if any)

End of Report

Lab Incharge

For Eco Laboratories & Consultants Pvt. Ltd.

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

TEST REPORT

Test Report No. :EL210917GA006 EL-17-RB/8134	Page No 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016 Not valid for Consent Purpose
Type of Sample	Stack Emission
M. of Collection of Sample	Sampling by laboratory
Date of Sampling	20/09/2017
Sampling Location	Process Stack (Crusher)
Sampling Protocol	IS: 11255 (P-1) 1985 R-2003 and Customer's Requirements
Date of Receipt of Sample	21/09/2017
Period of Analysis	21/09/2017 to 23/09/2017
Date of Reporting	23/09/2017
Testing Protocol	-----
Environmental Conditions	Clear Sky

Source of emission	Stack attached to Process
Identification/Make	Process Stack (Crusher)
Capacity	--
Type of Fuel Used	Electricity
Fuel Quantity/hour	--
A D Details (If provided)	Bag House Filter
Stack Identification	Single
Stack Description (Shape & Material)	Circular & Metal
Dimension of Stack (m/inch))	Dia=1800mm
Sampling Port hole/Platform	Sampling done by standing on platform
Height of Stack from ground level (m)	30m
Height of Stack from nearest roof top (m)	--
Stack Temperature (°C)	30
Stack Velocity (m/s)	9.9
Sampling Time	26 Minutes

PTO

Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL210917GA006 EL-17-18/8134	Page No. 2 2

RESULTS

S.No.	Test Parameter	Unit	Result	Method
1	Particulate Matter (PM)	mg/Nm3	41.2	IS 11255 (P-1): 1985

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

TEST REPORT

Test Report No. :EL210917GA005 EL-17-18/81/33	Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101 Not Valid for Consent Purpose
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016
Type of Sample	Stack Emission
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	20/09/2017
Sampling Location	Process Stack (Bunker-2)
Sampling Protocol	IS: 11255 (P-1) 1985 R-2003 and Customer's Requirements
Date of Receipt of Sample	21/09/2017
Period of Analysis	21/09/2017 to 23/09/2017
Date of Reporting	23/09/2017
Testing Protocol	-----
Environmental Conditions	Clear Sky

Source of emission	Stack attached to Process (Bunker-2)
Identification/Make	--
Capacity	--
Type of Fuel Used	Electricity
Fuel Quantity/hour	--
APCD Details (If provided)	Bag House Filter
Stack Identification	Single
Stack Description (Shape & Material)	Circular & Metal
Dimension of Stack (m/inch))	Dia=10 inch
Sampling Port hole/Platform	Sampling done by standing on platform
Height of Stack from ground level (m)	80m
Height of Stack from nearest roof top (m)	--
Stack Temperature (°C)	41
Stack Velocity (m/s)	12.01
Sampling Time	45minutes

PTO

PPCB-Ref. No. Lab/3233[illegible]
Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL210917GA005	EL-17-LB/8133	Page No. 2/2

RESULTS

S.No.	Test Parameter	Unit	Result	Method
1	Particulate Matter (PM)	mg/Nm3	31.4	IS: 11255 (P-1) 1985

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory

TEST REPORT

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Test Report No. :EL260617GA010 EL-17-18/7451	Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala . Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.. 23/08/2016
Type of Sample	Stack Emission
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	24/06/2017
Sampling Location	Process Stack (Bunker-1)
Sampling Protocol	IS: 11255 (P-1) 1985 R-2003 and Customer's Requirements
Date of Receipt of Sample	26/06/2017
Period of Analysis	26/06/2017 to 28/06/2017
Date of Reporting	28/06/2017
Testing Protocol	IS: 11255 (P-1) 1985 R-2003
Environmental Conditions	Clear Sky

Not Valid for Consent Purpose

Source of emission	Stack attached to Process (Bunker-1)
Identification/Make	--
Capacity	--
Type of Fuel Used	Electricity
Fuel Quantity/hour	--
APCD Details (If provided)	Bag House Filter
Stack Identification	Single
Stack Description (Shape & Material)	Circular & Metal
Dimension of Stack (m/inch))	Dia=10 inch
Sampling Port hole/Platform	Sampling done by standing on platform
Height of Stack from ground level (m)	80m
Height of Stack from nearest roof top (m)	--
Stack Temperature (°C)	52°C
Stack Velocity (m/s)	8.08
Sampling Time	32minutes

PTO

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL260617GA010	EL-17-18/7451	Page No. 2/2

RESULTS

S.No.	Test Parameter	Unit	Result	Method
1	Particulate Matter (PM)	mg/Nm3	32	IS: 11255 (P-1) 1985

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

TEST REPORT

Test Report No. :EL260617GA011 EL-17-18/7459	Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala . Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016 Not Valid for Consent Purpose
Type of Sample	Stack Emission
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	24/06/2017
Sampling Location	Process Stack (Bunker-2)
Sampling Protocol	IS: 11255 (P-1) 1985 R-2003 and Customer's Requirements
Date of Receipt of Sample	26/06/2017
Period of Analysis	26/06/2017 to 28/06/2017
Date of Reporting	28/06/2017
Testing Protocol	IS: 11255 (P-1) 1985 R-2003
Environmental Conditions	Clear Sky

Source of emission	Stack attached to Process (Bunker-2)
Identification/Make	--
Capacity	--
Type of Fuel Used	Electricity
Fuel Quantity/hour	--
APCD Details (If provided)	Bag House Filter
Stack Identification	Single
Stack Description (Shape & Material)	Circular & Metal
Dimension of Stack (m/inch))	Dia=10 inch
Sampling Port hole/Platform	Sampling done by standing on platform
Height of Stack from ground level (m)	80m
Height of Stack from nearest roof top (m)	--
Stack Temperature (°C)	50°C
Stack Velocity (m/s)	8.36
Sampling Time	31 minutes

PTO

Test Report No. :EL260617GA011	EL-17-18/7452	Page No. 2 2

RESULTS

S.No.	Test Parameter	Unit	Result	Method
1	Particulate Matter (PM)	mg/Nm3	28	IS 11255 (P-1) 1985

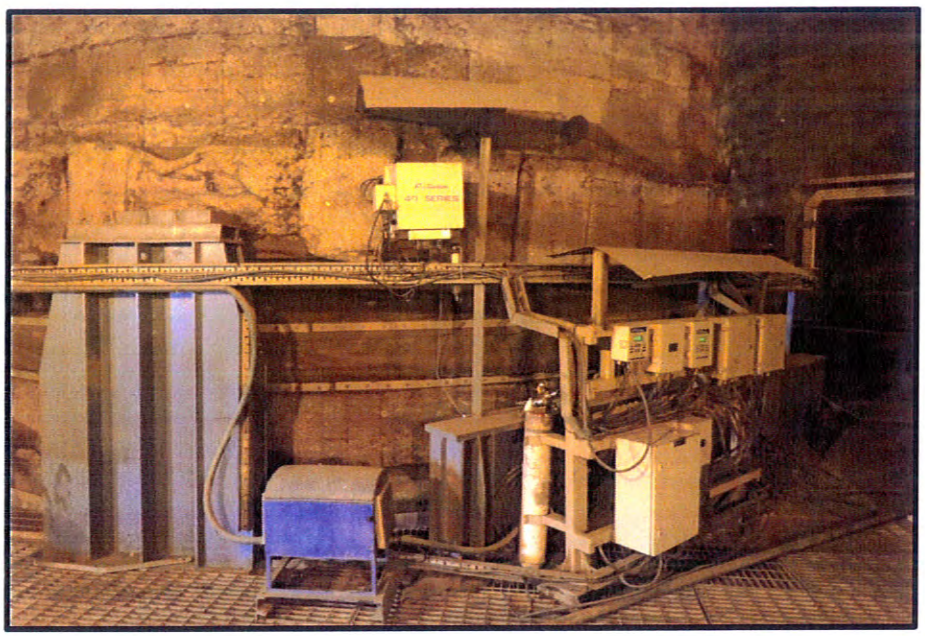
Remarks (if any)

