NABHA POWER LIMITED

NPL
Nabha Power Limited

P.O. Box No -28, Near Nalash, Rajpura-140401, Punjab
Phone: 01762-277252 • Fax: 01762-277251

Email ID: rajiv.bhandari@larsentoubro.com
Letter.No.: NPL/HSE/RB/MoEFCC/AD/241126/1 Date 26.11.2024

To,

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

Ref: Environmental Clearance No J-13011/44/2008- IA-II (T) dated 3rd October 2008 and as Amended on dated 15th November 2010 and Extension dated 5th February 2014 & Amendment in Environmental Clearance (EC) on dated 04.07.2022.

Sub: Six Monthly Environmental Clearance Compliance Report for the Period of 1st April 2024 to 30th September 2024.

Dear Sir,

Please find enclosed Six-Monthly Environmental Clearance Compliance Report of M/s Nabha Power Ltd., Vill. Nalash, Distt- Patiala (Punjab) for the period from 1st April 2024 to 30th September 2024.

Thanking you,

Yours Sincerely,

(Rajiv Bhandari)
Authorised Signatory
Nabha Power Limited

Encl: As above.

CC: 1) The Executive Environment Engineer, Regional Office, Patiala, Ground Floor, Vatavaran Bhawan, Nabha Road, Patiala.
2) Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex East Arjun Nagar, Delhi.
3) Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi.

SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE CONDITIONS

NABHA POWER LIMITED

2×700 MW THERMAL POWER PLANT

VILL. NALASH

DISTT. PATIALA (PUNJAB)

Submitted to:

- **Additional Director, Integrated Regional Office (Northern Region), Ministry of Environment, Forests and Climate Change, Chandigarh-160030.**
- **Ministry of Environment, Forests and Climate Change, New Delhi-110003.**
- **Central Pollution Control Board, Delhi**
- **Punjab State Pollution Control Board, Patiala.**

Submitted By:

NABHA POWER LIMITED

VILL. NALASH

PATIALA (PUNJAB)

Period: 1st April-2024 to 30th September-2024.

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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 ^{o}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	5.8 MT/Year, SECL Mines
Water requirement and source	75 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 # 1 & U# 2 Synchronised on Feb-2014 and July-2014 respectively
References : 1.No.J-13011/44/2008-IA-II(T)DTD 3rdOct2008
: 2.No.J-13011/44/2008-IA-II(T)DTD 15thNov2010
: 3.No.J-13011/44/2008-IA-II(T)DTD 5thFeb2014
: 4.No.J-13011/44/2008-IA-II(T)DTD 4thJuly2022

Compliance Report for the period of April-2024 to September-2024.

1. J-13011/44/2008- IA-II (T) DTD 3rdOct 2008 for 2x660 MW

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. 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 in the coal being used is below 0.5%. The Testing Report is attached as **Annexure 1**. The condition of 34% Ash in coal does not exist Now. As per MoEF&CC Notification vide S.O.No.1561(E) Dtd.21.05.2020 "Use of coal by Thermal Power Plants, without stipulations as regards ash content or distance, shall be permitted subject to compliance with specified emission norms for particulate matter" (PM < 50 mg/nm3). We are maintaining the specified emission norms. The stack emission monitoring reports from PPCB as well as from MoEF&CC and NABL approved laboratory for particulate matter are attached as **Annexure-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. As per EC validity extension dated 5.02.2014**,** exit velocity of flue gases shall not be less than 22 m/s therefore the exit velocity of flue gas is being always maintained more than 22 m/sec in both the stacks. The Stack Emission Monitoring Reports from MoEF & CC and NABL approved laboratory are attached as **Annexure-2.**
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 Boilers 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 PPCB as well as from MoEF&CC and NABL approved laboratory for particulate matter is attached as **Annexure-2.**
6.	Space provision shall be kept for retrofitting for FGD, if required at later date.	Complied.
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) are operational in the coal handling area, ash handling and at all transfer points. The photographs of the same is attached as **Annexure-3.**
8.	Fly ash to be collected in dry form in storage facility (silos) shall be provided. 100% utilization of fly ash	Fly Ash Silos (3 Nos.) are fully operational. The utilization report of Fly ash is being submitted to Regional Office

	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.	PPCB, MoEF&CC, CPCB and CEA on yearly basis. Ash utilization report for the period of 1st April-24 to 30th September-2024 is attached as **Annexure-4.** Analysis of heavy metals are being done for both bottom & fly ash on six monthly basis. Latest reports are attached as **Annexure-5.**
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 microns 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.	Closed cycle cooling system with cooling towers is provided. No effluent is generated as the plant is designed for ZLD (Zero Liquid Discharge).
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 boundary except during Monsoon. Arrangement shall be made that effluent & storm water do not get mix.	The Power plant is based on Zero Discharge (ZLD) concept and the treated effluents conforming to prescribed standards are 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 capacity is in operation. The treated water is being used for green belt development/Plantation. The STP Treated effluent quality reports from PPCB as well as from MoEF&CC and NABL approved laboratory are attached as **Annexure-6.**
13.	Rainwater harvesting should be adopted. Central Ground Water Authority/board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished.	Rainwater harvesting pits are in place and made as per the Rainwater 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 labour 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 labour such as toilets, STP, safe drinking water, medical health care etc. during project stage.
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 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 of ground water in and around ash pond is being done and reports are being submitted to the PPCB monthly basis. The latest reports are attached as **Annexure-7.**
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.	1/3rd of the total area have been covered under green belt with native species. The Green Belt Development photographs are attached as **Annexure-8.**

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.	Annual activities continue across the year as per allocated financial budget to improve the socio-economic status of surrounding areas. A snapshot of the CSR projects and initiatives are attached.as **Annexure No-9.**
20.	First aid & sanitation arrangement shall be made for the drivers and other contract workers during construction phase.	First aid centre (OHC) & adequate sanitation arrangement are available for employees as well as contractual employees.
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/earmuffs 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 as per statutory norms.
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 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.	Monitoring reports are regularly being submitted to Regional office of Ministry and PPCB. Monitoring reports are attached as **Annexure-10.**
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.	HSE department comprising of qualified staff with adequate experience and knowledge is in place to cater environmental responsibilities & needs.
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.	Half year reports are regularly being submitted to ❖ MoEF&CC New Delhi, ❖ MoEF&CC, IRO (North Region), Chandigarh, ❖ CPCB, Delhi and ❖ PPCB Patiala.
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 costs 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.	Separate funds are allocated. Funds spent in the FY 2024-2025 (1st April-24 to 30th September-2024) are attached as **Annexure No-11.**
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 since 2014 after obtaining all necessary approvals from state/central government.
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.	NPL is providing full co-operation and support to the scientists/officers of MoEF&CC/CPCB/SPCB. who are monitoring compliance of environmental status, time to time.

2. J-13011/44/2008- IA-II(T)DTD15th Nov 2010 for change in configuration from 2 x 660 MW to 2 x 700 MW.

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 are uploaded periodically on website. Website address: http://www.lntnabhapower.com
32.	Critical pollutants levels including NOx, RPSM**10 and 2.5**, SO_2 shall be regularly monitored, and results displayed in your website and also at main gate of the power plant.	Monitoring results are uploaded on NPL website as well as displayed at main gate. The Photograph of main gate display is attached as **Annexure-12.**

3. J-13011/44/2008- IA-II(T) DTD 5thFeb2014 for extension of validity of Environmental Clearance.

S. No.	MOEF Conditions	Compliance Status
33	Harnessing solar power within the premises of the plant particularly at the available roof tops shall be undertaken and status of implementation shall be submitted periodically to regional office of ministry	Solar panels are provided on field hostel roof, Clarifier area, CHP and at DM plant area and are functional. The harness report is attached as **Annexure No-13.**
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 radioactivity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	Heavy metal & Radioactive contents in coal, fly ash and bottom ash are being analysed on six monthly basis. Latest reports are attached as **Annexure-5,14 &15.**
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 stacks are regularly monitored and the reports are being submitted to MOEF&CC on periodic basis. The reports are attached as **Annexure-2.**

36	Fugitive emissions shall be controlled to prevent impact on agriculture or non-agriculture land.	Adequate measures to control fugitive emissions are 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.	For Nabha Power Limited the source of water is Bhakhra Canal and necessary permission 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.	The Hydrology study of the area was conducted before the grant of EC by MOEF&CC. No groundwater abstraction is being done. We are only using Canal water for the 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	Fly ash is being utilized as per the MoEF&CC Notification vide S.O. 5481(E) dated 31.12.2021.
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 photographs are attached as **Annexure-8**
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 neighbouring villages. Special package with implementation schedule for free potable drinking water supply in the nearby villages and schools shall be undertaken in a time bound manner.	Being Complied
47	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	Complied Presently working in 49 villages (5 Km) radius, the schemes are implemented in targeted villages in coordination with village panchayats. The milestones of H1 are as under: Skills

	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.	• Facilitated external orders worth 20 Lakhs for women artisans (66 No., 6 centres) • Training in beautician and stitching courses at 4 No. skill centres. 130 are undergoing training. Education & Sports • NPL School Kits: Eco friendly NPL School Kits bag, bottle and pencil box given to nearly 4700 students of Govt Schools • Learning Enrichment Program – 430 Students, (15 schools) are being covered. • Contingency Support to Govt. Schools- 10 Schools were provided with infrastructure improvement classroom construction and BALA Work (Benefits 1200 Students) • Theatre Workshop: Students 30 students were provided training. • NPL Scholarship- 38 recipients added this year, taking the total count to 120 Scholars. • Safe Drinking Water – Installation of Water coolers and purifiers in 19 Government Schools (benefitted 2000 children) • NPL Sports Academy – 78 children & youth are undergoing athletic training in village Dhumman, • Cylothon under "GO-GREEN" initiative -250 children participated. • Rural Sports Tournaments: Rural Infrastructure • EWS Housing- Handed over EWS housing projects to 15 families. • Road Repair & Construction- 10 Villages covered. • Renovation of Panchayat Buildings: In 1 Village Health • Health Camps (2 Nos.) – 900 villagers benefited from health camps. • Blood Donation Camps (1 No.) -Over 100 units voluntary donation • Anaemia Campaign: Joint initiative to cover anaemia screening and treatment of nearly 1000 girls. Water & Sanitation • Periodic Cleaning of natural drains & ponds.
48	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.	Internal Planning and monitoring done by CSR Committee chaired by Senior Plant Official the committee's meeting is conducted on quarterly basis. Annual social audit was carried out by Population Research Center Panjab University Chandigarh report is attached as **Annexure-19**
49	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.	An Environmental Cell Headed by DGM-HSE is already in place, who directly reports to the Head of Organisation.
50	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	Regular monitoring of ground water quality including heavy metals is being carried out regularly in and around the Ash Dyke. Piezometer wells are established around the ash pond area and being regularly monitored. The latest reports are attached as **Annexure-7.**

	to the project.	
51	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 Bhakra Canal water for generation of Power. The quality and quantity of the canal water is monitored, and records are being maintained. Surface water reports are attached as **Annexure-16.** We are already monitoring heavy metals in the ground water by taking samples through a piezometer on a monthly basis and submitting the respective reports to the regional office of the PPCB at Patiala. The latest reports are attached as **Annexure-7.**
52	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. The last environmental statement report was submitted on 27.09.2024 to the Integrated Regional Office of MoEF&CC at Chandigarh and the PPCB, Patiala.
53	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. The organisation is certified for Integrated Management System requirements comprising of (ISO 9001, 14001 & 45001 & 50001)

4. No -J-13011/44/2008- IA-II (T) dated 4thJuly2022, Amendment in Environment Clearance.

54	An epidemiology study shall be carried out in every two years and report shall be submitted to Regional Office of MoEF&CC.	Epidemiology study was carried out. The copy of same is attached as **Annexure-17.**
55	A Public grievances redressal cell to address the social and environmental concerns shall be established under the supervision of project head, regular status of activities of the cell be submitted in six monthly compliance report.	A Public grievances redressal cell has been made under the chairmanship of O&M Head to address the social and environmental concerns. The copy of Minutes of Meeting is attached as **Annexure-18.**

Annexure – 1

Test Report of Sulphur % in Coal

Interstellar Testing Centre Pvt. Ltd.

TEST REPORT

ORIGINAL

Issued To	**Sample Reg. No.**	:	B01-2409140004
Nabha Power Limited	**Sample Reg. Date.**	:	14/09/2024
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala	**Report Date.**	:	08/10/2024
Rajpura, 140401	**Report No.**	:	ICB-2410080017
Punjab, India	**Customer Ref. No.**	:	PO
	Letter Dated	:	25/11/2022

Sample Particulars			
Name of Sample#	: **Coal**		
Submitted By#	: Nabha Power Limited		
Batch No.#	: NA	**Batch Size #**	: NA
Manufactured By#	: NA	**Mfg. Lic. No.#**	: NA
Supplied By#	: Not Specified		
Date of Manufacture#	: NA	**Date of Expiry#**	: NA
Sample Qty#	: 250gm	**Sample Condition**	: Good
Grade#	: NA	**Brand Name#**	: NA
Official Seal	: Not Applicable	**Official Signature**	: Not Applicable
Packaging Details	: Packed in poly pack	**Declared values(if any)**	: Not Specified
Any Other Information	: Sample collected by Lab rep. on 09.09.2024		
Test Report as per	: Party Specification	**With Amendment No.(s)**	: Not Specified

Test Results

Analysis started on : 16/09/2024 **Analysis completed on** : 08/10/2024

Description : Coal

S. No.	Parameter	Unit	Method	Requirements	Result
	Discipline : Chemical				
	Group : Solid Fuels				
1	**Chemical Parameters**				
(a)	Sulphur(as S)	NA	IS:1350(P-3)	NA	0.3

represents Customer Defined Fields

Remarks: Party asked for the above tests only.