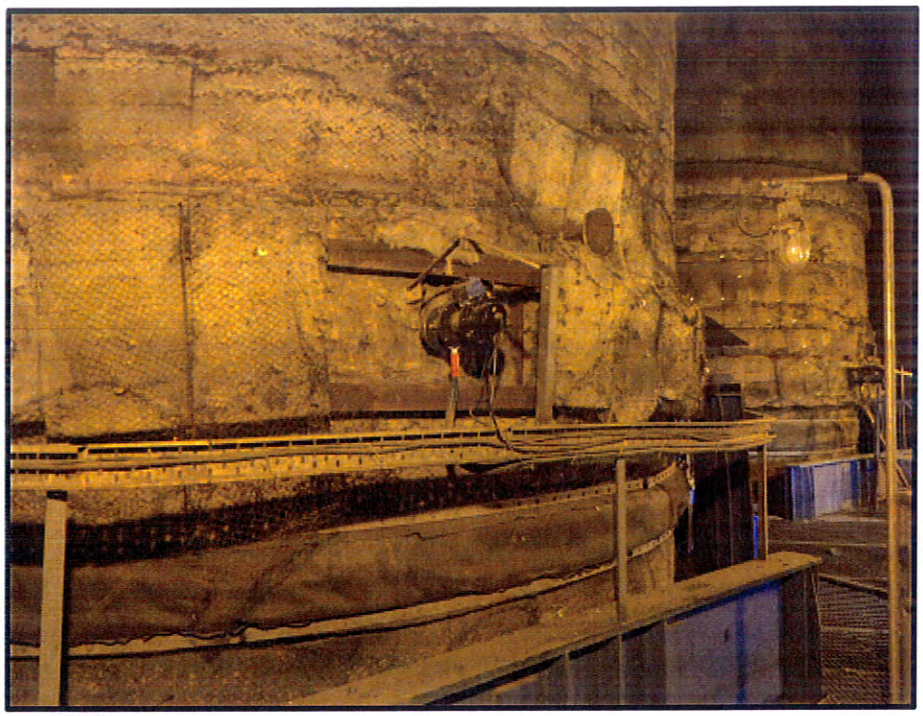
End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Authorized Signatory

Annexure-3



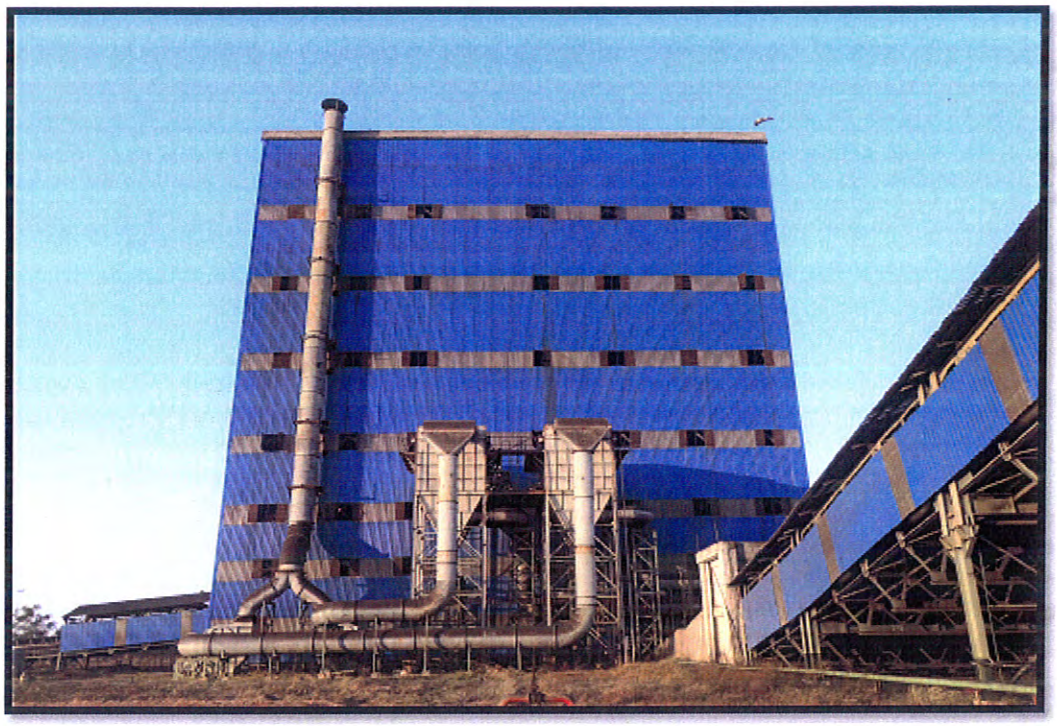


Continuous emission monitoring system installed at main stack for measurement of Particulate Matter & Gaseous Emissions.

Annexure-4

Measures taken to control fugitive emissions

Annexure-4



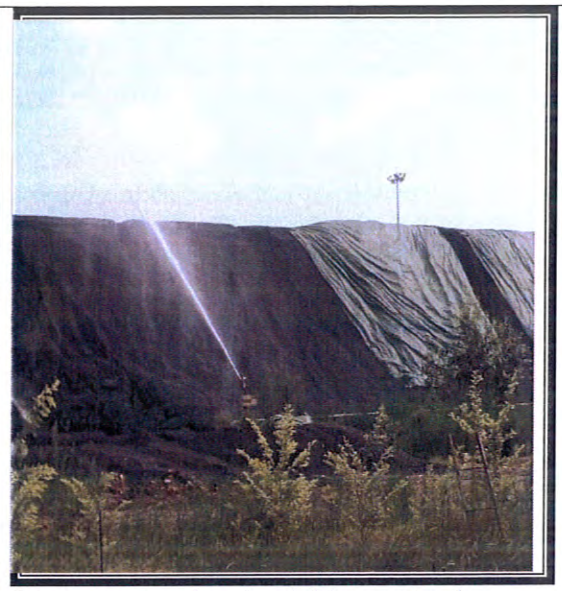
Dust Extraction System at Crusher House

Dust Extraction System at Bunker

Annexure-4

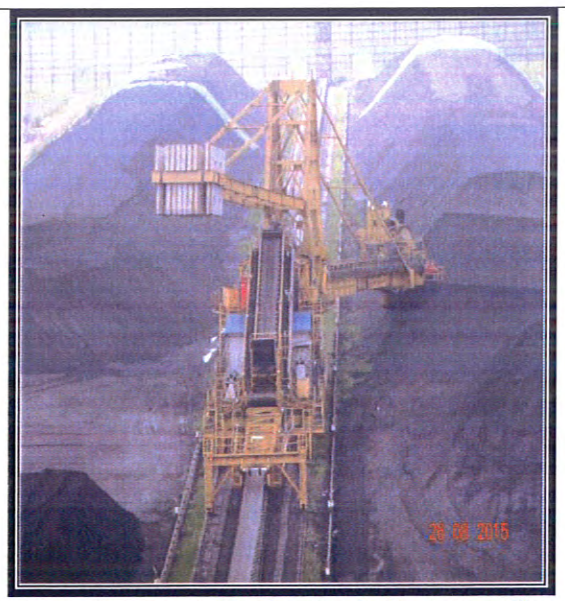
1. Measures taken to control fugitive emissions during coal handling

Covered conveyors for transfer of coal from Wagon tippler to coal bunkers for abatement of fugitive emissions



Dust suppression (sprinkler system) provided at each coal stock pile to arrest Dust

Three side covered wind screen to control fugitive emissions due to wind flow



Automated and Mechanized Coal handling System to minimize manual operations

Annexure-5

Fly Ash Utilization Report

Annexure-5

Period	Month	Ash Generation Data (MT)				Ash Utilisation Data (MT)		Total Ash Utilised (MT)	%ash utilised		Remark
		Dry Fly ash Collection	Wet Collection (Pond Ash)		Total	Dry Fly ash	Pond Ash		DFA	Total Ash	
			Bottom Ash	Dry Fly ash							
2017-2018(Apr-Sep)	April	70234.44	6955.56	0	77190	70234.44	73959	144193.44	100%	186%	73959 MT pond ash is used for construction of NH-64
	May	111840.79	19989.21	0	131830	111840.79	41814	153654.79	100%	116%	41814 MT pond ash is used for construction of NH-64
	June	111811	7105	0	118916	111811	50745	162556	100%	136%	50745 MT pond ash is used for construction of NH-64
	July	125161.2	17553.97	15055	142715	108913.42	66760	175673	87%	123%	66760 MT pond ash is used for construction of NH-64
	Aug	104866	22863.9	15631	143360.9	106566.4	48042	154608.4	88%	107%	48042 MT pond ash is used for construction of NH-64
	Sept	99690.43	19699	0	119389.43	100074.29	40490	140564.29	100%	117%	40490 MT pond ash is used for construction of NH-64
	Total	623604	94167	30686	733401.33	609440	321810	931250	97.73	126.98	

Annexure-6

Fly Ash & Bottom Ash Analysis Report

Annexure-6

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

TEST REPORT

Test Report No.: EL220917GS002			23-17-18/8345	PageNo. 1/1
Customer			Nabha Power Ltd. P.O Box No. 28, Near Vill. Nalash Distt. Patiala, Rajpura, Punjab	
Type of Sample:			Bottom Ash	
Work Order No. & Date:			NPL/47000-04271 dated 23.08.16	
Mode of Collection of Sample:			Sampling by Laboratory	
Packing, Markings, Seal & Identity:			Poly Bag Marked 'M/22/02'	
Quantity:			1Kg	
Date of Sampling:			22/09/2017	
Sampling Location:			Ash Slurry Pump House	
Date of Receipt of Sample:			22/09/2017	
Period of Analysis			22/09/2017 to 23/10/2017	
Date of Reporting:			23/10/2017	
S.No	**Test Parameters**	**Units**	**Results**	**Test Method**
1.	Lead (as Pb)	mg/kg	<0.1	EL/SOP/SS/23 based on 5.4, LATS/16/2002-03 and APHA-22nd Ed 2012-3111B A-Ac Flame AAS Method,2016
2.	Arsenic (as As)	mg/kg	<0.5	EL/SOP/SS/23 based on 5.6, LATS/16/2002-03 and and APHA-22nd Ed 2012-3114C Hydride Generation, 2016
3.	Total Chromium (as Cr)	mg/kg	<0.5	EL/SOP/SS/23 based on 5.4, LATS/16/2002-03 and APHA-22nd Ed 2012-3111B Flame AAS Method, 2016
4.	Mercury (as Hg)	mg/kg	<0.5	EL/SOP/SS/23 based on 5.7, LATS/16/2002-03 and and APHA 22nd Ed 2012 -3112B Flame AAS Method, 2016
Subcontracted*				
5.	Alpha emitters*	Bq/Cm^2	ND	APHA 22nd. Edn. 7110B Followed by Radiation Counting System
6.	Beta emitters*	Bq/Cm^2	ND	APHA 22nd. Edn. 7110B Followed by Radiation Counting System
7.	Gama emitters*	Bq/Cm^2	ND	APHA 22nd. Edn. 7110B Followed by Radiation Counting System

Remarks (if any) ND= Not Detected; *Subcontrated

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory

****End of Report****

PTO

Annexure-6

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

TEST REPORT

Test Report No.: EL220917GS003				EL-17-18/3346	PageNo. 1/1
Customer			Nabha Power Ltd. P.O Box No. 28, Near Vill. Nalash Distt. Patiala, Rajpura, Punjab		
Type of Sample:			Fly Ash		
Work Order No. & Date:			NPL/47000-04271 dated 23.08.16		
Mode of Collection of Sample:			Sampling by Laboratory		
Packing, Markings, Seal & Identity:			Poly Bag Marked 'M/22/03'		
Quantity:			1Kg		
Date of Sampling:			22/09/2017		
Sampling Location:			From Ash Silo		
Date of Receipt of Sample:			22/09/2017		
Period of Analysis			22/09/2017 to 23/10/2017		
Date of Reporting:			23/10/2017		
S.No	Test Parameters	Units	Results	Test Method	
1.	Lead (as Pb)	mg/kg	<0.1	EL/SOP/SS/23 based on 5.4, LATS/16/2002-03 and APHA-22nd Ed 2012-3111B A-Ac Flame AAS Method,2016	
2.	Arsenic (as As)	mg/kg	<0.5	EL/SOP/SS/23 based on 5.6, LATS/16/2002-03 and and APHA-22nd Ed 2012-3114C Hydride Generation, 2016	
3.	Total Chromium (as Cr)	mg/kg	<0.5	EL/SOP/SS/23 based on 5.4, LATS/16/2002-03 and APHA-22nd Ed 2012-3111B Flame AAS Method, 2016	
4.	Mercury (as Hg)	mg/kg	<0.5	EL/SOP/SS/23 based on 7.5, LATS/16/2002-03 and and APHA 22nd Ed 2012 -3112B Flame AAS Method, 2016	
Subcontracted*					
5.	Alpha emitters*	Bq/Cm^2	ND	APHA 22nd. Edn. 7110B Followed by Radiation Counting System	
6.	Beta emitters*	Bq/Cm^2	ND	APHA 22nd. Edn. 7110B Followed by Radiation Counting System	
7.	Gama emitters*	Bq/Cm^2	ND	APHA 22nd. Edn. 7110B Followed by Radiation Counting System	

Remarks (if any) ND= Not Detected; *Subcontrated

Not Valid for Consent Purpose

Lab Incharge

For Eco Laboratories & Consultants Pvt. Ltd.