*******End of Report*******

08/10/2024
Brijesh Singh
Verified by

08/10/2024
Kamal Grover
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
Panchkula-134109 (Haryana)
Phone : (O) 0172-2561543, 2565825
Email : customersupport@itclabs.com
Visit us :www.itclabs.com

Annexure- 2

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

Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409281705

ULR No. : TC592624000018659F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409140522	Received On	: 14-09-2024
Sample Name	: Stack Boiler	Commenced On	: 14-09-2024
Sample Condition	: Good	Completed On	: 18-09-2024
Sample Details (if any)		Date of Report	: 28-09-2024
Sample Quantity	: 1 Thimble, 30ml, 25ml		
Packaging Mode	: Packed in vials		
Batch No./QR Code	: Date of Sampling: 11.09.2024, Boiler Unit-1	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Anand Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. on 11.09.2024, Boiler Unit-1		
Test Report as per	: EPA-1986, PCLS/02/2021		

S. No.	**Sampling Information**:	
(a)	Name of the emission source monitored	: Stack Emission of Boiler Unit-1
(b)	Rated Capacity	: 2322 Ton
(c)	Capacity on sampling day	: -
(d)	Type of fuel used & its consumption	: Coal
(e)	Normal operating schedule	: 24 hrs
(f)	Stack Identification	: Stack attached to Boiler Unit-1
(g)	Type of Stack/Duct	: Metal
(h)	Stack Height from Ground Level , m	: 275
(i)	Diameter of the Stack , cm	: 750
(j)	Sampling Duration , minutes	: 24
(k)	Purpose of Monitoring	: For Self Monitoring
(l)	Air Pollution control measure	: ESPs
(m)	Status	: Working
(n)	Recovery of Material	: -
(o)	Fugitive Emission, if any	: Nil
(p)	Date of Monitoring	: 11-09-2024
(q)	Time of Monitoring	: 11:40 to 12:14 hrs
	Observations:	
(r)	Flue Gas Temperature , °C Avg.	: 122
(s)	Flue Gas Velocity , m/s Avg.	: 22.46
(t)	Volumetric Flow Rate , Nm3/hr.	: 2555319.90
(u)	Ambient Air Temperature , °C	: 34

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
Panchkula-134109 (Haryana)
Phone : (O) 0172-2561543, 2565825
Email : customersupport@itclabs.com
Visit us :www.itclabs.com

(I)	General Parameters					
1	Carbon Monoxide(CO)	% v/v	Orsat Apparatus	IS:13270	0.2	Max. 1.0
2	Mercury(as Hg)	mg/Nm3	ICPOES	USEPA Method	BLQ(LOQ:0.01)	Max. 0.03
3	Carbon Dioxide (CO2)	%	Orsat Apparatus	IS:13270	10.8	Not Specified
4	Particulate Matter(Corrected to 6% O2 on dry basis)	mg/Nm3	Gravimetric	IS:11255(P-1)	42.60	Max. 50
5	Sulphur Dioxide(SO2)(Corrected to 6% O2 on dry basis)	mg/Nm3	Titration	IS:11255(P-2)	1068.94	Max. 200
6	Oxides of Nitrogen (NOx)(Corrected to 6% O2 on dry basis)	mg/Nm3	UV-Spectrophotometer	IS:11255(P-7)	310.61	Max. 450

NOTE : NA- Not Applicable, , BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per EPA-1986, PCLS/02/2021. Sampling Procedure: SOP/ITC/EW/056. Sample Collected by lab rep. on 11-09-2024

REMARKS : See Note

*****End of Report*****

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
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Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409281706

ULR No. : TC592624000018660F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409140523	Received On	: 14-09-2024
Sample Name	: Stack Boiler	Commenced On	: 14-09-2024
Sample Condition	: Good	Completed On	: 18-09-2024
Sample Details (if any)		Date of Report	: 28-09-2024
Sample Quantity	: 1 Thimble, 30ml, 25ml		
Packaging Mode	: Packed in vials		
Batch No./QR Code	: Date of Sampling: 11.09.2024, Boiler Unit-2	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Anand Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Date of Sampling: 11.09.2024, Boiler Unit-2		
Test Report as per	: EPA-1986, PCLS/02/2021		

S. No. Sampling Information:

(a)	Name of the emission source monitored	: Stack Emission of Boiler Unit-2
(b)	Rated Capacity	: 2322 Ton
(c)	Capacity on sampling day	: -
(d)	Type of fuel used & its consumption	: Coal
(e)	Normal operating schedule	: 24 hrs
(f)	Stack Identification	: Stack attached to Boiler Unit-2
(g)	Type of Stack/Duct	: Metal
(h)	Stack Height from Ground Level , m	: 275
(i)	Diameter of the Stack , cm	: 750
(j)	Sampling Duration , minutes	: 24
(k)	Purpose of Monitoring	: For Self Monitoring
(l)	Air Pollution control measure	: ESPs
(m)	Status	: Working
(n)	Recovery of Material	: -
(o)	Fugitive Emission, if any	: Nil
(p)	Date of Monitoring	: 11-09-2024
(q)	Time of Monitoring	: 12:30 to 13:04 hrs
	Observations:	
(r)	Flue Gas Temperature , °C Avg.	: 124
(s)	Flue Gas Velocity , m/s Avg.	: 22.91
(t)	Volumetric Flow Rate , Nm3/hr.	: 2589789.32
(u)	Ambient Air Temperature , °C	: 34

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
Panchkula-134109 (Haryana)
Phone : (O) 0172-2561543, 2565825
Email : customersupport@itclabs.com
Visit us :www.itclabs.com

(I)	General Parameters					
1	Carbon Monoxide(CO)	% v/v	Orsat Apparatus	IS:13270	0.2	Max. 1.0
2	Mercury(as Hg)	mg/Nm3	ICPOES	USEPA Method	BLQ(LOQ:0.01)	Max. 0.03
3	Carbon Dioxide (CO2)	%	Orsat Apparatus	IS:13270	11.2	Not Specified
4	Particulate Matter(Corrected to 6% O2 on dry basis)	mg/Nm3	Gravimetric	IS:11255(P-1)	45.68	Max. 50
5	Sulphur Dioxide(SO2)(Corrected to 6% O2 on dry basis)	mg/Nm3	Titration	IS:11255(P-2)	1192.31	Max. 200
6	Oxides of Nitrogen (NOx)(Corrected to 6% O2 on dry basis)	mg/Nm3	UV-Spectrophotometer	IS:11255(P-7)	284.92	Max. 450

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per EPA-1986, PCLS/02/2021. Sampling Procedure: SOP/ITC/EW/056. Sample Collected by lab rep. on 11-09-2024.

REMARKS : See Note

*****End of Report*****

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2406291746

ULR No. : TC592624000011443F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2406241700	Received On	: 24-06-2024
Sample Name	: Stack Boiler	Commenced On	: 24-06-2024
Sample Condition	: Good	Completed On	: 26-06-2024
Sample Details (if any)		Date of Report	: 29-06-2024
Sample Quantity	: 1 Thimble, 30ml, 25ml		
Packaging Mode	: Packed in Vials		
Batch No./QR Code	: Date of Sampling: 18-06-2024, Boiler-1	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Anand Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Date of Sampling: 18-06-2024, Boiler-1		
Test Report as per	: EPA-1986, PCLS/02/2021		

S. No. Sampling Information:

(a)	Name of the emission source monitored	: Stack Emission of Boiler-1
(b)	Rated Capacity	: 2322 Ton
(c)	Capacity on sampling day	: -do-
(d)	Type of fuel used & its consumption	: Coal
(e)	Normal operating schedule	: 24 hrs
(f)	Stack Identification	: Stack Attached to Boiler-1
(g)	Type of Stack/Duct	: Metal
(h)	Stack Height from Ground Level , m	: 275
(i)	Diameter of the Stack , cm	: 750
(j)	Sampling Duration , minutes	: 48
(k)	Purpose of Monitoring	: For Self Monitoring
(l)	Air Pollution control measure	: ESPs
(m)	Status	: Working
(n)	Recovery of Material	: -
(o)	Fugitive Emission, if any	: Nil
(p)	Date of Monitoring	: 18-06-2024
(q)	Time of Monitoring	: 16:00 hrs
	Observations:	
(r)	Flue Gas Temperature , °C Avg.	: 141
(s)	Flue Gas Velocity , m/s Avg.	: 22.54
(t)	Volumetric Flow Rate , Nm3/hr.	: 2429763.19
(u)	Ambient Air Temperature , °C	: 45

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					

29/06/2024
Vikrant Saini
Verified by

29/06/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
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Panchkula-134109 (Haryana)
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(I)	General Parameters					
1	Carbon Monoxide(CO)	% v/v	Orsat Apparatus	IS:13270	46.23	Max. 1.0
2	Mercury(as Hg)	mg/Nm3	ICPOES	USEPA Method	BLQ(LOQ:0.01)	Max. 0.03
3	Carbon Dioxide (CO2)	%	Orsat Apparatus	IS:13270	14.4	Not Specified
4	Particulate Matter(Corrected to 6% O2 on dry basis)	mg/Nm3	Gravimetric	IS:11255(P-1)	46.23	Max. 50
5	Sulphur Dioxide(SO2)(Corrected to 6% O2 on dry basis)	mg/Nm3	Titration	IS:11255(P-2)	1046.18	Max. 200
6	Oxides of Nitrogen (NOx)(Corrected to 6% O2 on dry basis)	mg/Nm3	UV-Spectrophotometer	IS:11255(P-7)	204.18	Max. 450

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Requirement as per EPA-1986, PCLS/02/2021. Sampling Procedure : SOP/ITC/EW/056. Sample Collected by lab rep. on 18-06-2024.

REMARKS : See Note

*****End of Report*****

29/06/2024
Vikrant Saini
Verified by

29/06/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2406291745

ULR No. : TC592624000011442F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2406241702	Received On	: 24-06-2024
Sample Name	: Stack Boiler	Commenced On	: 24-06-2024
Sample Condition	: Good	Completed On	: 26-06-2024
Sample Details (if any)		Date of Report	: 29-06-2024
Sample Quantity	: 1 Thimble, 30ml, 25ml		
Packaging Mode	: Packed in Vials		
Batch No./QR Code	: Date of Sampling: 18-06-2024, Boiler Unit-2	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Anand Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Date of Sampling: 18-06-2024, Boiler Unit-2		
Test Report as per	: EPA-1986, PCLS/02/2021		

S. No. Sampling Information:

(a)	Name of the emission source monitored	: Stack Emission of Boiler Unit-2
(b)	Rated Capacity	: 2322 Ton
(c)	Capacity on sampling day	: -do-
(d)	Type of fuel used & its consumption	: Coal
(e)	Normal operating schedule	: 24 hrs
(f)	Stack Identification	: Stack Attached To Boiler Unit-2
(g)	Type of Stack/Duct	: Metal
(h)	Stack Height from Ground Level , m	: 275
(i)	Diameter of the Stack , cm	: 750
(j)	Sampling Duration , minutes	: 48
(k)	Purpose of Monitoring	: For Self Monitoring
(l)	Air Pollution control measure	: ESPs
(m)	Status	: Working
(n)	Recovery of Material	: -
(o)	Fugitive Emission, if any	: Nil
(p)	Date of Monitoring	: 18-06-2024
(q)	Time of Monitoring	: 17:00 to 17:48 hrs
	Observations:	
(r)	Flue Gas Temperature , °C Avg.	: 148
(s)	Flue Gas Velocity , m/s Avg.	: 22.71
(t)	Volumetric Flow Rate , Nm3/hr.	: 2407384.26
(u)	Ambient Air Temperature , °C	: 45

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					

29/06/2024
Vikrant Saini
Verified by

29/06/2024
Prem Kumar
Authorised by

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Panchkula-134109 (Haryana)
Phone : (O) 0172-2561543, 2565825
Email : customersupport@itclabs.com
Visit us :www.itclabs.com

(I)	General Parameters					
1	Carbon Monoxide(CO)	% v/v	Orsat Apparatus	IS:13270	0.2	Max. 1.0
2	Mercury(as Hg)	mg/Nm3	ICPOES	USEPA Method	BLQ(LOQ:0.01)	Max. 0.03
3	Carbon Dioxide (CO2)	%	Orsat Apparatus	IS:13270	14.2	Not Specified
4	Particulate Matter(Corrected to 6% O2 on dry basis)	mg/Nm3	Gravimetric	IS:11255(P-1)	44.23	Max. 50
5	Sulphur Dioxide(SO2)(Corrected to 6% O2 on dry basis)	mg/Nm3	Titration	IS:11255(P-2)	1387.13	Max. 200
6	Oxides of Nitrogen (NOx)(Corrected to 6% O2 on dry basis)	mg/Nm3	UV-Spectrophotometer	IS:11255(P-7)	260.48	Max. 450

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Requirement as per EPA-1986, PCLS/02/2021. Sampling Procedure : SOP/ITC/EW/056. Sample Collected by lab rep. on 18-06-2024.

REMARKS : See Note

*****End of Report*****

29/06/2024
Vikrant Saini
Verified by

29/06/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
Panchkula-134109 (Haryana)
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PUNJAB POLLUTION CONTROL BOARD

AIR LABORATORY, HEAD OFFICE, VATAVARAN BHAWAN, PATIALA

Email :ppcbairlab@gmail.com

1.	Laboratory Sample No.	SE 121-122/H.O.Lab./Air/Monitoring/2024-25
2.	Name of Industry	M/s Nabha Power Ltd., Vill Nalash, Rajpura, Distt Patiala
3.	Name of Sample collecting Officer	Er. Rohit Singla EE, Er. Mohit Singla AEE & Dr. Rupinder Kaur SA
4.	Designation of authorizing Test	Environmental Engineer, Regional Office, Patiala
5.	Type of Sample	Stack Emission
6.	Date of Sample collection	28.06.2024
7.	Date of Sample receipt in Lab.	01.07.2024
8.	Period of Analysis	01.07.2024 to 05.07.2024
9.	Test Method	IS:11255 (Part1)-1985 RA 2019

RK

म:श:दि:-1/2/3/S.A.

2836

RESULTS

S. No	Point of Sample Collection	Parameter	Results	Prescribed Standard
1.	From port hole on stack after APCD attached with Boiler Furnace of Unit I	Particulate Matter (mg/Nm^3)	42	50
2.	Port Hole on stack after APCD attached with Boiler Furnace of Unit II	Particulate Matter (mg/Nm^3)	38	50

Note:- If any, other limits/specific standard has been prescribed time to time by MoEF&CC, CPCB and PPCB then those limits/specific standard would prevail subject to clarification from the concerned Regional Office.

----End of Report----

Analyst

05/07/2024

Scientific Officer
(Air Lab)

Endst. No: 16848-49 **Dt.** 5/7/24

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

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

05/07/2024

Scientific Officer
(Air Lab)

Annexure-2

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

Annexure- 3

Measures taken to control fugitive emissions

Annexure-3

Dust Extraction System at Crusher House

Dust Extraction System at Bunker

Annexure-3

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 stockpile to arrest Dust

Automated and Mechanized Coal handling System to minimize manual operations

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

Annexure-3

Dust Suppression System installed at Wagon Tippler Area to control Fugitive Emission During Unloading of Coal.

Annexure-4

Fly Ash Utilization Report

NPL 2x700MW,RAJPURA,
ASH GENERATION AND UTILIZATION REPORT FY 2024-25

Month	Total Ash Generated	Total Ash Utilized	% Utilization
Apr-24	2,30,298	2,28,798	**99.35%**
May-24	2,75,325	2,73,634	**99.39%**
Jun-24	2,60,893	2,63,785	**101.11%**
Jul-24	2,07,430	1,59,341	**76.82%**
Aug-24	1,98,355	1,73,511	**87.48%**
Sep-24	1,76,700	1,79,137	**101.38%**
Total	**13,49,002**	**12,78,206**	**94.75%**

Annexure-5

Heavy Metal Analysis in Fly Ash & Bottom Ash Report

Interstellar Testing Centre Pvt. Ltd.

TEST REPORT

ORIGINAL

Issued To	**Sample Reg. No.**	:	B01-2409140002
Nabha Power Limited	**Sample Reg. Date.**	:	14/09/2024
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala	**Report Date.**	:	01/10/2024
Rajpura, 140401	**Report No.**	:	ICB-2410010002
Punjab, India	**Customer Ref. No.**	:	PO
	Letter Dated	:	25/11/2022

Sample Particulars			
Name of Sample#	: **Fly Ash**		
Submitted By#	: Nabha Power Limited		
Batch No.#	: NA	**Batch Size #**	: NA
Manufactured By#	: Not Specified	**Mfg. Lic. No.#**	: NA
Supplied By#	: Not Specified		
Date of Manufacture#	: NA	**Date of Expiry#**	: NA
Sample Qty#	: 400gm	**Sample Condition**	: Good
Grade#	: NA	**Brand Name#**	: NA
Official Seal	: Not Applicable	**Official Signature**	: Not Applicable
Packaging Details	: Packed in poly pack	**Declared values(if any)**	: Not Specified
Any Other Information	: Sample collected by Lab rep. on 09.09.2024		
Test Report as per	: Party Specification	**With Amendment No.(s)**	: Not Specified

Test Results

Analysis started on : 17/09/2024 **Analysis completed on** : 18/09/2024

Description : --

S. No.	Parameter	Unit	Instrument	Method	Requirements	Result
	Discipline : Chemical					
	Group : Building Material					
1	**Heavy Metals**					
(a)	Arsenic(as As)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	5.63
(b)	Lead(as Pb)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	2.02
(c)	Chromium(as Cr)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	1.35
(d)	Mercury(as Hg)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)
	Discipline : Mechanical					
(a)	Arsenic(as As)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	5.63
(b)	Lead(as Pb)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	2.02
(c)	Chromium(as Cr)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	1.35
(d)	Mercury(as Hg)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)

represents Customer Defined Fields

Remarks: Party asked for the above tests only.

01/10/2024
Brijesh Singh
Verified by

01/10/2024
Kamal Grover
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Email : customersupport@itclabs.com
Visit us :www.itclabs.com

Interstellar Testing Centre Pvt. Ltd.