Authorized Signatory

****End of Report****

PTO

Annexure-7

Treated Sewage Monitoring Results

Annexure-7

E-2017

POLLUTION CONTROL BOARD VATAVARAN BHAVAN, NABHA ROAD, PATIALA
WATER ANALYSIS REPORT

T-3990

1.	Laboratory Sample No.	815-816/ H.O.Lab. Monitoring/2017
2.	Name of Industry	M/s Nabha Power Ltd., Vill. Nalash, Rajpura.
3.	Name of Sample collecting Officer	Er. Rajiv Gupta AEE, Er. Mohit Bisht JEE, Sh. Harpreet Singh JSO
4.	Designation of authorizing Test	EE, RO, Patiala
5.	Type of Sample	Grab
6.	Date &Time of Sample collection	26.09.2017
7.	Date &Time of Sample receipt in Lab.	27.09.2017
8.	Period of Analysis	27.05.2017 to 04.10.2017
9.	Test Methods	As per relevant parts of IS:3025/Methods of APHA

ਸ:ਵ:ਟਿ:-1[illegible]/3/S.A.
ਨਵੀਂ [illegible]
ਮਿਤੀ [illegible]
ਡਾਇਰੀ ਨੰ. 4171 ਮਿਤੀ 24.10.17

Results

Sr. No.	Parameters	Inlet Of STP	Final outlet of STP
1.	pH	7.6	7.8
2.	Total Suspended Solids mg/l	15	7
3.	Total Dissolved Solids mg/l	292	380
4.	Chemical Oxygen Demand mg/l	50	35
5.	Biological Oxygen Demand mg/l	11	8
6.	*Oil and Grease mg/l	BDL	BDL

*Not Covered under scope of NABL

Note: BDL means below method detection limit

---End of Report---

Sonu Kumar 6-10-17
Analyzed by

Bhavana 6/10/17
Scientific Officer

Endst. No: 39529-31 Dt. 9-10-17

A copy of the above is forwarded to the:-

1. The Member Secretary, Punjab Pollution Control Board, Patiala.
2. The Senior Environmental Engineer, Punjab Pollution Control Board, Zonal Office-I, Patiala.
3. The Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala.

6/10/17
Asstt. Scientific Officer

JEE-2

POLLUTION CONTROL BOARD VATAVARAN BHAVAN, NABHA ROAD, PATIALA
WATER ANALYSIS REPORT

T-3980

ਸ:ਵ:ਪ:ਪ:-1/2/3/S.A.
ਮਿਤੀ ਡਾਕ
ਪ: ਪ:
ਡਾਇਰੀ ਨੰ 2563 ਮਿਤੀ 1/6/17

1	Laboratory Sample No.	250/ H.O.Lab. Monitoring/2017
2.	Name of Industry	M/s Nabha Power Ltd., Vill. Nalash, Rajpura.
3	Name of Sample collecting Officer	Er. Rajiv Gupta AEE, Er. Mohit Bisht JEE, Sh. Harpreet Singh JSO
4	Designation of authorizing Test	EE, RO, Patiala
5	Type of Sample	Grab
6	Date &Time of Sample collection	22.05.2017
7	Date &Time of Sample receipt in Lab.	23.05.2017
8	Period of Analysis	23.05.2017 to 30.05.2017
9.	Test Methods	As per relevant parts of IS.3025/Methods of APHA

Results

Sr. No.	Parameters	Final outlet of STP
1.	pH	7.2
2.	Total Suspended Solids mg/l	14
3.	Total Dissolved Solids mg/l	237
4	Chemical Oxygen Demand mg/l	32
5.	Biological Oxygen Demand mg/l	8
6. *	Oil and Grease mg/l	BDL

* Not Covered under scope of NABL

Note: BDL means below method detection limit

---End of Report---

Sam Kumar 31-5-17
Analyzed by

Scientific Officer

Endst. No: 23968-70 Dt. 31-5-17

A copy of the above is forwarded to the:-
1. The Member Secretary, Punjab Pollution Control Board, Patiala.
2. The Senior Environmental Engineer, Punjab Pollution Control Board, Zonal Office-I, Patiala.
3. The Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala.

31/5/17
Asstt. Scientific Officer

Cyanide (pH above 7 with NaOH)

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

TEST REPORT

Lab/3233892
Dated-30.09.2011

Test Report No. :EL260617GE001	17-18/7434	Page No 1/1
Customer	Nabha Power Limited PO Box 28, Near Village-Nalash Distt Patiala, Rajpura-140101	
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016	
Type of Sample	Waste Water	
Mode of Collection of Sample	Sampling by laboratory	
Date of Sampling	26/06/2017	
Sampling Location	STP Outlet	
Sampling Protocol	IS: 3025 (P-1) 1987 R1998 Amdt-1 and APHA	
Packing, Markings, Seal & Quantity	Plastic Bottle & Glass Bottle Marked 'M/23/04' 2 Litre + 1 Litre	
Date of Receipt of Sample	26/06/2017	
Period of Analysis	26/06/2017 To 30/06/2017	
Date of Reporting	30/06/2017	
Sample Observation	Liquid with suspended impurities	

Not Valid for Consent Purpose

RESULTS

S.No.	Test Parameter	Unit	Results	Test Method
1	Total Dissolved Solids	mg/l	380	APHA-22nd Ed 2012- 2540C Dried at 180°C
2	Total Suspended Solids	mg/l	15	APHA-22nd Ed 2012- 2540 D Dried at 103-105°C
3	pH	-	6.97	APHA-22nd Ed 2012 -4500B
4	Biochemical Oxygen Demand (BOD)	mg/l	3.4	IS: 3025 (Part-44)-1993 RA 1999, Ad 1 BOD 3-days at 27 °C
5	Chemical Oxygen Demand (COD)	mg/l	12.4	APHA-22nd Ed 2012- 5220B, Open Reflux Method
6	Oil and Grease	mg/l	<1	APHA-22nd Ed 2012- 5520D, Soxhlet Extraction

Remarks (if any)

End of Report

Lab Incharge

For Eco Laboratories & Consultants Pvt. Ltd.

Authorized Signatory

PTO

Annexure-8

Ground Water Quality Monitoring Results

Annexure-8

POLLUTION CONTROL BOARD VATAVARAN BHAVAN
NABHA ROAD, PATIALA
GROUND WATER REPORT

1	Laboratory Sample No.	GW 157-160/ H.O.Lab./ G.W. Monitoring/2017-18
2	Name of Industry	M/s Nabha Power Ltd., Village Nalash, Rajpura.
3	Name of Sample collecting Officer	Dr. Rajeev Gupta, AEE, Er. Mohit Bisht, JEE & Sh. Harpreet Singh, JSO.
4	Designation of authorizing Test	EE, RO, Patiala.
5	Date & Time of Sample collection	26.09.2017
6	Date & Time of Sample receipt in Lab.	27.09.2017
7	Period of Analysis	27.09.2017 to 11.10.2017
8	Test Methods	As per relevant parts of IS:3025 & Methods of APHA

T-3930

Results

Sr. no.	Parameters	Near Coal Handling Plant	Near Storm Water Sump	Along the ash dyke	Between ash dyke & Reservoir
1	pH	7.9	7.7	7.5	7.6
2	Total Suspended Solids mg/l	28	12	22	06
3	Total Dissolved Solids mg/l	262	359	195	410
4	*Chemical Oxygen Demand mg/l	BDL	BDL	BDL	BDL
5	*Bio-Chemical Oxygen Demand mg/l	BDL	BDL	BDL	BDL
6	Total Hardness mg/l	92	85	93	251
7	*Mercury mg/l	BDL	BDL	BDL	BDL
8	*Lead mg/l	BDL	BDL	BDL	BDL
9	*Total Chromium mg/l	BDL	BDL	BDL	BDL

* Not Covered under scope of NABL
Note: BDL means Below Method Detection Limit.

--End of Report--

Analyzed by 11-10-17

Scientific Officer 11/10/17

Endst. No: 89909-10 Dt. 12-10-17

A copy of the above is forwarded to the:-

1. The Senior Environment Engineer, Punjab Pollution Control Board, Zonal Office-1, Patiala.
2. The Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala.

Asstt. Scientific Officer 11/10/17

POLLUTION CONTROL BOARD VATAVARAN BHAVAN,
NABHA ROAD, PATIALA
GROUND WATER REPORT

1. Laboratory Sample No	GW 71-74, H.O Lab / G.W. Monitoring/2017-18
2. Name of Industry	M/s Nabha Power Ltd., Village Nalash, Rajpura.
3. Name of Sample collecting Officer	Dr. Rajeev Gupta, AEE, Er. Mohit Bisht, JEE & Sh. Harpreet Singh, JSO
4. Designation of authorizing Test	EE, RO, Patiala
5. Date & Time of Sample collection	22.05.2017
6. Date & Time of Sample receipt in Lab.	23.05.2017
7. Period of Analysis	23.05.2017 to 30.05.2017
8. Test Methods	As per relevant parts of IS 3025, IS 1622, Methods of APHA

Results

Sr. no.	Parameters	Near Coal Handling Plant	Near Storm Water Sump	Along the ash dyke	Between ash dyke & Reservoir
1	pH	7.1	7.9	7.8	7.6
2	Total Suspended Solids mg/l	43	12	10	14
3	Total Dissolved Solids mg/l	395	301	424	641
4	*Chemical Oxygen Demand mg/l	19	BDL	BDL	BDL
5	*Bio-Chemical Oxygen Demand mg/l	BDL	BDL	BDL	BDL
6	Total Hardness mg/l	166	78	108	384
7	*Mercury mg/l	BDL	BDL	BDL	BDL
8	*Lead mg/l	BDL	BDL	BDL	BDL
9	*Total Chromium mg/l	BDL	BDL	BDL	BDL

*Not Covered under scope of NABL

Note: BDL means Below Method Detection Limit.

--End of Report--

Sonu Kumar
Analyzed by 31-5-17

31/5/17
Scientific Officer

Endst. No. 24331-33 Dt. 1-6-17

A copy of the above is forwarded to the:-

1. The Member Secretary, Punjab Pollution Control Board, Patiala.
2. The Senior Environment Engineer, Punjab Pollution Control Board, Zonal Office-I, Patiala.
3. The Environmental Engineer, Punjab Pollution Control Board, Regional Office, Patiala

31/5/17
Asstt. Scientific Officer

Annexure-9

Green Belt Photographs

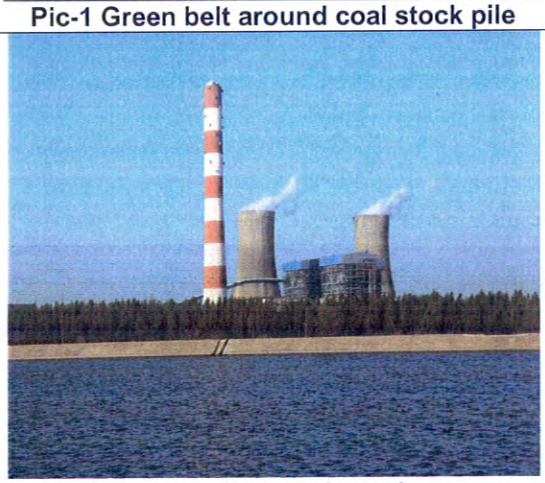
Annexure-9

Extensive plantation in and around the plant-

NPL is having a complete dedicated team of skilled horticulturists for the forestation and greenery development program at our plant. A green belt of 2.50 lac plants is developed inside as well outside plant premises. Also small patches of gardens are developed inside of the plant premises wherever the open space is available to improve the plant beautification.

Pic-1 Green belt around coal stock pile

Pic-2 Green belt around plant premises



Pic-3 Green belt along boundary

Pic-4 Green belt on both sides of road

Annexure-10

CSR Report

Annexure-10

TOGETHER, TOWARDS A BRIGHTER FUTURE

A Community Service Initiative By

Corporate Social Responsibility

Nabha Power Limited

NABHA POWER LIMITED

CSR Budget Spent/Planned (In Lacs)

Expenditure till Sep-17	86
Approved Work	235.25
Work in Progress	126.96
Planned Welfare Schemes/Training Center Expenses (Till March-2018) (30+10)	40
Planned work	5
Total	**493.21**

Sports Competition

- Sports Competition at village Ugani on 02/April/2017.
- Sports events of Kabbadi, Volley Ball, Tug of war, Race
- Participation of teams from 50 villages of Plant surrounding.

Visit to Agriculture University, Ludhiana

- An exposure visit of 30 progressive farmers.
- In association with energy Harvest
- Demonstration of Pellet making machine and Cooling system with use of stubble

Community Sheds

Balsuan- **Completed**

Haripur- **Completed**

Bakshiwala Basti -**Completed**

Renovation of Educational Institutions

- **Children Home ,Rajpura**
- **Aganwari Center, Mirzapur**
- **Govt Middle & Primary School, Jansua**
- **Govt. Elementary School, Sarai Banjara**
- **Govt. Primary School,Mangpur**
- **Aganwari Center,Mangpur**

Inauguration of Community Shed

- On 13th May 2017 CE inaugurated Community Shed at village Bakshiwala Basti
  - A Common place for village people to organize marriages/religious functions/panchayat meetings etc.

Press Coverage
Inauguration of Bakshiwala Basti Community Shed

ਕਮਿਊਨਿਟੀ ਸ਼ੈੱਡ ਬਸਤੀ ਬਖਸ਼ੀਵਾਲਾ ਵਾਸੀਆਂ ਨੂੰ ਕੀਤਾ ਅਰਪਣ

ਬਸਤੀ ਬਖਸ਼ੀਵਾਲਾ 'ਚ ਕਮਿਊਨਿਟੀ ਸੈਂਟਰ ਦਾ ਉਦਘਾਟਨ

Train The Trainers

- 4 days workshop for NPL Skill Training Centres Instructors & Students.
- At Fashion Technology Department Punjab University Chandigarh.
- Exposure about the latest fashion trends and customer demand.