TEST REPORT

ORIGINAL

	Sample Reg. No.	:	B01-2409140002
Issued To	**Sample Reg. Date.**	:	14/09/2024
Nabha Power Limited	**Report Date.**	:	01/10/2024
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala	**Report No.**	:	ICB-2410010002
Rajpura, 140401	**Customer Ref. No.**	:	PO
Punjab, India	**Letter Dated**	:	25/11/2022

*******End of Report*******

01/10/2024
Brijesh Singh
Verified by

01/10/2024
Kamal Grover
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Interstellar Testing Centre Pvt. Ltd.

TEST REPORT

ORIGINAL

Issued To	**Sample Reg. No.**	:	B01-2409140003
Nabha Power Limited	**Sample Reg. Date.**	:	14/09/2024
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala	**Report Date.**	:	01/10/2024
Rajpura, 140401	**Report No.**	:	ICB-2410010005
Punjab, India	**Customer Ref. No.**	:	PO
	Letter Dated	:	25/11/2022

Sample Particulars			
Name of Sample#	: **Bottom Ash**		
Submitted By#	: Nabha Power Limited		
Batch No.#	: NA	**Batch Size #**	: NA
Manufactured By#	: NA	**Mfg. Lic. No.#**	: NA
Supplied By#	: Not Specified		
Date of Manufacture#	: NA	**Date of Expiry#**	: NA
Sample Qty#	: 400gm	**Sample Condition**	: Good
Grade#	: NA	**Brand Name#**	: NA
Official Seal	: Not Applicable	**Official Signature**	: Not Applicable
Packaging Details	: Packed in poly pack	**Declared values(if any)**	: Not Specified
Any Other Information	: Sample collected by Lab rep. on 09.09.2024		
Test Report as per	: Party Specification	**With Amendment No.(s)**	: Not Specified

Test Results

Analysis started on : 17/09/2024 **Analysis completed on** : 18/09/2024

Description : --

S. No.	Parameter	Unit	Instrument	Method	Requirements	Result
	Discipline : Chemical					
	Group : Building Material					
1	**Heavy Metals**					
(a)	Arsenic(as As)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)
(b)	Lead(as Pb)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)
(c)	Chromium(as Cr)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)
(d)	Mercury(as Hg)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)
	Discipline : Mechanical					
(a)	Arsenic(as As)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)
(b)	Lead(as Pb)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)
(c)	Chromium(as Cr)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)
(d)	Mercury(as Hg)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)

represents Customer Defined Fields

Remarks: Party asked for the above tests only.

01/10/2024
Brijesh Singh
Verified by

01/10/2024
Kamal Grover
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
Panchkula-134109 (Haryana)
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Email : customersupport@itclabs.com
Visit us :www.itclabs.com

Interstellar Testing Centre Pvt. Ltd.

TEST REPORT

ORIGINAL

	Sample Reg. No.	:	B01-2409140003
Issued To	**Sample Reg. Date.**	:	14/09/2024
Nabha Power Limited	**Report Date.**	:	01/10/2024
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala	**Report No.**	:	ICB-2410010005
Rajpura, 140401	**Customer Ref. No.**	:	PO
Punjab, India	**Letter Dated**	:	25/11/2022

*******End of Report*******

01/10/2024
Brijesh Singh
Verified by

01/10/2024
Kamal Grover
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Visit us :www.itclabs.com

Annexure-6

Treated Sewage Monitoring Results

Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409170484

ULR No. : TC592624000017170F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409100288	Received On	: 10-09-2024
Sample Name	: STP Outlet Water	Commenced On	: 10-09-2024
Sample Condition	: Good	Completed On	: 14-09-2024
Sample Details (if any)		Date of Report	: 17-09-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: NA	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. on 09.09.2024		
Test Report as per	: EPA-1986, PCLS/02/2021		

Description: STP Outlet Water

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Pollution & Environment					
(I)	**General Parameters**					
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.12	6.5 - 9
2	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	5	Max. 100
3	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	20	Not Specified
4	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	7	Max. 30
5	Colour	NA	Visual Examination	IS 3025 (Part 4) : 2021	Colourless	Not Specified
6	Total Kjeldahl Nitrogen(as N)	mg/l	Titration	IS:3025 (Part 34):Sec-1:2023	8.4	Max. 100
7	Total Phosphorous(as P)	mg/l	UV-Spectrophotometer	APHA 23rd Edition 4500 - P D: 2017	1.95	Not Specified
	Discipline : Biological					
	Group : Pollution & Environment					
(II)	**Microbiological Tests**					
1	Faecal Coliform	NA	Microbiological	APHA 23rd Edition Chapter 9 9221.E	540 MPN/100ml	Max. 1000 MPN/100ml

17/09/2024
Deepika Heera
Authorized Signatory(Microbiology)

17/09/2024
Vikrant Saini
Verified by

17/09/2024
Prem Kumar
Authorised by

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Panchkula-134109 (Haryana)
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NOTE : NA- Not Applicable, Requirement as per EPA-1986, PCLS/02/2021. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : See Note

*******End of Report*******

17/09/2024	17/09/2024	17/09/2024
Deepika Heera	**Vikrant Saini**	**Prem Kumar**
Authorized Signatory(Microbiology)	**Verified by**	**Authorised by**

Interstellar Testing Centre PVT. LTD.

86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)

Panchkula-134109 (Haryana)

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2406291710

ULR No. : TC592624000011404F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2406191278	Received On	: 19-06-2024
Sample Name	: STP Outlet Water	Commenced On	: 19-06-2024
Sample Condition	: Good	Completed On	: 28-06-2024
Sample Details (if any)		Date of Report	: 29-06-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: NA	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. on 18.06.2024		
Test Report as per	: EPA-1986, PCLS/02/2021		

Description: STP Outlet Water

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification	
	Discipline : Chemical						
	Group : Pollution & Environment						
(I)	**General Parameters**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.47	6.5 - 9	
2	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	2	Max. 100	
3	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	15	Not Specified	
4	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	6	Max. 30	
5	Colour	NA	Visual Examination	IS 3025 (Part 4) : 2021	Colourless	Not Specified	
6	Total Kjeldahl Nitrogen(as N)	mg/l	Titration	IS:3025 (Part 34):Sec-1:2023	24.5	Max. 100	
7	Total Phosphorous(as P)	mg/l	UV-Spectrophotometer	APHA 23rd Edition 4500 - P D: 2017	0.20	Not Specified	
	Discipline : Biological						
	Group : Pollution & Environment						
(II)	**Microbiological Tests**						
1	Faecal Coliform	NA	Microbiological	APHA 23rd Edition Chapter 9 9221.E	540 MPN/100ml	Max. 1000 MPN/100ml	

29/06/2024
Deepika Heera
Authorized Signatory(Microbiology)

29/06/2024
Vikrant Saini
Verified by

29/06/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
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Panchkula-134109 (Haryana)
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NOTE : NA- Not Applicable. Requirement as per EPA-1986, PCLS/02/2021. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : See Note

*****End of Report*****

29/06/2024
Deepika Heera
Authorized Signatory(Microbiology)

29/06/2024
Vikrant Saini
Verified by

29/06/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
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Panchkula-134109 (Haryana)
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ਸ:ਵ:ਦਿ:-1/2/3/S.A.
ਨਵੀਂ ਡਾਕ
ਦਿੱਲੀ
ਡਾਇਰੀ ਨੰ.....ਮਿਤੀ

RK 4

Eff (2024-25)

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

1. Laboratory Sample No.	E-713-716/H.O.Lab. Monitoring/2024-25
2. Name of Industry	M/s Nabha Power Plant Ltd, Rajpura Coal
3. Name of Sample collecting Officer	Er. Rohit Singla, EE, & Er. Mohit Singla, AEE
4. Designation of the officer authorizing Test	Environmental Engineer, Regional Office, Patiala
5. Type of Sample	Grab
6. Date &Time of Sample collection	28.06.2024
7. Date &Time of Sample receipt in Lab.	29.06.2024
8. Period of Analysis	29.06.2024 to 08.07.2024
9. Test Methods	As per relevant parts of IS:3025/IS:1622 & Methods of APHA

Results

Sr. No.	Parameters	Inlet of STP	Outlet of STP	Cooling Tower Blowdown	Ash Pond Settling Tank
1	pH	7.0	7.6	-	8.6
2	Total Suspended Solids mg/l	125	14	-	25
3	Total Dissolved Solids mg/l	278	320	-	-
4	Chemical Oxygen Demand mg/l	126	19	-	-
5	Bio-chemical Oxygen Demand mg/ l	52	7	-	-
6	Oil & Grease mg/l	7.2	BDL	-	BDL
7	Zinc mg/l	-	-	BDL	-
8	Total Chrome mg/l	-	-	BDL	-
9	Phosphate mg/l	-	-	3.2	-

Remarks: No specific prescribed standards are as per EPA. However, if any stringent/other standards have been imposed by the Board, the same shall prevail.
Note: 1. BDL means Below Method Detection Limit.
2. OCIM & Free Chlorine: Facility not available.

---End of Report---

Scientific Officer
8/7/24

Endst. No: 17087-89 Dt. 09/7/24

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

8/7/24
Asstt.Scientific Officer
8/7/24

Annexure-7

Ground Water Quality Monitoring Results

Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409281680 (1)

ULR No. : TC592624000018630F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409110379	Received On	: 11-09-2024
Sample Name	: Ground Water	Commenced On	: 11-09-2024
Sample Condition	: Good	Completed On	: 16-09-2024
Sample Details (if any)		Date of Report	: 28-09-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-1	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Jitesh on 10.09.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: clear colorless liquid.

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.20	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	490	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	92.1	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
Panchkula-134109 (Haryana)
Phone : (O) 0172-2561543, 2565825
Email : customersupport@itclabs.com
Visit us :www.itclabs.com

Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409281680 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409110379	Received On	: 11-09-2024
Sample Name	: Ground Water	Commenced On	: 11-09-2024
Sample Condition	: Good	Completed On	: 16-09-2024
Sample Details (if any)		Date of Report	: 28-09-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-1	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Jitesh on 10.09.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: clear colorless liquid.

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409281681 (1)

ULR No. : TC592624000018631F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409110380	Received On	: 11-09-2024
Sample Name	: Ground Water	Commenced On	: 11-09-2024
Sample Condition	: Good	Completed On	: 16-09-2024
Sample Details (if any)		Date of Report	: 28-09-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-2	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Jitesh on 10.09.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear Colorless Liquid.

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.18	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	495	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	94	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

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86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Email : customersupport@itclabs.com
Visit us :www.itclabs.com

Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409281681 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409110380	Received On	: 11-09-2024
Sample Name	: Ground Water	Commenced On	: 11-09-2024
Sample Condition	: Good	Completed On	: 16-09-2024
Sample Details (if any)		Date of Report	: 28-09-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-2	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Jitesh on 10.09.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear Colorless Liquid.

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409281679 (1)

ULR No. : TC592624000018629F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409110381	Received On	: 11-09-2024
Sample Name	: Ground Water	Commenced On	: 11-09-2024
Sample Condition	: Good	Completed On	: 16-09-2024
Sample Details (if any)		Date of Report	: 28-09-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-3	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Jitesh on 10.09.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear Colorless Liquid.

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.22	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	498	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	96	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
Panchkula-134109 (Haryana)
Phone : (O) 0172-2561543, 2565825
Email : customersupport@itclabs.com
Visit us :www.itclabs.com

Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409281679 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409110381	Received On	: 11-09-2024
Sample Name	: Ground Water	Commenced On	: 11-09-2024
Sample Condition	: Good	Completed On	: 16-09-2024
Sample Details (if any)		Date of Report	: 28-09-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-3	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Jitesh on 10.09.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear Colorless Liquid.

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409281677 (1)

ULR No. : TC592624000018627F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409110382	Received On	: 11-09-2024
Sample Name	: Ground Water	Commenced On	: 11-09-2024
Sample Condition	: Good	Completed On	: 16-09-2024
Sample Details (if any)		Date of Report	: 28-09-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-4	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Jitesh on 10.09.2024		
Test Report as per	: IS 10500:2012		

Description: Clear Colorless Liquid.

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.13	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	489	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	90.2	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ:0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409281677 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409110382	Received On	: 11-09-2024
Sample Name	: Ground Water	Commenced On	: 11-09-2024
Sample Condition	: Good	Completed On	: 16-09-2024
Sample Details (if any)		Date of Report	: 28-09-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-4	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Jitesh on 10.09.2024		
Test Report as per	: IS 10500:2012		

Description: Clear Colorless Liquid.

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2408290917 (1)

ULR No. : TC592624000015796F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2408170798	Received On	: 17-08-2024
Sample Name	: Ground Water	Commenced On	: 17-08-2024
Sample Condition	: Good	Completed On	: 27-08-2024
Sample Details (if any)		Date of Report	: 29-08-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-1	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 17.08.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colorless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.29	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	495	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	93	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

29/08/2024
Vikrant Saini
Verified by

29/08/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2408290917 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2408170798	Received On	: 17-08-2024
Sample Name	: Ground Water	Commenced On	: 17-08-2024
Sample Condition	: Good	Completed On	: 27-08-2024
Sample Details (if any)		Date of Report	: 29-08-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-1	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 17.08.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colorless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

29/08/2024
Vikrant Saini
Verified by

29/08/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2408290916 (1)

ULR No. : TC592624000015795F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2408170799	Received On	: 17-08-2024
Sample Name	: Ground Water	Commenced On	: 17-08-2024
Sample Condition	: Good	Completed On	: 27-08-2024
Sample Details (if any)		Date of Report	: 29-08-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-2	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 17.08.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear Colorless Liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.25	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	498	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	95	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

29/08/2024
Vikrant Saini
Verified by

29/08/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2408290916 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2408170799	Received On	: 17-08-2024
Sample Name	: Ground Water	Commenced On	: 17-08-2024
Sample Condition	: Good	Completed On	: 27-08-2024
Sample Details (if any)		Date of Report	: 29-08-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-2	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 17.08.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear Colorless Liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

29/08/2024
Vikrant Saini
Verified by

29/08/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2408290915 (1)

ULR No. : TC592624000015794F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2408170800	Received On	: 17-08-2024
Sample Name	: Ground Water	Commenced On	: 17-08-2024
Sample Condition	: Good	Completed On	: 27-08-2024
Sample Details (if any)		Date of Report	: 29-08-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-3	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on17.08.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colorless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.28	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	497	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	99	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

29/08/2024
Vikrant Saini
Verified by

29/08/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2408290915 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2408170800	Received On	: 17-08-2024
Sample Name	: Ground Water	Commenced On	: 17-08-2024
Sample Condition	: Good	Completed On	: 27-08-2024
Sample Details (if any)		Date of Report	: 29-08-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-3	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on17.08.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colorless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

29/08/2024
Vikrant Saini
Verified by

29/08/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2408290914 (1)

ULR No. : TC592624000015793F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2408170801	Received On	: 17-08-2024
Sample Name	: Ground Water	Commenced On	: 17-08-2024
Sample Condition	: Good	Completed On	: 27-08-2024
Sample Details (if any)		Date of Report	: 29-08-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-4	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 17.08.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear Colorless Liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.22	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	492	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	91	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQLOQ: 0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

29/08/2024
Vikrant Saini
Verified by

29/08/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2408290914 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2408170801	Received On	: 17-08-2024
Sample Name	: Ground Water	Commenced On	: 17-08-2024
Sample Condition	: Good	Completed On	: 27-08-2024
Sample Details (if any)		Date of Report	: 29-08-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: Sample from Piezometer-4	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 17.08.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear Colorless Liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

29/08/2024
Vikrant Saini
Verified by

29/08/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2407221925 (1)

ULR No. : TC592624000013563F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2407130559	Received On	: 13-07-2024
Sample Name	: Ground Water	Commenced On	: 13-07-2024
Completed On	: 17-07-2024		
Sample Details (if any)		Date of Report	: 22-07-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in Cans		
Batch No./QR Code	: Sample from Piezometer-1	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 13-07-2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colourless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.31	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	492	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	97	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