Whitewash/Renovation of Govt. Schools

Govt. School Dabali Kalan

Govt. School Dhuman

Remodelling of Ponds

Uppal Heri:- To be developed as Play Ground

Dadu Majra:- To be developed as Common Place

Support under NPL Welfare Schemes

- Support extended to 49 families under Shagan Scheme and Female Child Welfare Scheme

Work in Progress

Location

Govt. High School, Dadu Majra

Work under Taken:-

- Construction of Interlock Pathway
- Renovation of Class Rooms
- Filling of earth in Ground area

Work in Progress

Location

Youth Club Rajpura

Work under Taken:-

- Concrete and Plastering
- Repair Boundary wall
- Renovation of Building

Work in Progress

Location

Sports Stadium Banur

Work under Taken:-

- Construction of Entry Gate/pillars
- Interlock tiling and parking bay
- Repair of Boundary wall and Whitewash
- Development of Football Ground and fixing up of Poles

Work in Progress

Location

Govt. High School, Ugani

Work under Taken:-

- Construction of washroom for girls.

Support under NPL Welfare Schemes

- Support extended to 15 families under Shagan Scheme

Work Completed

Location

Govt. High School, Dadu Majra

Work under Taken:-

- Construction of Interlock Pathway
- Renovation of Class Rooms
- Filling of earth in Ground area

Work Completed

Location

Youth Club Rajpura

Work under Taken:-

- Concrete and Plastering
- Repair Boundary wall
- Renovation of Building

Work in Completed

Location

Sports Stadium Banur

Work under Taken:-

- Construction of Entry Gate/pillars
- Interlock tiling and parking bay
- Repair of Boundary wall and Whitewash
- Development of Football Ground and fixing up of Poles

Work in Progress

Location

Govt. High School, Ugani

Work under Taken:-

- Construction of washroom for girls.

Filling the low-lying Areas

Village	Location	Tippers
Uppal Heri	Pond	164
Bhappal	Govt. Elementary School	143
Mangpur	Peripheral road/Aganwari	13
Dabali Kalan	Govt. Elementary School	13
Dabali Khurd	School/Cremation Ground	40
Majri	Cremation Ground	37
Sadhror	Graveyard/Gugga Peer	11
Gaddo Majra	Panchayat land	15
Urna	Community Palace	20
	Total	**456**

Expanding Girls Skill Training Opportunities

- In order to expand Skill Training opportunities into other villages, Shifted Sadhror and Mirzapur centers to new location Dhumma and Basantpura respectively.

Support under NPL Welfare Schemes

- To honor the birth of female child, support of Rs. 4.83 lacs in term of Fixed Deposits to 23 Girl children.
- Similarly of Rs. 1.47 lacs extended to 07 families under Shagan Scheme.

Plantation Drive

Village	Plants	Village	Plants
Sadhror	50	Ugani	300
Dhumma	150	Naina	100
Kotla	150	Sural Kalan	100
Urna	100	Uppal Heri	100
Kharola	100	Haryaon	100
Nalash Khurd	200	Rangian	100
Bhappal	250	Chak Kalan	100
Loha Kheri	100	Chak Khurd	100
Dadu Majra	100	Bakshiwala	100
Bhagrana	100	Harna	100
Sindhran	100	Chandu Majra	100
Salempur	100	Balsuan	100
Srai Banjara	100	**Total**	**3000**

Earth Filling - Low-lying Areas

Sr.No.	Village Name	Trips	Qty(cum)
1	Uppaleheri	164	3280
2	Bhappal	143	2860
3	Dabali Khurd	40	800
4	Dabali Kalan	13	260
5	Gaddomajra	15	300
6	Sadhror	11	220
7	Majri	37	740
8	Mangpur	13	260
9	Urna	30	600
10	Kharola	48	960
11	Bhagrana	10	200
12	Rangian	37	740
13	Lohakheri	10	200
14	Sahapur	25	500
15	Kotla	5	100
		601	**12020**

Vocational Training Center footprint
Expanding Horizons

Old Location	New Location	Shifted	
Mirzapur	Basantpura	Aug 17	
Sadhror	Dhumma	Aug 17	
Sindhran	Bhagrana	Sep 17	Sindran was started in 2015 and since last 2-3 months student attendance was below 15 . Village panchayat of Sindhran has given their consent and resolution for shifting .

Old Location	New Location	Planned
Harna	Yet to be identified	Oct 17
Nalash Kalan	Yet to be identified	Oct 17

Support under NPL Welfare Schemes

- **To honor the birth of female child, support of Rs. 6.09 lacs in term of Fixed Deposits to 29 Girl children.**
- **Similarly of Rs. 1.05 lacs extended to 05 families under Shagan Scheme.**

Interaction with Farmers – (Prevent Stubble Burning)

Interaction held with Farmers and Energy Harvest officials to discuss the proposed project of making pallets using paddy waste. Motivated them not to burn paddy waste which pollutes the environment also violates NGT guidelines.

Plantation Drive

In continuation with the Plantation Drive , NPL further distributed 1000 Saplings in surrounding Govt. Schools.

Infrastructure Development

In order to contribute towards the infrastructure development of surrounding villages, road construction started at Bhappal, Haripur-Sural Khurd , Wazirabad and Dabali

Self Help Group Initiatives

Meeting held with Women Self Help Groups at Sarai Banjara Basti ,in which officials from Cooperative Bank interacted with members regarding Loan disbursement. To make them self sustain, members were motivated to start some group based income generating activities like Pickle making, Confectionary items, Carpet making etc.

Footprint – Enhancing
Expanding Girls Skill Training Opportunities

Old Location	New Location	Shifted
Sindran	Bhagrana	Sep 17

Support under NPL Welfare Schemes

- To honor the birth of female child, support of Rs. 1.68 lacs in term of Fixed Deposits to 08 Girl children.
- Similarly of Rs. 1.89 lacs extended to 09 families under Shagan Scheme.

Annexure-11

Ambient Air Quality Monitoring Results

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

TEST REPORT

Ref. No. Lab/ [illegible]
Dated-30.09.2011

Test Report No. :EL210917GA001	EL-17-18/8126	Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101	
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016	
Type of Sample	Ambient Air	
Mode of Collection of Sample	Sampling by laboratory	
Date of Sampling	19/09/2017 to 20/09/2017	
Sampling Location	Near Switch yard	
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.	
Date of Receipt of Sample	21/09/2017	
Period of Analysis	21/09/2017 to 23/09/2017	
Date of Reporting	23/09/2017	
Testing Protocol	NAAQS 2009	
Environmental Condition	Clear	

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	87	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	46	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	9.4	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	15.6	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	24	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	11	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

PTO

Test Report No. :EL210917GA001 EL-17-18/8126

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0.5	01	IS 5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	µg/m3	<0.001	--	IS 5182 Part 23/ CPCB Method

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

TEST REPORT

PPCB-Ref. No. Lab/32250/1
Dated-30.09.2017

Test Report No. :EL210917GA002 EL-17-18/8127	Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016
Type of Sample	Ambient Air
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	19/09/2017 to 20/09/2017
Sampling Location	Near Loco Shed
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.
Date of Receipt of Sample	21/09/2017
Period of Analysis	21/09/2017 to 23/09/2017
Date of Reporting	23/09/2017
Testing Protocol	NAAQS 2009
Environmental Condition	Clear

Not Valid for Consent Purpose

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	81	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	43	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	9.8	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	18.6	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	22	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	10	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

PTO

Test Report No. :EL210917GA002				EL-17-18/8127	Not Valid for Consent Purpose
S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0.5	01	IS:5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	µg/m3	<0.001	--	IS 5182 Part 23/ CPCB Method

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd

Lab Incharge

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

TEST REPORT

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

EL-17-181/2128

Not Valid for Consent Purpose

Test Report No. :EL210917GA003	Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016
Type of Sample	Ambient Air
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	19/09/2017 to 20/09/2017
Sampling Location	Near NDCT
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.
Date of Receipt of Sample	21/09/2017
Period of Analysis	21/09/2017 to 23/09/2017
Date of Reporting	23/09/2017
Testing Protocol	NAAQS 2009
Environmental Condition	Clear

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	72	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	38	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	7.3	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	15.6	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	20	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	9	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

PTO

Test Report No. :EL210917GA003 EL-17-18/8128

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0 5	01	IS 5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	µg/m3	<0.001	--	IS 5182 Part 23/ CPCB Method

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

TEST REPORT

Dated-30.09.2017

Test Report No. :EL210917GA004 EL-17-18/8129	Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101 Not Valid for Consent Purpose
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016
Type of Sample	Ambient Air
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	19/09/2017 to 20/09/2017
Sampling Location	Near Storm Water Pump
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.
Date of Receipt of Sample	21/09/2017
Period of Analysis	21/09/2017 to 23/09/2017
Date of Reporting	23/09/2017
Testing Protocol	NAAQS 2009
Environmental Condition	Clear

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	73	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	36	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	9.2	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	19.4	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	26	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	9	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

PTO

Dated:-30.09.2011

Test Report No. :EL210917GA004 EL-17-18/8129					Page No. 2/2
S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0.5	01	IS:5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	µg/m3	<0.001	--	IS 5182 Part 23/ CPCB Method

Not Valid for Consent

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd

Lab Incharge

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

TEST REPORT

PPCB-Ref. No. Lab/3238392
Dated-30.09.2011

Test Report No. :EL220917GA001	EL-17-18/8130	Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101	
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016	
Type of Sample	Ambient Air	
Mode of Collection of Sample	Sampling by laboratory	
Date of Sampling	20/09/2017 to 21/09/2017	
Sampling Location	Vill. Dabhali Rajpura	
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.	
Date of Receipt of Sample	22/09/2017	
Period of Analysis	22/09/2017 to 25/09/2017	
Date of Reporting	25/09/2017	
Testing Protocol	NAAQS 2009	
Environmental Condition	Clear	

Not Valid for Consent Purpose

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	72	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	27	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	7.1	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	13.2	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	22	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	11	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

PTO

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Not Valid for Consent P...

Test Report No. :EL220917GA001				21-17-18/8130	Page No. 2/2
S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0.5	01	IS:5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	µg/m3	<0.001	--	IS 5182 Part 23/ CPCB Method

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

PCB-Ref. [illegible]
Dated-30.09.2011

TEST REPORT

Test Report No. :EL220917GA002 EL-1718/8131		Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101 Not Valid for Consent Purpose	
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016	
Type of Sample	Ambient Air	
Mode of Collection of Sample	Sampling by laboratory	
Date of Sampling	20/09/2017 to 21/09/2017	
Sampling Location	Vill.Salempura Rajpura	
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.	
Date of Receipt of Sample	22/09/2017	
Period of Analysis	22/09/2017 to 25/09/2017	
Date of Reporting	25/09/2017	
Testing Protocol	NAAQS 2009	
Environmental Condition	Clear	

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	79	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	42	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	7.6	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	14.5	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	19	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	8	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

PTO

Test Report No. :EL220917GA002					Page No. 2/2
S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0.5	01	IS:5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	µg/m3	<0.001	--	IS 5182 Part 23/ CPCB Method

EL-1718/8131

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO - 9001 : 2008, 14001:2004 OHSAS-18001:2007
CIN : U74140PB2011PTC034739

ISO 9001:2008

TEST REPORT

Test Report No. :EL220917GA003	EL-17-18/8132	Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101	
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016	
Type of Sample	Ambient Air	
Mode of Collection of Sample	Sampling by laboratory	
Date of Sampling	20/09/2017 to 21/09/2017	
Sampling Location	Vill.Dadumajra	
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.	
Date of Receipt of Sample	22/09/2017	
Period of Analysis	22/09/2017 to 25/09/2017	
Date of Reporting	25/09/2017	
Testing Protocol	NAAQS 2009	
Environmental Condition	Clear	

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	71	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	36	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	7.2	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	14.6	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	22	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	10	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

PTO

Test Report No. :EL220917GA003 EL-17-18/8132					Page No. 2/2
S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0.5	01	IS:5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	µg/m3	<0.001	--	IS 5182 Part 23/ CPCB Method

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory

TEST REPORT

PPCB-Ref. No. Lab/3238392
Dated-30.09.2011

Test Report No. :EL260617GA003 EL-17-18/7437	Page No 1/2
Customer	Nabha Power Limited PO Box 28, Near Village-Nalash Distt Patiala, Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016
Type of Sample	Ambient Air
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	23/06/2017 to 24/06/2017
Sampling Location	Near NDCT
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.
Date of Receipt of Sample	26/06/2017
Period of Analysis	26/06/2017 to 28/06/2017
Date of Reporting	28/06/2017
Testing Protocol	NAAQS 2009
Environmental Condition	Clear

Not Valid for Consent Purpose

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	88	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	43	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	8.1	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	16.2	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	24	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	12	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

PTO

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL260617GA003				EL-17-18/7437		Page No 2/2
S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method	
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0.5	01	IS 5182 (P-12) 2004	
13	Mercury as particulate phase (HgP)	ug/m3	<0.001	--	IS 5182 Part 23/CPCB Method	

Remarks (if any)

End of Report

Lab Incharge

For Eco Laboratories & Consultants Pvt. Ltd.

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO 9001:2008
CIN : U74140PB2011PTC034739

TEST REPORT

PPCB Ref. No. Lab/3238892
Dated-30.09.2011

Test Report No. :EL260617GA004 EL 17-18/7438	Page No 1/2
Customer	Nabha Power Limited PO Box 28, Near Village-Nalash Distt Patiala, Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016
Type of Sample	Ambient Air
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	23/06/2017 to 24/06/2017
Sampling Location	Near Loco Shed
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.
Date of Receipt of Sample	26/06/2017
Period of Analysis	26/06/2017 to 28/06/2017
Date of Reporting	28/06/2017
Testing Protocol	NAAQS 2009
Environmental Condition	Clear

Not Valid for Consent Purpose

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	89	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	41	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	10.2	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	19.2	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	23	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	11	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

PTO

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL260617GA004 EL-17-18/7438					Page No. 2/2
S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0.5	01	IS:5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	ug/m3	<0.001	--	IS 5182 Part 23/CPCB Method

Remarks (if any)

End of Report

Lab Incharge

For Eco Laboratories & Consultants Pvt. Ltd.