22/07/2024
Vikrant Saini
Verified by

22/07/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2407221925 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2407130559	Received On	: 13-07-2024
Sample Name	: Ground Water	Commenced On	: 13-07-2024
Completed On	: 17-07-2024		
Sample Details (if any)		Date of Report	: 22-07-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in Cans		
Batch No./QR Code	: Sample from Piezometer-1	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 13-07-2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colourless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

22/07/2024
Vikrant Saini
Verified by

22/07/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2407221924 (1)

ULR No. : TC592624000013562F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2407130560	Received On	: 13-07-2024
Sample Name	: Ground Water	Commenced On	: 13-07-2024
Completed On	: 17-07-2024		
Sample Details (if any)		Date of Report	: 22-07-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in Cans		
Batch No./QR Code	: Sample from Piezometer-2	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 13-07-2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colourless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.12	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	494	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	99	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

22/07/2024
Vikrant Saini
Verified by

22/07/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2407221924 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2407130560	Received On	: 13-07-2024
Sample Name	: Ground Water	Commenced On	: 13-07-2024
Completed On	: 17-07-2024		
Sample Details (if any)		Date of Report	: 22-07-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in Cans		
Batch No./QR Code	: Sample from Piezometer-2	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 13-07-2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colourless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

22/07/2024
Vikrant Saini
Verified by

22/07/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2407201904 (1)

ULR No. : TC592624000013432F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2407130561	Received On	: 13-07-2024
Sample Name	: Ground Water	Commenced On	: 13-07-2024
Completed On	: 17-07-2024		
Sample Details (if any)		Date of Report	: 20-07-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in Cans		
Batch No./QR Code	: Sample from Piezometer-3	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 13-07-2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colourless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	8.22	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	490	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	95	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

20/07/2024
Vikrant Saini
Verified by

20/07/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2407201904 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2407130561	Received On	: 13-07-2024
Sample Name	: Ground Water	Commenced On	: 13-07-2024
Completed On	: 17-07-2024		
Sample Details (if any)		Date of Report	: 20-07-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in Cans		
Batch No./QR Code	: Sample from Piezometer-3	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 13-07-2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colourless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

20/07/2024
Vikrant Saini
Verified by

20/07/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2407201903 (1)

ULR No. : TC592624000013431F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2407130562	Received On	: 13-07-2024
Sample Name	: Ground Water	Commenced On	: 13-07-2024
Completed On	: 17-07-2024		
Sample Details (if any)		Date of Report	: 20-07-2024
Sample Quantity	: 2 Lt		
Packaging Mode	: Packed in Cans		
Batch No./QR Code	: Sample from Piezometer-4	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 13-07-2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colourless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.08	6.5-8.5	No relaxation
2	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	495	500 Max.	2000 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	93	200 Max.	600 Max.
(III)	**Parameters Concerning Toxic Substances**						
1	Lead(as Pb)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.01 Max.	No Relaxation
2	Mercury(as Hg)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.001)	0.001 Max.	No Relaxation
3	Total Arsenic(as As)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.01 Max.	No relaxation
4	Total Chromium(as Cr)	mg/l	ICPMS	IS 3025 (Part 65) : 2022	BLQ(LOQ : 0.002)	0.05 Max.	No Relaxation

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

20/07/2024
Vikrant Saini
Verified by

20/07/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2407201903 (2)

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2407130562	Received On	: 13-07-2024
Sample Name	: Ground Water	Commenced On	: 13-07-2024
Completed On	: 17-07-2024		
Sample Details (if any)		Date of Report	: 20-07-2024
Sample Quantity	: 2 Lt		
Packaging Mode	: Packed in Cans		
Batch No./QR Code	: Sample from Piezometer-4	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ram Gopal		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Ramgopal on 13-07-2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear colourless liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**General Parameters**						
1	Total Suspended Solids	mg/l	Gravimetric	IS: 3025 (P-17): 2022	<1.0		
2	Chemical Oxygen Demand	mg/l	COD Reflux Assembly	IS 3025 (Part: 58): 2023	BLQ(LOQ:4.0)		Not Specified
3	Bio-chemical Oxygen Demand,(3 days at 27°C)	mg/l	BOD Incubator	IS 3025 (Part 44): 2023	BLQ(LOQ:1.0)		Not Specified

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

20/07/2024
Vikrant Saini
Verified by

20/07/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
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Email : customersupport@itclabs.com
Visit us :www.itclabs.com

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

1. Laboratory Sample No. — GW-87-90/H.O.Lab./ G.W. Monitoring/2024-25
2. Name of Industry — M/s Nabha Power Ltd., Rajpura, Patiala
3. Name of Sample collecting Officer — Er. Mohit Singla, AEE
4. Designation of authorizing Test — EE, RO, Patiala.
5. Date &Time of Sample collection — 28.06.2024
6. Date &Time of Sample receipt in Lab. — 29.06.2024
7. Period of Analysis — 29.06.2024 to 08.07.2024
8. Test Methods — As per relevant parts of IS:3025 & Methods of APHA

Results

Sr. no.	Parameters	Near Coal Handling Plant	Near Storm Water Sump	Along ash dykes	Between Ash dyke and water reservior
1	pH	7.8	8.2	7.8	7.9
2	Total Suspended Solids mg/l	BDL	BDL	BDL	BDL
3	Total Dissolved Solids mg/l	643	258	660	670
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	362	66	346	315
7	Calcium Hardness mg/l	98	45	107	84
8	Magnesium Hardness mg/l	264	22	240	230
9	Total Alkalinity mg/l	204	228	208	420
10	Chloride mg/l	112	9	112	115
11	Sulphate mg/l	58	27	61	63
12	Aresenic mg/l	BDL	BDL	BDL	BDL
13	Mercury mg/l	BDL	BDL	BDL	BDL
14	Magnesium mg/l	64	5	58	56
15	Lead mg/l	BDL	BDL	BDL	BDL
16	Total Chromium mg/l	BDL	BDL	BDL	BDL

Note: BDL means Below Method Detection Limit.

--End of Report--

Scientific Officer

Endst. No: 7070-72 Dt. 09/7/24

A copy of the above is forwarded to the:-
1. The Chief Environmental Engineer (Water), Punjab Pollution Control Board, Ludhiana.
2. The Senior Environment Engineer, Punjab Pollution Control Board, Zonal Office,-1, Patiala.
3. The Environment Engineer, Punjab Pollution Control Board, Regional Office, Patiala.

8/7/24
Asst. Scientific Officer

Annexure-8

Green Belt Photographs

Annexure-8

NPL is having a complete dedicated team of skilled horticulturists for the forestation and greenery development program at our plant. A green belt are 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 stockpile area

Pic-2 Green belt around plant premises

Pic-3 Green belt along boundary

Pic-4 Green belt on both sides of road

Pic-5 Green belt area railway siding

Annexure-09

CSR Projects and Initiatives

CSR

FY25-H1 UPDATES

Health Mela Jansua- 24 Sept 2024

A team of over 20 medical professionals, equipped with state-of-the-art diagnostic tools, attended to 620 patients. They screened for common ailments and conducted specialized cancer screenings for cervical, prostate, and oral cancers. The camp also offered mammography, oral screening, blood sampling, and bone density examinations, all performed in fully equipped, air-conditioned mobile units. In addition, vision screening for 440 individuals was conducted, with on-the-spot distribution of prescription spectacles.

Health Camp 6 Sept 2024-Sural Kalan

150 Patients
130 Vision Corrections

Project Shakti- Anti Anemia Campaign

Distribution of 430 Nutrition Kits in Round 1 & 2- in 20 Govt Schools

Production Centers- April to Aug is INR 20 Lakh

Sr.No	Center	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Total
1	Bakshiwala	63890	66800	39470	57590	73621	92370	393741
2	Rangian	54199	56010	46351	57441	76682	61762	352445
3	Nalas	57214	72751.6	70308	67500.30	95265.4	81816.7	444856
4	Sindhran	72554	70920	43876	67228	81940	71689	408207
5	Sural Kalan	34210	39196	34380	46590	44149	43685	242210
6	Kharola	34370	27770	21900	27650	33350	27500	172540
	Total	**316437**	**333448**	**256285**	**323999.30**	**405007.4**	**378822.7**	**2013999**

Training Centers

Sr.no	STITCHING TRAINING CENTERS	Total Trainees
1	Bhappal	32
2	Jansua	29

Sr.no	BEAUTICIAN TRAINING CENTERS	Total Trainees
1	Nalas Khurd	29
2	Bhatheri	40

BALA Work (7 Schools Covered)

Name of the School	Dated
GPS Dadu Majra	26-Jul
GPS Kotla	26-Jul
GSS School Basantpura	26-Jul
GMS Jansua	11-May
GES Jansua	25-May
GHS Badali Mai Ki	02-Jul
Sural Kala	29-Aug

LEANRNING ENRICHMENT PROGRAMME

Poster Making

Clay Works

Teej Fancy Dress

Painting Competition

15 Elementary Schools

450+ Children

Activities like Poster Making, Clay Works, Fancy Dress etc.

Education- Sports

Environment Awareness Cyclothon on World Environment Day

NPL Athletics Academy

Education- Sports

Awards Tally-kheda Vatan Punjab Block Level -9-10 SEPT 2024 (45 Participated 17 Medals)

5 Gold, 5 Silver,7 Bronze
12 Winner are Girls

	(U - 14 Boys and Girls)	
1	Daljit Kaur	Shot Put - B
2	Harmeet Singh	Shot put - B
	(U -17 Boys and Girls')	
3	Jashandeep Singh 2	3000M - G
4	Jashandeep Singh 1	3000M - S
5	Shani	3000M - B
6	Prabhjeet Kaur	3000M - G
7	Karamjeet Kaur	3000M - S
8	Sunita Devi	1500M - S
9	Prabhjeet Kaur	1500 - G
10	Harmandeep Singh	1500 - S
11	Pintu	1500M -B
12	Mamta Rani	Long Jump -G
	(U - 21 Boys and Girls')	
13	Karandeep	Shot put - G
14	Sarabjot Kaur	Shot Put - S
15	Simranjeet Kaur	Shot Put - B
16	Gurkaran Singh	5000M - B
17	Manjot Singh	1500M - B

Distribution Of School Kits- 100% Distributed

Distribution at GSSS Basantpura on 20 July 2024

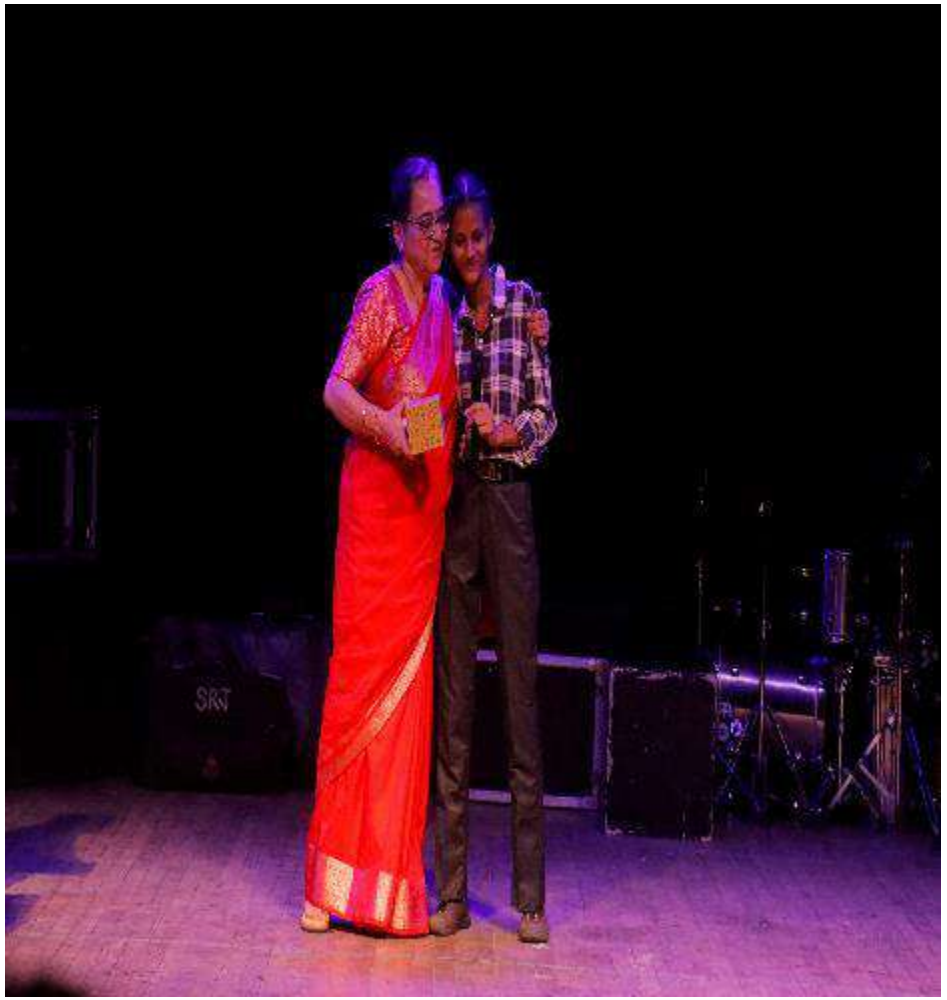
Induction Of English Teacher

Ms Harpreet Kaur, has been engaged to teach spoken English in Govt Sr Sec School Bhappal and Ugani Sahib w.e.f 18 July 2024

NPL Scholarships

- 18 GNM in FY 25*
- 17 BCA in FY 25
- 4 Post Basic Bsc in FY 25
- FY 25 – 39 Scholars
- 111 Active Scholars
- 10 GNM Pass Out

Theater Performance- 24 Aug 2024



RURAL INFRASTRUCTURE

EWS Housing - 10

RURAL INFRASTRUCTURE

Renovation of Panchayat Building - Jansua

Thankyou!