Authorized Signatory

TEST REPORT

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

EL-17-18/7439

Test Report No. :EL260617GA005	Page No. 1/2
Customer	Nabha Power Limited PO Box 28, Near Village-Nalash Distt Patiala, Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016
Type of Sample	Ambient Air
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	23/06/2017 to 24/06/2017
Sampling Location	Near Storm Water Pump
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.
Date of Receipt of Sample	26/06/2017
Period of Analysis	26/06/2017 to 28/06/2017
Date of Reporting	28/06/2017
Testing Protocol	NAAQS 2009
Environmental Condition	Clear

Not Valid for Consent Purpose

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	91	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	46	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	9.8	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	19	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	20	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	11	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

PTO

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL260617GA005 EL-17-18/7439					Page No. 2/2
S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0.5	01	IS:5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	ug/m3	<0.001	--	IS 5182 Part 23/CPCB Method

Remarks (if any)

End of Report

Lab Incharge

For Eco Laboratories & Consultants Pvt. Ltd.

Authorized Signatory

TEST REPORT

PPCB-Ref. No. Lab/3238392
Dated-30.09.2011

Test Report No. :EL260617GA006 EL-17-18/7440	Page No. 1/2
Customer	Nabha Power Limited PO Box 28, Near Village-Nalash Distt Patiala, Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016 Not Valid for Consent Purpose
Type of Sample	Ambient Air
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	23/06/2017 to 24/06/2017
Sampling Location	Near Switch Yard
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.
Date of Receipt of Sample	26/06/2017
Period of Analysis	26/06/2017 to 28/06/2017
Date of Reporting	28/06/2017
Testing Protocol	NAAQS 2009
Environmental Condition	Clear

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	90	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	46	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	10.1	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	18.1	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	21	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	12	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

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PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL260617GA006 EL 17-18/7440					Page No. 2/2
S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0.5	01	IS:5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	ug/m3	<0.001	--	IS 5182 Part 23/CPCB Method

Remarks (if any)

End of Report

Lab Incharge

For Eco Laboratories & Consultants Pvt. Ltd.

Authorized Signatory

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

TEST REPORT

Test Report No. :EL260617GA012 EL-17-18/7437-A	Page No 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101 Not Valid for Consent Purpose
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016
Type of Sample	Ambient Air
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	23/06/2017 to 24/06/2017
Sampling Location	Vill. Dabhali Rajpura
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.
Date of Receipt of Sample	26/06/2017
Period of Analysis	26/06/2017 to 28/06/2017
Date of Reporting	28/06/2017
Testing Protocol	NAAQS 2009
Environmental Condition	Clear

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	93.15	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	41.26	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	8.79	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	12.45	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	<5	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	<5	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006,

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Not Valid for Consent Purpose

Test Report No. :EL260617GA012 EL-17-18/7437-A					Page No. 2/2
S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP), Particulate Phase Only	ng/m3	<0.5	01	IS:5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	µg/m3	<0.001	--	IS 5182 Part 23/ CPCB Method

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory

PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

TEST REPORT

Test Report No. :EL260617GA013 EL-17-15/7438-A	Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016 Not Valid for Consent Purpose
Type of Sample	Ambient Air
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	23/06/2017 to 24/06/2017
Sampling Location	Vill. Salempur Rajpura
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.
Date of Receipt of Sample	26/06/2017
Period of Analysis	26/06/2017 to 28/06/2017
Date of Reporting	28/06/2017
Testing Protocol	NAAQS 2009
Environmental Condition	Clear

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	91.56	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	43.25	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	7.89	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	13.56	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	<5	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	<5	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

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PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL260617GA013 EL-17-18/7438-A Page No. 2/2

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP). Particulate Phase Only	ng/m3	<0.5	01	IS:5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	µg/m3	<0.001	--	IS 5182 Part 23/ CPCB Method

narks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory

Eco Laboratories & Consultants Pvt. Ltd.
NABL / MOEF / PPCB / HSPCB / BIS approved Laboratory
ISO 9001 : 2008, 14001:2004 OHSAS 18001:2007
ISO 9001:2008
CIN : U74140PB2011PTC034739

PPCB-Ref. No. Lab/3233892
Dated-30.09.2011

TEST REPORT

Test Report No. :EL260617GA014 BL-17-18/7439-A	Page No. 1/2
Customer	Nabha Power Limited PO Box 28 Near Village-Nalash Distt Patiala , Rajpura-140101
Work Order No. & Date	NPL/47000-04271 Dt.: 23/08/2016 Not Valid for Consent Purpose
Type of Sample	Ambient Air
Mode of Collection of Sample	Sampling by laboratory
Date of Sampling	23/06/2017 to 24/06/2017
Sampling Location	Vill. Dadumajra
Sampling Protocol	IS: 5182 (P-14) 2000, CPCB Guidelines and Customer's Requirements.
Date of Receipt of Sample	26/06/2017
Period of Analysis	26/06/2017 to 28/06/2017
Date of Reporting	28/06/2017
Testing Protocol	NAAQS 2009
Environmental Condition	Clear

RESULTS

S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
1	Particulate Matter (PM 10)	µg/m3	96.1	100	IS:5182 (P-23) 2004
2	Particulate Matter (PM 2.5)	µg/m3	44.58	60	Lab SOP No. EL/SOP/AAQ/01, Issue No. & Issue Date 03 & 01.01.2016
3	Sulphur Dioxide (SO2)	µg/m3	6.98	80	IS:5182 (P-2) 2001
4	Nitrogen Oxides (as NO2)	µg/m3	14.79	80	IS:5182 (P-6) 2006
5	Ammonia (NH3)	µg/m3	<5	400	Lab SOP No. EL/SOP/AAQ/02, Issue No. & Issue Date 03 & 01.01.2016
6	Ozone (O3)	µg/m3	<5	180	IS:5182 (Part-9) 1974 R2003
7	Carbon Monoxide (CO)	mg/m3	<1.5	04	Lab SOP No. EL/SOP/AAQ/03, Issue No. & Issue Date 03 & 01.01.2016
8	Lead (Pb)	µg/m3	<0.04	1.0	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
9	Arsenic (As)	ng/m3	<1	06	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
10	Nickel (Ni)	ng/m3	<10	20	Lab SOP No. EL/SOP/AAQ/04, Issue No. & Issue Date 03 & 01.01.2016
11	Benzene (C6H6)	µg/m3	<2	05	IS:5182 (P-11) 2006

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PPCB-Ref. No. Lab/3238892
Dated-30.09.2011

Not Valid for Consent Purpose

Test Report No. :EL260617GA014 EL-17-18/7439-A					Page No. 2/2
S.No.	Test Parameter	Units	Results	NAAQS 2009	Test Method
12	Benzo Pyrene (BaP). Particulate Phase Only	ng/m3	<0.5	01	IS:5182 (P-12) 2004
13	Mercury as particulate phase (HgP)	µg/m3	<0.001	--	IS 5182 Part 23/ CPCB Method

Remarks (if any)

End of Report

For Eco Laboratories & Consultants Pvt. Ltd.

Lab Incharge

Authorized Signatory