Annexure-10

Ambient Air Quality Monitoring Results

Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409301743

ULR No. : TC592624000018706F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409140530	Received On	: 14-09-2024
Sample Name	: Ambient Air	Commenced On	: 14-09-2024
Sample Condition	: Good	Completed On	: 24-09-2024
Sample Details (if any)		Date of Report	: 30-09-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in poly pack & in vials		
Batch No./QR Code	: Date of Sampling: 09.09.2024, Location: Near NDTC (AAQMS-1)	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ravi Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. on 09.09.2024, Location: Near NDTC (AAQMS-1)		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Near NDTC (AAQMS-1)
(c)	Date of Monitoring	: 09-09-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.21
(f)	Volume of air sampled , m3	: 1742.40
(g)	Avg. Ambient Temperature , °C	: 34
(h)	Time of Monitoring	: 11:20 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	6.14	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	18.17	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	61.22	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	24.41	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	BLQ(LOQ:20)	400 Max

30/09/2024
Vikrant Saini
Verified by

30/09/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
Panchkula-134109 (Haryana)
Phone : (O) 0172-2561543, 2565825
Email : customersupport@itclabs.com
Visit us :www.itclabs.com

TEST REPORT

Report No. : ICE-2409301743

ULR No. : TC592624000018706F

7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified
(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	BLQ(LOQ:20)	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.2	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1.0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAAQS 2009. Sampling Procedure: SOP/ITC/EW/056.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

30/09/2024
Vikrant Saini
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Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409301755

ULR No. : TC592624000018718F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409140531	Received On	: 14-09-2024
Sample Name	: Ambient Air	Commenced On	: 14-09-2024
Sample Condition	: Good	Completed On	: 24-09-2024
Sample Details (if any)		Date of Report	: 30-09-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in poly pack & in vials		
Batch No./QR Code	: Date of Sampling: 09.09.2024, Location: Near Loco Shed (AAQMS-2)	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ravi Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. on 09.09.2024, Location: Near Loco Shed (AAQMS-2)		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Near Loco Shed (AAQMS-2)
(c)	Date of Monitoring	: 09-09-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.26
(f)	Volume of air sampled , m3	: 1814.40
(g)	Avg. Ambient Temperature , °C	: 34
(h)	Time of Monitoring	: 11:10 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	5.14	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	13.20	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	68.26	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	26.09	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	BLQ(LOQ:20)	400 Max

30/09/2024
Vikrant Saini
Verified by

30/09/2024
Prem Kumar
Authorised by

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Panchkula-134109 (Haryana)
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Email : customersupport@itclabs.com
Visit us :www.itclabs.com

TEST REPORT

Report No. : ICE-2409301755

ULR No. : TC592624000018718F

7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified
(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	BLQ(LOQ:20)	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.3	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1.0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAAQS 2009. Sampling Procedure: SOP/ITC/EW/056.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

30/09/2024
Vikrant Saini
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30/09/2024
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Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409301759

ULR No. : TC592624000018723F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409140532	Received On	: 14-09-2024
Sample Name	: Ambient Air	Commenced On	: 14-09-2024
Sample Condition	: Good	Completed On	: 24-09-2024
Sample Details (if any)		Date of Report	: 30-09-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in poly pack & in vials		
Batch No./QR Code	: Date of Sampling: 10.09.2024, Location: Near Storm Water Pump (AAQMS-3)	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ravi Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. on 10.09.2024, Location: Near Storm Water Pump (AAQMS-3)		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Near Storm Water Pump (AAQMS-3)
(c)	Date of Monitoring	: 10-09-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.23
(f)	Volume of air sampled , m3	: 1771.20
(g)	Avg. Ambient Temperature , °C	: 33
(h)	Time of Monitoring	: 11:58 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	6.16	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	14.23	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	65.28	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	29.04	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	BLQ(LOQ:20)	400 Max

30/09/2024
Vikrant Saini
Verified by

30/09/2024
Prem Kumar
Authorised by

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Email : customersupport@itclabs.com
Visit us :www.itclabs.com

7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified
(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	BLQ(LOQ:20)	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	BLQ(LOQ:1.14)	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1.0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAAQS 2009. Sampling Procedure: SOP/ITC/EW/056.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

30/09/2024
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30/09/2024
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Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409301754

ULR No. : TC592624000018717F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409140533	Received On	: 14-09-2024
Sample Name	: Ambient Air	Commenced On	: 14-09-2024
Sample Condition	: Good	Completed On	: 24-09-2024
Sample Details (if any)		Date of Report	: 30-09-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in poly pack & in vials		
Batch No./QR Code	: Date of Sampling: 10.09.2024, Location: Near Switch Yard (AAQMS-4)	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ravi Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. on 10.09.2024, Location: Near Switch Yard (AAQMS-4)		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Near Switch Yard (AAQMS-4)
(c)	Date of Monitoring	: 10-09-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.25
(f)	Volume of air sampled , m3	: 1800.00
(g)	Avg. Ambient Temperature , °C	: 32
(h)	Time of Monitoring	: 11:40 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	7.10	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	16.27	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	63.28	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	32.14	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	BLQ(LOQ:20)	400 Max

30/09/2024
Vikrant Saini
Verified by

30/09/2024
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Email : customersupport@itclabs.com
Visit us :www.itclabs.com

TEST REPORT

Report No. : ICE-2409301754

ULR No. : TC592624000018717F

7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified
(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	BLQ(LOQ:20)	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.4	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1.0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAAQS 2009. Sampling Procedure: SOP/ITC/EW/056.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

30/09/2024
Vikrant Saini
Verified by

30/09/2024
Prem Kumar
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Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409301761

ULR No. : TC592624000018725F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409140534	Received On	: 14-09-2024
Sample Name	: Ambient Air	Commenced On	: 14-09-2024
Sample Condition	: Good	Completed On	: 24-09-2024
Sample Details (if any)		Date of Report	: 30-09-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in poly pack & in vials		
Batch No./QR Code	: Date of Sampling: 11.09.2024, Location: Salempur	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ravi Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. on 11.09.2024, Location: Salempur		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Salempur
(c)	Date of Monitoring	: 11-09-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.24
(f)	Volume of air sampled , m3	: 1785.60
(g)	Avg. Ambient Temperature , °C	: 33
(h)	Time of Monitoring	: 14:05 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	8.16	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	15.14	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	70.24	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	30.30	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	BLQ(LOQ:20)	400 Max
7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified

30/09/2024
Vikrant Saini
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30/09/2024
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(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	BLQ(LOQ:20)	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.2	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1.0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAAQS 2009. Sampling Procedure: SOP/ITC/EW/056.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

30/09/2024
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Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409301752

ULR No. : TC592624000018715F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409140535	Received On	: 14-09-2024
Sample Name	: Ambient Air	Commenced On	: 14-09-2024
Sample Condition	: Good	Completed On	: 24-09-2024
Sample Details (if any)		Date of Report	: 30-09-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in poly pack & in vials		
Batch No./QR Code	: Date of Sampling: 11.09.2024, Location: Dadu Majra	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ravi Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. on 11.09.2024, Location: Dadu Majra		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Dadu Majra
(c)	Date of Monitoring	: 11-09-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.27
(f)	Volume of air sampled , m3	: 1828.80
(g)	Avg. Ambient Temperature , °C	: 33
(h)	Time of Monitoring	: 12:15 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	11.15	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	18.14	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	69.24	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	23.15	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	BLQ(LOQ:20)	400 Max
7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified

30/09/2024
Vikrant Saini
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30/09/2024
Prem Kumar
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(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	BLQ(LOQ:20)	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.3	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1.0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAAQS 2009. Sampling Procedure: SOP/ITC/EW/056.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

30/09/2024
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Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409301751

ULR No. : TC592624000018714F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409140536	Received On	: 14-09-2024
Sample Name	: Ambient Air	Commenced On	: 14-09-2024
Sample Condition	: Good	Completed On	: 24-09-2024
Sample Details (if any)		Date of Report	: 30-09-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in poly pack & in vials		
Batch No./QR Code	: Date of Sampling: 11.09.2024, Location: Dabhali	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Ravi Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. on 11.09.2024, Location: Dabhali		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Dabhali
(c)	Date of Monitoring	: 11-09-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.24
(f)	Volume of air sampled , m3	: 1785.60
(g)	Avg. Ambient Temperature , °C	: 33
(h)	Time of Monitoring	: 12:30 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	10.09	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	17.25	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	72.16	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	35.35	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	BLQ(LOQ:20)	400 Max
7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified

30/09/2024
Vikrant Saini
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30/09/2024
Prem Kumar
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(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	BLQ(LOQ:20)	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.4	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1.0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAAQS 2009. Sampling Procedure: SOP/ITC/EW/056.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

30/09/2024
Vikrant Saini
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2406291752

ULR No. : TC592624000011449F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2406211506	Received On	: 21-06-2024
Sample Name	: Ambient Air	Commenced On	: 21-06-2024
Sample Condition	: Good	Completed On	: 27-06-2024
Sample Details (if any)		Date of Report	: 29-06-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in poly pack & in vials		
Batch No./QR Code	: Date of Sampling: 17.06.2024, Location: Near NDTC (AAQMS-1)	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Anand Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Date of Sampling: 17.06.2024, Location: Near NDTC (AAQMS-1)		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Near NDTC (AAQMS-1)
(c)	Date of Monitoring	: 17-06-24
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.26
(f)	Volume of air sampled , m3	: 1814.40
(g)	Avg. Ambient Temperature , °C	: 40
(h)	Time of Monitoring	: 11:30 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	9.25	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	17.44	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	88.56	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	48.61	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	28.99	400 Max

29/06/2024
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29/06/2024
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7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified
(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	25.33	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.3	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1.0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAQQS 2009. Sampling Procedure: SOP/ITC/EW/056. Sample Collected by lab rep. on 17-06-2024.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

29/06/2024
Vikrant Saini
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29/06/2024
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2406291751

ULR No. : TC592624000011448F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2406211507	Received On	: 21-06-2024
Sample Name	: Ambient Air	Commenced On	: 21-06-2024
Sample Condition	: Good	Completed On	: 28-06-2024
Sample Details (if any)		Date of Report	: 29-06-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in poly pack & in vials		
Batch No./QR Code	: Date of Sampling: 17.06.2024, Location: Near Loco Shed (AAQMS-2)	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Anand Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Date of Sampling: 17.06.2024, Location: Near Loco Shed (AAQMS-2)		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: To assess the pollution level
(b)	Location of Sampling Point	: Near Loco Shed
(c)	Date of Monitoring	: 17-06-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.24
(f)	Volume of air sampled , m3	: 1785.60
(g)	Avg. Ambient Temperature , °C	: 40
(h)	Time of Monitoring	: 11:50 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	11.23	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	20.37	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	92.35	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	50.08	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	27.39	400 Max

29/06/2024
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29/06/2024
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7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified
(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	24.57	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.2	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1.0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAQQS 2009. Sampling Procedure: SOP/ITC/EW/056. Sample Collected by lab rep. on 17-06-2024.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

29/06/2024
Vikrant Saini
Verified by

29/06/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2406291750

ULR No. : TC592624000011447F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2406211508	Received On	: 21-06-2024
Sample Name	: Ambient Air	Commenced On	: 21-06-2024
Sample Condition	: Good	Completed On	: 28-06-2024
Sample Details (if any)		Date of Report	: 29-06-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in poly pack & in vials		
Batch No./QR Code	: Date of Sampling: 18.06.2024, Location: Near Storm Water Pump (AAQMS-3)	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Anand Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Date of Sampling: 18.06.2024, Location: Near Storm Water Pump (AAQMS-3)		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Near Storm Water Pump (AAQMS)
(c)	Date of Monitoring	: 18-06-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.25
(f)	Volume of air sampled , m3	: 1800.00
(g)	Avg. Ambient Temperature , °C	: 41
(h)	Time of Monitoring	: 13:50 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	8.24	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	13.55	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	86.98	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	44.19	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	26.85	400 Max

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7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified
(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	22.13	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.2	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1.0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAQQS 2009. Sampling Procedure: SOP/ITC/EW/056. Sample Collected by lab rep. on 18-06-2024.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2406291749

ULR No. : TC592624000011446F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2406211509	Received On	: 21-06-2024
Sample Name	: Ambient Air	Commenced On	: 21-06-2024
Sample Condition	: Good	Completed On	: 28-06-2024
Sample Details (if any)		Date of Report	: 29-06-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in poly pack & in vials		
Batch No./QR Code	: Date of Sampling: 18.06.2024, Location: Near Switch Yard (AAQMS-4)	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Anand Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Date of Sampling: 18.06.2024, Location: Near Switch Yard (AAQMS-4)		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Near Switch Yard (AAQMS)
(c)	Date of Monitoring	: 18-06-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.24
(f)	Volume of air sampled , m3	: 1785.60
(g)	Avg. Ambient Temperature , °C	: 41
(h)	Time of Monitoring	: 13:05 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	13.24	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	23.51	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	90.23	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	46.30	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	32.11	400 Max

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7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified
(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	23.12	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.3	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1.0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAQQS 2009. Sampling Procedure: SOP/ITC/EW/056. Sample Collected by lab rep. on 18-06-2024.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

29/06/2024
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29/06/2024
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2406291758

ULR No. : TC592624000011455F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2406241697	Received On	: 24-06-2024
Sample Name	: Ambient Air	Commenced On	: 24-06-2024
Sample Condition	: Good	Completed On	: 29-06-2024
Sample Details (if any)		Date of Report	: 29-06-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in Poly Pack & in Vials		
Batch No./QR Code	: Date of Sampling: 20-06-2024, Location: Dabhali	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Date of Sampling: 20-06-2024, Location: Dabhali		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Dabhali
(c)	Date of Monitoring	: 20-06-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.24
(f)	Volume of air sampled , m3	: 1785.60
(g)	Avg. Ambient Temperature , °C	: 37
(h)	Time of Monitoring	: 17:00 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	10.24	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	26.54	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	78.45	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	46.04	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	29.78	400 Max
7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified

29/06/2024
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29/06/2024
Prem Kumar
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(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	24.59	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.3	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1:0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAQQS 2009. Sampling Procedure: SOP/ITC/EW/056. Sample Collected by lab rep. on 20-06-2024.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

29/06/2024
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2406291765

ULR No. : TC592624000011476F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2406241698	Received On	: 24-06-2024
Sample Name	: Ambient Air	Commenced On	: 24-06-2024
Sample Condition	: Good	Completed On	: 29-06-2024
Sample Details (if any)		Date of Report	: 29-06-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in Poly Pack & in Vials		
Batch No./QR Code	: Date of Sampling: 20-06-2024, Location: Dadu Majra	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Date of Sampling: 20-06-2024, Location: Dadu Majra		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Dadu Majra
(c)	Date of Monitoring	: 20-06-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.91
(f)	Volume of air sampled , m3	: 2743.20
(g)	Avg. Ambient Temperature , °C	: 37
(h)	Time of Monitoring	: 17:45 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	8.56	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	17.54	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	82.28	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	48.99	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	23.79	400 Max
7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified

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(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	23.12	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.4	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1:0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAQQS 2009. Sampling Procedure: SOP/ITC/EW/056. Sample Collected by lab rep. on 20-06-2024.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

29/06/2024
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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2406291757

ULR No. : TC592624000011454F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2406241699	Received On	: 24-06-2024
Sample Name	: Ambient Air	Commenced On	: 24-06-2024
Sample Condition	: Good	Completed On	: 29-06-2024
Sample Details (if any)		Date of Report	: 29-06-2024
Sample Quantity	: 2 FP, 2x30ml, 2x10ml		
Packaging Mode	: Packed in Poly Pack & in Vials		
Batch No./QR Code	: Date of Sampling: 20-06-2024, Location: Salempur	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Date of Sampling: 20-06-2024, Location: Salempur		
Test Report as per	: NAAQS 2009		

S. No. Sampling Information:

(a)	Purpose of Monitoring	: For Self Monitoring
(b)	Location of Sampling Point	: Salempur
(c)	Date of Monitoring	: 20-06-2024
(d)	Duration of Monitoring , minutes	: 1440
(e)	Avg. Flow Rate of Sampling , m3/min	: 1.26
(f)	Volume of air sampled , m3	: 1814.40
(g)	Avg. Ambient Temperature , °C	: 38
(h)	Time of Monitoring	: 16:10 hrs

Description: Ambient Air Quality Monitoring

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Specification
	Discipline : Chemical					
	Group : Atmospheric Pollution					
(I)	**Ambient Air Quality Parameters(Time weighted Avg- 24 Hours)**					
1	Sulphur Dioxide(SO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-2): 2017	9.87	80 Max
2	Nitrogen Dioxide(NO2)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-6): 2017	21.54	80 Max
3	Particulate Matter (PM10)	µg/m3	Gravimetric	IS: 5182 (P-23): 2017	88.74	100 Max
4	Particulate matter (PM 2.5)	µg/m3	Gravimetric	IS: 5182 (P-24)-2019	49.83	60 Max
5	Lead(As Pb)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.1)	1.0 Max
6	Ammonia(NH3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-25): 2018	28.84	400 Max
7	Mercury(as Hg)	µg/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:0.01)	Not Specified

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(II)	**Ambient Air Quality Parameters(Time weighted Avg- 8 Hours)**					
1	Ozone(O3)	µg/m3	UV-Spectrophotometer	IS: 5182 (P-9): 2019	25.54	100 Max.
2	Carbon Monoxide(CO)	mg/m^3	GC	IS: 5182 (P-10): 2019	1.2	2 Max.
(III)	**Ambient Air Quality Parameters(Time weighted Avg- Annual*)**					
1	Benzene(C6H6)	µg/m3	GC	IS: 5182 (P-11): 2017	BLQ(LOQ:1:0)	5 Max
2	Benzo(a) Pyrene Particulate Phase only	ng/m3	GCMSMS	IS: 5182 (P-12): 2019	BLQ(LOQ:0.5)	1 Max
3	Arsenic(as As)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	6 Max.
4	Nickel(As Ni)	ng/m3	ICPOES	STP/ITC/EW/002	BLQ(LOQ:1.0)	20 Max.

NOTE : NA- Not Applicable, BLQ- Below limit of Quantification, LOQ- Limit of Quantification, Requirement as per NAQQS 2009. Sampling Procedure: SOP/ITC/EW/056. Sample Collected by lab rep. on 20-06-2024.

REMARKS : *Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals

*****End of Report*****

29/06/2024
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Annexure-11

Expenses Incurred for Environment Protection Measures in FY 24-25 (April-2024 to September-2024)

Details of Expenses Incurred for Environment Protection Measures FY 2024-25 (01.04.2024 to 30.09.2024)		
S.No.	**Particulars**	**Amount (Rs)**
A	**Air Pollution**	
1	Cost of Energy Consumption in ESPs/Bag Filters	37854418
2	Cost of Maintenance of Ash Silos	120000
3	Cost of operation of Dust Suppression and Extraction System	467436
4	Cost of electrical spares & consumables for ESP maintenance	337333
5	Cost of electrical services for ESP	1085012
6	AMC Services for ESP for H1 FY 24-25	1515120
7	ESP Spares & Consumables	278148
	Water Pollution	
8	Cost of Energy Consumption in STP	36717
9	Cost of Energy Consumption in ETP	2884973
10	Cost of Chemical used at ETP and STP	2114245
	Environment Monitoring Expenses	
11	Cost of Manpower	1331040
12	Cost of Consumables	172000
13	Cost of running of Environment monitoring vehicle	319805
14	AMC/Calibration/ maintenance of online environment monitoring equipments.	1978000
	Third Party MoEF&CC approved laboratory testing charges.	
15	Third Party MoEF&CC approved laboratory testing charges for AAQ,Stack,Waste Water,Fly Ash, Bottom Ash etc.	143999
	Infrastructure Development	
16	Construction of Roads	4920634
17	Provision of Wind shields at CHP	1240713
	Green Belt Development & Maintenance	
18	Development and Maintenance of Green Plants	24,940,92
19	Maintenance of Landscape Area	16,627,27
	Solar Harnessing Expenses	
20	Solar Harnessing and maintenance Expenses	160000
	Salary & Wages of HSE Professionals	
21	Salary & Wages of HSE Professionals	3214327
	Ash Dyke Management	
22	Expenses for Ash Dyke Maintenance(Civil)	455000
23	Expenses for Ash Dyke Maintenance(Mechanical)	110000
	Energy Consumption for transportation of Bottom Ash.	
24	Energy Consumption for transportation of Bottom Ash & Fly Ash	46478106
	Training, Subscription & Legal Updates and Promotional Activities	
25	Subscription & Legal Updates	17700
26	World Environment Day Celebration	12672
	Disposal of Hazardous Waste	
27	Disposal of Hazardous Waste charges	65417
28	Bio-Medical Waste disposal charges	13000
	Housekeeping Expenses	
29	Housekeeping Expenses	5682000
30	Compliance Audit for Ash disposal	364373
	Total in Rupees(₹)	113372189

Annexure-12

The Photograph of Main Gate Display.


NPL
Nabha Power Limited
NABHA POWER LIMITED
2 X 700 MW RAJPURA SUPER THERMAL POWER STATION
ENVIRONMENTAL DATA DISPLAY
UNIT-1
UNIT-2
UOM
OPACITY
41.3
42.0
mg/NM3
SO2
885.9
1265.8
mg/NM3
NOX
221.9
197.5
mg/NM3

Annexure-13

Solar Harness Report.

NPL
Nabha Power Limited

LARSEN & TOUBRO
It's all about Imagineering

Solar Energy Report for the Period

From

1st April-2024 to 30th September-2024

Sr. No	Month	Numbers of Unit Generated (KWh)
1	April-24	22435.23
2	May-24	23826.71
3	June-24	21472.31
4	July-24	19539.70
5	Aug-24	18255.90
6	Sep-24	17947.87
Total generation in KWh		123477.72

Annexure-14

Test Report of Heavy Metal Analysis in Coal.

Interstellar Testing Centre Pvt. Ltd.

TEST REPORT

ORIGINAL

Issued To	**Sample Reg. No.**	:	B01-2409140001
Nabha Power Limited	**Sample Reg. Date.**	:	14/09/2024
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala	**Report Date.**	:	01/10/2024
Rajpura, 140401	**Report No.**	:	ICB-2410010004
Punjab, India	**Customer Ref. No.**	:	PO
	Letter Dated	:	25/11/2022

Sample Particulars			
Name of Sample#	: **Coal**		
Submitted By#	: Nabha Power Limited		
Batch No.#	: NA	**Batch Size #**	: NA
Manufactured By#	: NA	**Mfg. Lic. No.#**	: NA
Supplied By#	: Not Specified		
Date of Manufacture#	: NA	**Date of Expiry#**	: NA
Sample Qty#	: 250gm	**Sample Condition**	: Good
Grade#	: NA	**Brand Name#**	: NA
Official Seal	: Not Applicable	**Official Signature**	: Not Applicable
Packaging Details	: Packed in poly pack	**Declared values(if any)**	: Not Specified
Any Other Information	: Sample collected by Lab rep. on 09.09.2024		
Test Report as per	: Party Specification	**With Amendment No.(s)**	: Not Specified

Test Results

Analysis started on : 17/09/2024 **Analysis completed on** : 18/09/2024

Description : --

S. No.	Parameter	Unit	Instrument	Method	Requirements	Result
	Discipline : Chemical					
	Group : Solid Fuels					
1	**Heavy Metals**					
(a)	Arsenic(as As)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)
(b)	Lead(as Pb)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	9.38
(c)	Chromium(as Cr)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	11.71
(d)	Mercury(as Hg)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)
	Discipline : Mechanical					
(a)	Arsenic(as As)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)
(b)	Lead(as Pb)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	9.38
(c)	Chromium(as Cr)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	11.71
(d)	Mercury(as Hg)	(mg/kg)	ICPOES	STP/ITC/F/INST/008	NA	BLQ(LOQ:1.0)

represents Customer Defined Fields

Remarks: Party asked for the above tests only.

01/10/2024
Brijesh Singh
Verified by

01/10/2024
Kamal Grover
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
Panchkula-134109 (Haryana)
Phone : (O) 0172-2561543, 2565825
Email : customersupport@itclabs.com
Visit us :www.itclabs.com

Interstellar Testing Centre Pvt. Ltd.

TEST REPORT

ORIGINAL

	Sample Reg. No.	:	B01-2409140001
Issued To	**Sample Reg. Date.**	:	14/09/2024
Nabha Power Limited	**Report Date.**	:	01/10/2024
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala	**Report No.**	:	ICB-2410010004
Rajpura, 140401	**Customer Ref. No.**	:	PO
Punjab, India	**Letter Dated**	:	25/11/2022

*******End of Report*******

01/10/2024
Brijesh Singh
Verified by

01/10/2024
Kamal Grover
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
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Annexure-15

Test Report of Radioactivity in Coal, Fly Ash& Bottom Ash.

Sophisticated Analytical Instruments Laboratories Society

(Registered as Society with Registrar of Firms & Societies, Punjab, Chandigarh)

Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TEST REPORT

ULR No.	NA	Date:	11.10.2024
Service No.	NN(D)/24-25/470 (01)	Customer's Ref.	Sample Collected by Mr. Amit Kumar dtd. 12.09.2024
Customer's name and address:			
M/s Nabha Power Limited **Post Box 28, Near village Nalash** **Rajpura, Distt. Patiala 140401, Punjab** **Kind attn.: Mr. Raman Singh**			

Sample Description	Fly Ash
Condition of the sample received	O.K.
Customer's sample identification No. (if any)	01- Fly Ash
Quantity/number of samples	1 Kg Approx. / 1
Sampling Procedure (if any)/ Standard/Specification	--
Mode of Sampling / Environmental Conditions During Transportation	Not applicable
Test parameters	Alpha emitters, Beta emitters, Gamma emitters
Method followed	As mentioned below
Deviations (if any)	--

Date of Receipt of Job	Date of Completion of Job	Total Number of Pages
12.09.2024	11.10.2024	1

TEST RESULTS

S. No.	Parameters	Test Method	Unit	Results
				(01 – Fly Ash)
1	Alpha emitters	EPA-600/4-78-039 July 1978 Followed by Radiation Counting System RC605A A with Alpha Scintillation detector	Bq/Kg	Not detected
2	Beta emitters	EPA-600/4-78-039 July 1978 Followed by Radiation Counting System RC605A A with GM detector Probe	Bq/Kg	Not detected
3	Gamma emitters	EPA-600/4-78-039 July 1978 Followed by Radiation Counting System RC605A A with GM detector Probe	Bq/Kg	Not detected

.....End of the report.....

Mr. R. B. Verma
Senior Scientific Assistant
(Authorized Signatory)

Note:
1. The results listed refer only to the tested samples and applicable parameters. Endorsement of products is neither inferred nor implied
2. Samples will be destroyed after 10 days from the date of issue of the test report unless otherwise specified
3. This report is not to be reproduced wholly or in part and cannot be used as an evidence in the products is neither inferred nor implied. court of law and should not be used in any advertising media without special permission in writing.
4. In case any reconfirmation of contents of the test report is required, please contact the authorized signatory of the test report within 7 days of the issue of test report

Sophisticated Analytical Instruments Laboratories Society *(Registered as Society with Registrar of Firms & Societies, Punjab, Chandigarh)*
Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TEST REPORT

ULR No.	NA	Date:	11.10.2024
Service No.	NN(D)/24-25/470 (02)	Customer's Ref.	Sample Collected by Mr. Amit Kumar dtd. 12.09.2024
Customer's name and address:			
M/s Nabha Power Limited **Post Box 28, Near village Nalash** **Rajpura, Distt. Patiala 140401, Punjab** **Kind attn.: Mr. Raman Singh**			
Sample Description			Bottom Ash
Condition of the sample received			O.K.
Customer's sample identification No. (if any)			02- Bottom Ash
Quantity/number of samples			1 Kg Approx. / 1
Sampling Procedure (if any)/ Standard/Specification			--
Mode of Sampling / Environmental Conditions During Transportation			Not applicable
Test parameters			Alpha emitters, Beta emitters, Gamma emitters
Method followed			As mentioned below
Deviations (if any)			--

Date of Receipt of Job	Date of Completion of Job	Total Number of Pages
12.09.2024	11.10.2024	1

TEST RESULTS

S. No.	Parameters	Test Method	Unit	Results
				(02 – Bottom Ash)
1	Alpha emitters	EPA-600/4-78-039 July 1978 Followed by Radiation Counting System RC605A A with Alpha Scintillation detector	Bq/Kg	Not detected
2	Beta emitters	EPA-600/4-78-039 July 1978 Followed by Radiation Counting System RC605A A with GM detector Probe	Bq/Kg	Not detected
3	Gamma emitters	EPA-600/4-78-039 July 1978 Followed by Radiation Counting System RC605A A with GM detector Probe	Bq/Kg	Not detected

.....End of the report.....

Mr. R. B. Verma
Senior Scientific Assistant
(Authorized Signatory)

Note:
1. The results listed refer only to the tested samples and applicable parameters. Endorsement of products is neither inferred nor implied
2. Samples will be destroyed after 10 days from the date of issue of the test report unless otherwise specified
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Thapar Technology Campus, Bhadson Road, Patiala-147 004 (India)

TEST REPORT

ULR No.	NA	Date:	11.10.2024
Service No.	NN(D)/24-25/470 (03)	Customer's Ref.	Sample Collected by Mr. Amit Kumar dtd. 12.09.2024
Customer's name and address:			
M/s Nabha Power Limited **Post Box 28, Near village Nalash** **Rajpura, Distt. Patiala 140401, Punjab** **Kind attn.: Mr. Raman Singh**			

Sample Description	Coal
Condition of the sample received	O.K.
Customer's sample identification No. (if any)	03- Coal
Quantity/number of samples	1 Kg Approx. / 1
Sampling Procedure (if any)/ Standard/Specification	--
Mode of Sampling / Environmental Conditions During Transportation	Not applicable
Test parameters	Alpha emitters, Beta emitters, Gamma emitters
Method followed	As mentioned below
Deviations (if any)	--

Date of Receipt of Job	Date of Completion of Job	Total Number of Pages
12.09.2024	11.10.2024	1

TEST RESULTS

S. No.	Parameters	Test Method	Unit	Results
				(03 – Coal)
1	Alpha emitters	EPA-600/4-78-039 July 1978 Followed by Radiation Counting System RC605A A with Alpha Scintillation detector	Bq/Kg	Not detected
2	Beta emitters	EPA-600/4-78-039 July 1978 Followed by Radiation Counting System RC605A A with GM detector Probe	Bq/Kg	Not detected
3	Gamma emitters	EPA-600/4-78-039 July 1978 Followed by Radiation Counting System RC605A A with GM detector Probe	Bq/Kg	Not detected

.....End of the report.....

Mr. R. B. Verma
Senior Scientific Assistant
(Authorized Signatory)

Note:
1. The results listed refer only to the tested samples and applicable parameters. Endorsement of products is neither inferred nor implied
2. Samples will be destroyed after 10 days from the date of issue of the test report unless otherwise specified
3. This report is not to be reproduced wholly or in part and cannot be used as an evidence in the products is neither inferred nor implied. court of law and should not be used in any advertising media without special permission in writing.
4. In case any reconfirmation of contents of the test report is required, please contact the authorized signatory of the test report within 7 days of the issue of test report

Annexure-16

Test Report of Surface Water Quality.

Interstellar Testing Centre PVT. LTD.

TEST REPORT

Report No. : ICE-2409281690

ULR No. : TC592624000018641F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2409100289	Received On	: 10-09-2024
Sample Name	: Water Sample (Marked Surface Water)	Commenced On	: 10-09-2024
Sample Condition	: Good	Completed On	: 17-09-2024
Sample Details (if any)		Date of Report	: 28-09-2024
Sample Quantity	: 2 Ltr 100ml		
Packaging Mode	: Packed in cans & in plastic container		
Batch No./QR Code	: NA	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Jitesh kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Jitesh on 09.09.2024, Source: River		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Liquid Sample With Suspeded Particles

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.82	6.5-8.5	No relaxation
2	Odour	NA	Organoleptic	IS: 3025 (P-5)-2018	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	Turbidity Meter	IS:3025(Part 10):1984(RA:2017)	3.02	1 Max.	5 Max.
4	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	124	500 Max.	2000 Max.
5	Colour (True Colour)	Hazen	Visual Examination	IS 3025 (Part 4) : 2021	2	5 Max.	15 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Chloride(as Cl)	mg/l	Titration	IS: 3025 (P-32)-1988 (RA2019)	4.4	250 Max.	1000 Max.
2	Fluoride(as F)	mg/l	Visual Examination	IS: 3025 (P-60)-2008 (RA 2019)	BLQ(LOQ:0.1)	1.0 Max.	1.5 Max.
3	Free Residual Chlorine	mg/l	Titration	IS: 3025 (P-26): 2021	Not Applicable	0.2 Min.	1.0 Max.
4	Iron(as Fe)	mg/l	UV-Spectrophotometer	IS: 3025 (P-53)-2003 (RA 2019)	BLQ(LOQ:0.08)	1.0 Max.	No relaxation
5	Nitrate(as NO3)	mg/l	UV-	APHA 24th Edition	BLQ(LOQ:1.0)	45 Max.	No

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
Panchkula-134109 (Haryana)
Phone : (O) 0172-2561543, 2565825
Email : customersupport@itclabs.com
Visit us :www.itclabs.com

			Spectrophotometer	2023, 4500 NO3, B			Relaxation
6	Sulphate(as SO4)	mg/l	UV-Spectrophotometer	IS : 3025 (Part 24): Sec1:2022	48.4	200 Max.	400 Max.
7	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	101.7	200 Max.	600 Max.
8	Total Alkalinity(as CaCO3)	mg/l	Titration	IS 3025(Part-23): 2023	65.3	200 Max.	600 Max.

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : The above sample complies to IS 10500 : 2012 drinking water specification with respect to the above tested Parameters

*****End of Report*****

28/09/2024
Vikrant Saini
Verified by

28/09/2024
Prem Kumar
Authorised by

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Interstellar Testing Centre PVT. LTD.

Test Report

Report No. : ICE-2406291759

ULR No. : TC592624000011456F

TC-5926

ORIGINAL

Issued To :

Nabha Power Limited
Near Village: Nalash, P.B. No.28, Rajpura, Distt. Patiala
Rajpura, 140401
Punjab, India

Sample Registration No.	: E01-2406191281	Received On	: 19-06-2024
Sample Name	: Water Sample (Marked Surface Water)	Commenced On	: 19-06-2024
Sample Condition	: Good	Completed On	: 29-06-2024
Sample Details (if any)		Date of Report	: 29-06-2024
Sample Quantity	: 2 Ltr		
Packaging Mode	: Packed in cans		
Batch No./QR Code	: NA	Grade	: NA
Date of Manufacture	: NA	Date of Expiry	: NA
Sample Submission Type	: Sampled by Lab Rep /Anand Kumar		
Customer Reference	: PO/25/11/2022		
Any Other Information	: Sample Collected by lab rep. Mr. Anand on 17.06.2024		
Test Report as per	: IS 10500:2012	With Amendment No.(s)	: 01 to 04

Description: Clear Colourless Liquid

S. No.	Parameter	Measuring Unit	Instrument	Method	Result	Acceptable Limit	Permissible Limit
	Discipline : Chemical						
	Group : Water						
(I)	**Organoleptic &Physical Parameter**						
1	pH Value	NA	pH Meter	IS: 3025 (Part-11): 2022	7.74	6.5-8.5	No relaxation
2	Odour	NA	Organoleptic	IS: 3025 (P-5)-2018	Agreeable	Agreeable	Agreeable
3	Turbidity	NTU	Turbidity Meter	IS:3025(Part 10):1984(RA:2017)	5.80	1 Max.	5 Max.
4	Total Dissolved Solids	mg/l	Gravimetric	IS: 3025 (P-16): 2023	164	500 Max.	2000 Max.
5	Colour (True Colour)	Hazen	Visual Examination	IS 3025 (Part 4) : 2021	2	5 Max.	15 Max.
(II)	**Parameters Concerning Undesirable Substances in excess amount**						
1	Chloride(as Cl)	mg/l	Titration	IS: 3025 (P-32)-1988 (RA2019)	4.5	250 Max.	1000 Max.
2	Fluoride(as F)	mg/l	Visual Examination	IS: 3025 (P-60)-2008 (RA 2019)	BLQ(LOQ:0.1)	1.0 Max.	1.5 Max.
3	Free Residual Chlorine	mg/l	Titration	IS: 3025 (P-26): 2021	Not Applicable	0.2 Min.	1.0 Max.
4	Iron(as Fe)	mg/l	UV-Spectrophotometer	IS: 3025 (P-53)-2003 (RA 2019)	BLQ(LOQ:0.08)	1.0 Max.	No relaxation
5	Nitrate(as NO3)	mg/l	UV-	APHA 24th Edition	2.5	45 Max.	No

29/06/2024
Vikrant Saini
Verified by

29/06/2024
Prem Kumar
Authorised by

Interstellar Testing Centre PVT. LTD.
86, Industrial Area, Phase-1, Panchkula-134109 (Haryana)
Panchkula-134109 (Haryana)
Phone : (O) 0172-2561543, 2565825
Email : customersupport@itclabs.com
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			Spectrophotometer	2023, 4500 NO3, B			Relaxation
6	Sulphate(as SO4)	mg/l	UV-Spectrophotometer	IS : 3025 (Part 24): Sec1:2022	40	200 Max.	400 Max.
7	Total Hardness(as CaCO3)	mg/l	Titration	IS: 3025 (Part 21)-2009 (RA 2019)	120.7	200 Max.	600 Max.
8	Total Alkalinity(as CaCO3)	mg/l	Titration	IS 3025(Part-23): 2023	45.2	200 Max.	600 Max.

NOTE : NA- Not Applicable, LOQ- Limit of Quantification, BLQ- Below limit of Quantification. Sampling Procedure: SOP/ITC/EW/030.

REMARKS : See Note

*****End of Report*****

29/06/2024
Vikrant Saini
Verified by

29/06/2024
Prem Kumar
Authorised by

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Annexure-17
Epidemiology Study Report

Epidemiological Study Around Rajpura Power Project
Nabha Power Limited Village: Nalash, Tehsil: Rajpura, District: Patiala

Report Prepared by

EMTRC Consultants Private Limited

Tower 5, Flat 102, CWG Village, Delhi 110092

Website- www.emtrc.in, email- emtrcjkm@gmail.com

JANUARY 2023

31-01-2023

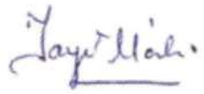
CERTIFICATE

Nabha Power Limited commissioned Epidemiological Study around its 2 x 700 MW Power Limited located at Village Nalash, Tehsil Rajpura, District Patiala.

The primary objective of the Epidemiological Study is to evaluate the nature of environmental pollutants, quantify and assess their effects on human health, generate health data of by collecting representative samples of population residing in the area and suggest corrective measures to improve health status of population under study area.

Five locations were selected for the study; upwind direction which is unaffected by the power plant, downwind location and locations having maximum ground level concentrations with severe impact. Samples of groundwater, surface water, soil, cereals and vegetables were collected from the study area and analysed at EMTRC Lab. Ambient air quality data of the study area was obtained from NPL. Human health survey was done in December 2022 by organizing camps at 5 locations around the power project.

We wish to place on record our sincere gratitude tand thanks to the Dr Ashish Garg (MBBS, MD-Medicine) other and Interns of Neelam Hospital, Rajpura and Mr. Nitin Pandey (CSR Department-NPL) for organizing the medical camps and doing the health check-ups of resident population as per the standard protocol. We are also grateful to Mr. Rajiv Bhandari, (AGM - EHS) and Mr. Hemant Purushottam Nimkar (Sr. Manager - EHS) for all cooperation received during the study period. Special thanks are to Mr Suresh Kumar Narang, CEO for his constant oversight and encouragement during the course of this study.



Dr. JK MOITRA
Project Coordinator

ABBREVIATION

ACGIH - American Conference of Governmental Industrial Hygienists

CPCB - Central Pollution Control Board

COPC - Chemical of Potential Concern

COPD - Chronic Obstructive Pulmonary Disorder

CADD - Chronic Average Daily Dose (mg/kg-day)

HSDB - Hazardous Substances Data Bank

HQ - Hazard Quotient

HI - Hazard Index

IRIS - Integrated Risk Information System of USEPA

LOAEL - Lowest Observable Adverse Effect Level

LADD - Lifetime Average Daily Dose (mg/kg-day)

mg/l - Milligram per liter

$\mu g/m^3$ - Milligram per Cubic Meter (of air)

µg - Microgram (one-millionth of a gram)

MOEF - Ministry of Environment & Forests (Govt of India)

NOAEL - No Observable Adverse Effect Level

NIOSH - National Institute for Occupational Safety and Health

$PM_{2.5}$ - Particulate Matter up to 2.5 micrometer size

PM_{10} - Particulate Matter up to 10 micrometer size

ppb - Parts per Billion

ppm - Parts per Million

RME - Reasonable Maximum Exposure (Upper Percentile)

RfD - Reference Dose

STEL - Short Term Exposure Limit

TWA - Time Weighted Average

UNEP - United Nations Environment Program

USEPA - United States Environmental Protection Agency

WHO - World Health Organization

CONTENTS

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EXECUTIVE SUMMARY

Nabha Power Limited operates the 2x700 MW coal based thermal power plant at village Nalash near Rajpura town in Punjab. It is the first power plant to be owned and operated by Larsen & Toubro Limited. The power generated from this plant is contracted with Punjab State Power Corporation Limited for a period of 25 years under a Power Purchase Agreement (PPA). The plant is built on supercritical technology of Mitsubishi Heavy Industries, Japan (now Mitsubishi Hitachi Power Systems).

The plant sources its fuel from South Eastern Coalfields Limited (a subsidiary of Coal India Limited) under a 20-year Fuel Supply Agreement (FSA). Bhakra-Nangal distributary is the perennial source of water for the plant under an allocation by the state irrigation department. The plant is operated by an in-house experienced team of operations and maintenance professionals.

Commercial operation dates (COD) for Unit-1 and Unit-2 were February 1 and July 10, 2014, respectively.

Nabha Power Limited, being a proactive and environmentally responsible organization, decided to generate the existing health status of human population vis-à-vis baseline environmental conditions around the power plant. It initiated Epidemiological Study by awarding the work to EMTRC Consultants Private Limited, Delhi.

The study includes the following objectives:

- To quantify environmental pollutant and its effects on human health.
- To generate health data of population in and around the plant through Epidemiological study on representative number of population.
- To analyse the health effects of individual pollutants.
- To suggest corrective measures to improve health status of population under study area.

Coal fired Thermal Power Plants emits several air pollutants that are originally present in coal. Pollutants like particulate matter containing metals, oxides of sulphur, oxides of nitrogen, carbon monoxide, and organic compounds are generated during coal burning. These air pollutants are

reported to cause a wide range of adverse health effects. Environmental impacts of power plant air pollutants emissions include adverse health, acidification of the environment, bioaccumulation of toxic metals, and contamination of water bodies and reduced visibility due to haze.

Coal is pulverized in coal mills to size less than 200 microns. The pulverized coal is fed to steam generator (Boiler) for combustion and generation of steam. The steam so generated is fed in to turbine, which converts the thermal energy of steam into mechanical energy and drives the generator for producing electricity. Exhaust steam from the turbine is condensed by means of a condenser. Thus the water evaporated in the boiler is conserved in a closed cycle. The products of combustion are exhausted from the boiler through a chimney into the atmosphere after cleaning through ESP. The ash from the boiler furnace bottom is disposed of by means of wet disposal system. The fly ash arrested in the Electrostatic Precipitators is transported pneumatically to fly ash silos. The fly ash is utilized for brick manufacturing; mines back filling, low land filling, etc. Unutilized portion of the fly ash is disposed of in slurry form in ash dyke.

Wind Profiles: Dispersion profile of air pollutants being emiited from a chimney depends upon the wind direction and wind speed. Historical met data of the area was collected from Climatological Tables published by the India Meteorological Department (1980-2010). The predominant wind direction is from North-West during all the months except monsoon season. During monsoon season the wind flows from South East. The wind direction was used to find out the predominant wind direction, most dominant and least dominant wind directions. Accordingly camps for health study was established.

Impacted and Unimpacted Areas around the Power Plant: Name of impacted and non-impacted villages around NPL are shown below:

S.N	Name of Villages	Distance & Direction from NPL	Impacted/ Non-impacted
1	Suralkalan	1.7 Km, West	Slightly Impacted
2	Dabhalikalan	3.8 Km, South	Moderately Impacted
3	Dadumajra	3.5 Km, North	Slightly impacted
4	Nalash	2.0 Km, South East	Severely Impacted
5	Bakshiwala	4.5 Km, South West	Non-Impacted

Sampling Locations: Ambient air quality data around the power plant was generated by NPL over the last few years. These data were used to analyse and assess the impact. Samples of groundwater and soil was collected from surrounding villages. Surface water sample was taken from the Bhakra distributary / canal and analysed. This canal water is used for irrigation by the farmers of the area. Samples of locally grown cereals and vegetables, milk and grass were collected from the area and analysed for heavy metals. The sampling locations represented the impacted area and non-impacted area around the power plant. Samples were collected in October 2022.

Ambient Air Quality: Ambient air quality monitoring was done inside & outside the plant boundary at seven locations. Monitoring was done round the year for 24-hours, one sample season. Following pollutants were monitored: $PM_{2.5}$, PM_{10}, NO_2, SO_2, CO, Pb, As, Ni (in PM_{10}), NH_3, O_3, benzene, Benzo-a-pyrene. Results for the year 2019 to 2022 were provided by Nabha Power Limited. The results of all parameters are well within the NAAQS.

Sr. No	Date		Parameters (24-hour average)				
			PM_{10}, $\mu g/m^3$	$PM_{2.5}$ $\mu g/m^3$	SO_2 $\mu g/m^3$	NO_2 $\mu g/m^3$	CO mg/m^3
1	2019	Minimum	68	38	8	17	0.58
		Maximum	82	47	17	33	0.95
		Average	**74**	**42**	**13**	**26**	**0.71**
2	2020	Minimum	61	30	6	9	0.55
		Maximum	96	54	15	31	1.4
		Average	**77**	**42**	**11**	**22**	**0.85**
3	2021	Minimum	68	31	6	10	1
		Maximum	97	57	16	33	3.6
		Average	**86**	**43**	**10**	**17**	**1.65**
4	2022	Minimum	80	35	5	10	1.1
		Maximum	90	43	12	22	1.4
		Average	**84**	**39**	**8**	**14**	**1.26**
National Standard			**100**	**60**	**80**	**80**	**2**

Note : Pb, As, Ni, NH_3, O_3, benzene, Benzo-a-pyrene were found to be not detectable.

The results are graphically shown below:

Ground Water Quality: Ground water is the main source of drinking and irrigation. Nine ground water samples were collected from villages located around the plant. The water samples were analysed for physicochemical and biological parameters as per the Standard Methods (APHA). The results were compared with the drinking water quality standard prescribed by the Bureau of Indian Standards (IS: 10500:2012). The pH of the samples was found to be alkaline (7.41 - 8.18). TDS values of the sample ranges between 150 - 1380 mg/l. Hardness content of the sample ranges between 52 - 440 mg/l. Calcium values of the samples ranges between 16 - 120 mg/l. Magnesium values of the samples ranges between 2.9 - 34 mg/l. Chloride values of the samples ranges between 35 - 280 mg/l. The ground water did not show any oil or bacterial contamination. Heavy metals like Pb, Cu, Mn, Cr, Ni, Cd, Hg, As, and Se were found to be below the detectable limit.

Surface Water Quality: One canal water sample was collected. The sample was analyzed for physico-chemical and biological parameters as per Standard Methods (APHA). Hg, As, Pb and Cr were found to be below the detectable limit. The water quality is fit for drinking after conventioal treatment and irrigation.

Soil Quality: Nine soil samples were collected from agriculture fields around the plant. The samples were analysed for metallic constituents. The results are as follows: Lead <0.3 mg/kg, Nickel 6.2 to 8.5 mg/kg, Cadmium <0.1 mg/kg, Chromium <0.2 mg/kg, Arsenic < 0.2 mg/kg and Mercury <0.1 mg/kg. Soils are of mineral origin and metals are always present in traces, which acts as micronutrients for plant growth and health. The values were found to be normal.

Heavy Metals in Food Samples: Rice, dal, wheat and maize and locally grown vegetables are the staple food of the people of this area. Samples of locally grown rice, dal, wheat, jowar, gram, pulses, potato, onion, tomato were collected from the market. No heavy metals (arsenic, mercury, cadmium, chromium, lead and nickel) were not detectable in the food samples (Below the detectable limit of 0.1 mg/kg).

Human Health Survey: In order to develop health records and draw profile of health status for target population groups, health survey was done at 5 locations around the plant. These villages covered the impacted area, non-impact area and control area. Health check-up was done for 309 residents, who are exposed to the existing environmental conditions for more than 5 years.

Summary of Health Checkup Done at 5 Locations Around NPL (in %)

	Name of Location	Over Weight	Cough	High BP	Headache	Other Noted Health Problems
1	Surkalan Slightly impacted	28	13	35	19	Knee joint pain in elderly
2	Dabhali kalan Moderately impacted	29	10	58	23	-
3	Dadumajra Slightly impacted	16	2	28	10	Knee joint pain in elderly
4	Nalash Severely impacted	20	6	61	14	-
5	Bakshiwala Non-Impacted -Control)	23	7	57	26	-

Conclusion

a. Air Environment: The ambient air quality of the impacted and non-impacted areas is found to be well-within the prescribed National Standards.

b. Water Environment: The ground water samples were found to meet the BIS standards at all locations. The surface water sample were found to meet the Best Designated Use Criteria 'C' of CPCB (fit for drinking after conventional treatment and irrigation).

c. Soil Environment: Lead, nickel, arsenic, mercury, cobalt, cadmium, chromium levels were found to be within the normal level. pH was found to be moderately alkaline, Organic Matter was found to be sufficient and Conductivity was found to be average in all soil samples.

d. Impact on Human Health: Human Health Survey: Human health profiling was done for 309 resident people of five villages, who are exposed to the existing environment for more than seven years. High BP was found in majority of male adults; Nalash - 61%, Dhabali - 58% Bakshiwala - 57% and Surkalan - 35%. Major complaints of elderly people in Surkalan and Dadumajra were related to pain in knee joints.

No cases of respiratory disorders linked to air pollution like Bronchitis, Asthma or Chronic Obstructive Pulmonary Disorder were found in the people. No disease or any chronic condition that could be related to air pollution / effluent discharges from coal based power plant has been observed in the population of the study area. None of the people in the study area reported any serious health problem such as Cancer, Gross Neurologic, Hepatic or Renal Damage and Congenital Abnormality.

CHAPTER 1: INTRODUCTION

1.1 Introduction of Epidemiological Study

Epidemiological study describes the nature and significance of the potential short-term (i.e., acute) and long-term (i.e., chronic) health risks posed to people exposed to the Chemicals of Potential Concern (COPC). The primary objective of the EPIDEMIOLOGICAL is to describe the nature and significance of potential health risks to humans from COPC. EPIDEMIOLOGICAL Methodology developed by United States Environmental Protection Agency (USEPA) is widely followed all over the world. The main components of the risk assessment methodology include the following:

Problem Formulation*:* Identification of Chemicals of Potential Concern (COPC), characterization of receptors, and identification of exposure pathways. The COPC identified in ambient air around coal fired power plant are BAP, Pb, Ni and As in PM_{10}. Profile of the COPCs are given in Appendix.

Toxicity Assessment*:* Identification of potential adverse effects of COPC and determination of the maximum **dose** that are likely to result in adverse health effects (exposure limits, EL);

Exposure Assessment*:* Quantification of the total dose of COPC received by human receptors *via* all relevant exposure pathways;

***Risk Characterization*:** Comparison of estimated exposures with Exposure Limits to provide an indication of whether unacceptable risks are likely to exist in defined scenarios.

Exposure pathways describe the routes through which contaminants in the environment (soil, air water etc.) come into contact with receptors of concern. These pathways may require direct contact between receptors and media of concern (*e.g.*, inhalation of air), or may rely on indirect pathways which require movement of the chemical in the environment (*e.g.*, transfer of chemicals from soil into vegetables or meat and then to receptors through food consumption). Although human behavioral and physical characteristics will vary, it was assumed that all human receptors are subjected to the same exposure pathways. COPC present in air emissions can descend to ground level where human receptors can be exposed *via* the direct inhalation

exposure pathway. COPC in air emissions may be transported to other media where exposure may occur. Possible "indirect" exposure pathways include 'ingestion' of COPC in soil dust, and consumption of agricultural products, meat, fish, etc. Environmental media that are potentially affected by discharges from power plant includes:

- Ambient air through direct emission and dispersion as vapor or suspended particulate;
- Surface soils, through deposition from the air column;
- Fish through the aquatic food chain;
- Vegetation, including home garden produce, crops, as well as natural vegetation, both through direct deposition, and indirectly *via* uptake from soil;
- Agricultural products through uptake from soils, vegetation and water;
- Drinking groundwater

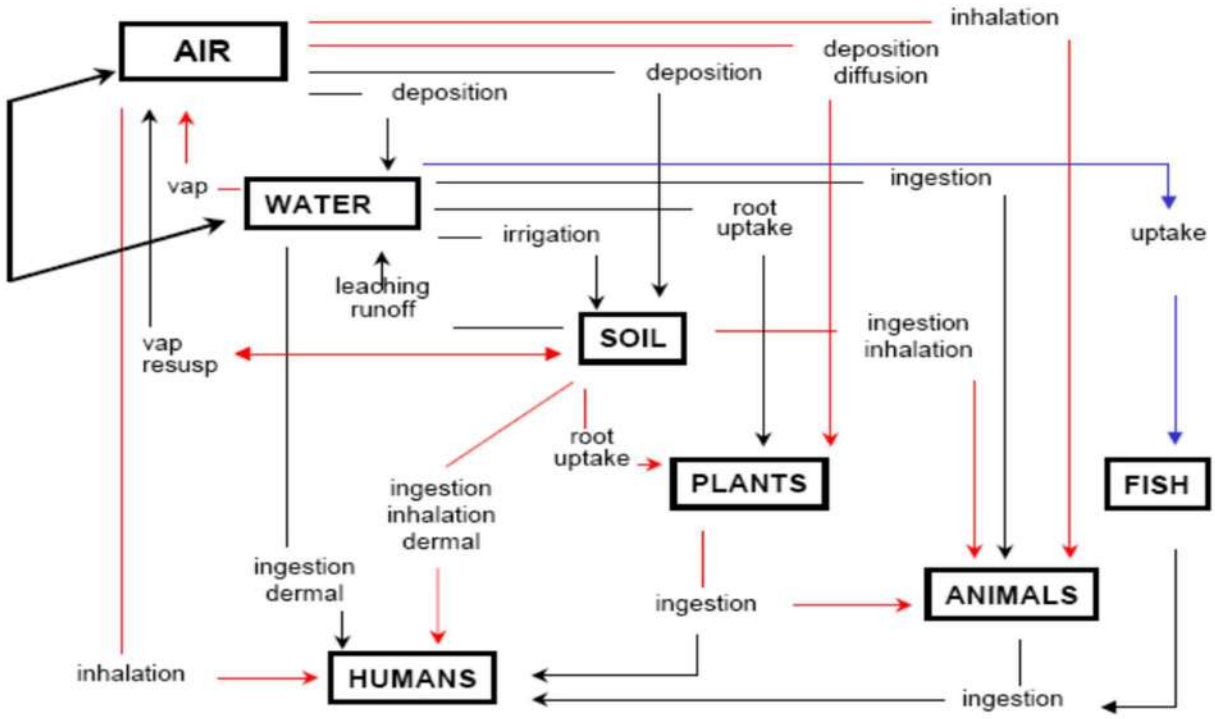

Figure 1: Typical Human Exposure Pathways from Power Plant Emissions

1.2 Concept of Epidemiological Study

Epidemiological is the process to estimate the nature and probability of adverse health effects in humans who may be exposed to chemicals in contaminated environmental media, now or in the future. Epidemiological addresses following things:

- Types of health problems may be caused by environmental stressors
- Chance that people will experience health problems when exposed to different levels of stressors
- The level below which some stressors don't pose a human health risk
- Environmental stressors that people are exposed to and at what levels and for how long
- People who likely to be susceptible to environmental stressors because of factors such as age, genetics, pre-existing health conditions, ethnic practices, gender, etc.
- People more likely to be exposed to environmental stressors because of factors such as where they work, where they play, what they like to eat, etc.

These issues help decision makers to understand the possible human health risks from environmental media. An exposure assessment is the quantitative or qualitative evaluation of that contact; it describes the intensity, frequency, and duration of contact, and often evaluates the rates at which the chemical crosses the boundary (chemical intake or uptake rates), the route by which it crosses the boundary (exposure route; e.g., dermal, oral, or respiratory), and the resulting amount of the chemical that actually crosses the boundary (a dose) and the amount absorbed (internal dose). Planning and scoping is must to make judgments about major risk assessments.

The following structure focuses on Epidemiological:

Who/ What/ Where is at risk?

- Individual
- General population
- Children, teenagers, pregnant/nursing women
- Population subgroups – highly susceptible (for example, due to asthma, genetics, etc.) and/or highly exposed (based on geographic area, gender, racial or ethnic group, or economic status)

What is the environmental hazard of concern?

- Chemicals (single or multiple/cumulative risk)

- Physical (dust, heat)
- Microbiological or biological
- Nutritional (for example, diet, fitness, or metabolic state)
- Socio-Economic (for example, access to health care)

Where do these environmental hazards come from?

- Point sources(for example, smoke or water discharge from a factory);
- Non-point sources(for example, automobile exhaust)

How does exposure occur?

- Pathways (recognizing that one or more may be involved)
    - Air
    - Surface Water
    - Groundwater
    - Soil
    - Food
    - Non-food consumer products, pharmaceuticals

Routes (and related human activities that lead to exposure)

- Ingestion (both food and water)
- Contact with skin
- Inhalation
- Non-dietary ingestion (for example, “hand-to-mouth” behavior)

What does the body do with the environmental hazard and how is this impacted by factors such as age, race, sex, genetics, etc.?)

- Absorption – does the body take up the environmental hazard
- Distribution – does the environmental hazard travel throughout the body or does it stay in one place?
- Metabolism – does the body breakdown the environmental hazard?
- Excretion – how does the body get rid of it?

What are the health effects?

- Example of some health effects include cancer, heart disease, liver disease and nerve disease.

How long does it take for an environmental hazard to cause a toxic effect? Does it matter when in a lifetime exposure occurs?

- How long?
  - Acute – right away or within a few hours to a day
  - Sub chronic – weeks or months (for humans generally less than 10% of their lifespan)
  - Chronic – a significant part of a lifetime or a lifetime (for humans at least seven years)
  - Intermittent
- Timing - Is there a critical time during a lifetime when a chemical is most toxic (e.g., fetal development, childhood, during aging)?

1.3 Objectives and Scope of the Study

The study includes the following objectives:

- To access the information through quantifying environmental pollutant and its effects on human health
- To evaluate the nature of pollutants.
- To estimate physico-chemical load of contaminants.
- To generate health data of population in and around the plant through Epidemiological
- study on representative number of population and livestock samples
- To suggest corrective measures to improve health status of population in the study area.

1.4 Study Methodology

- Identification of the plant boundary, location of plant equipment, stack, ash pond and the area of study, identification of human settlements in the study area.
- Quantify the pollutants present in different environmental media to which people are exposed, like ambient air, ground water and surface water, soil and food grown on the soil.
- Obtain information on diet, living and working conditions, income, time-activity pattern,
- Generate health data of representative population to establish the baseline and estimate the health risk
- Suggest preventive and corrective measures to improve the environment, if any evidence of adverse impact of human population is observed during the study.

Figure 2 : Location Map

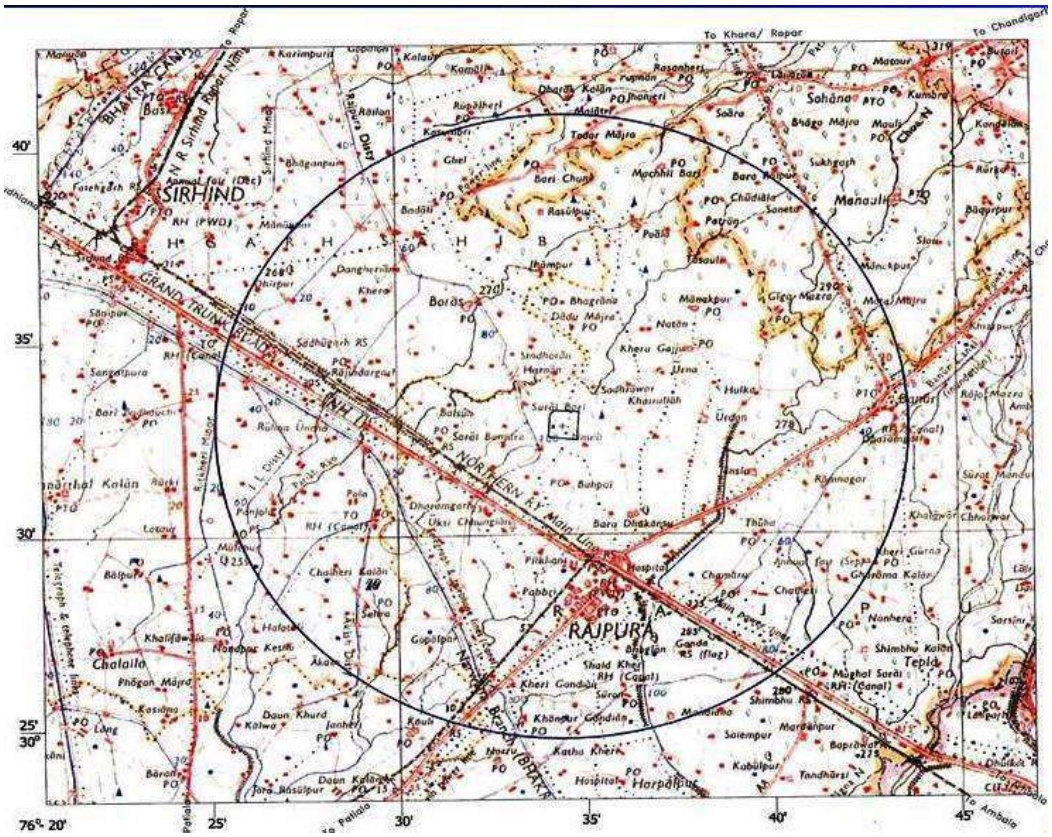

Figure 3: Location of the Power Plant on Survey of India Toposheet

Figure 4: Google Image of Rajpura Power Project

CHAPTER 2 : BASELINE ENVIRONMENTAL STATUS

2.1 Meteorology

Air emissions will follow the wind direction, therefore identification of impacted area and non-impacted around the source is important. The height of emission release governs the location of impact point. Maximum impact from an elevated source is observed at a location which is 6 to 10 times the height of the source in downwind direction. Historical Meteorological Data were obtained from the Climatological Tables of IMD (Ambala)

Table 1 Meteorological Data of Ambala (Source-IMD-1950 to 2010)

Month	Temperature (deg C) daily Max	Min	Relative Humidity, % Max	Min	Rainfall (mm)	Wind speed kmph	Pre-dominant wind direction (from)	Cloud cover (Oktas)
January	20.4	6.6	80	55	38.5	5.9	NW, W, SE	1.9
February	23.3	9.2	72	48	28.4	6.8	NW, W, SE	1.8
March	29.0	13.9	64	41	29.5	7.9	NW, W, SE	1.6
April	35.8	19.6	47	28	6.1	7.4	NW, W, SE	1.1
May	39.6	23.8	41	26	19.3	7.9	SE, W, NW	1.1
June	39.4	26.6	55	38	73.2	8.6	SE, W, NW	1.8
July	34.8	25.7	80	64	267.2	7.9	SE, W, NW	3.9
August	33.3	25.1	84	70	267.2	6.2	SE, W, NW	3.9
September	34.0	23.6	79	61	161.3	5.4	NW, SE	1.7
October	32.6	18.1	69	46	32.9	5.2	NW, SE	0.6
November	28.0	11.1	70	45	9.3	5.5	NW, SE	0.7
December	22.5	7.4	79	52	13.2	5.1	NW, SE	1.4
Annual	31.1	17.6	68	48	961.4	6.7	NW, SE	1.8

Name of Impacted and Non-impacted villages from NPL Emissions

S.N	Name of Villages	Distance & Direction from NPL	Impacted/ Non-impacted
1	Suralkalan	1.7 Km, West	Slightly Impacted
2	Dabhalikalan	3.8 Km, South	Moderately Impacted
3	Dadumajra	3.5 Km, North	Slightly impacted
4	Nalash	2.0 Km, South East	Severely Impacted
5	Bakshiwala	4.5 Km, South West	Non-Impacted

2.2 Ambient Air Quality: Ambient air quality monitoring inside & outside the plant boundary were done at seven locations. Monitoring was done for 24-hours for $PM_{2.5}$, PM_{10}, NO_2, SO_2, CO, Pb, As, Ni (in PM_{10}), NH_3, O_3, Benzene, Benzo-a-pyrene. Results of monsoon and post-

monsoon months were provided by Nabha Power Limited. The results of all parameters are well within the NAAQS.

Table:2 Ambient Air Quality inside & outside the Plant Boundary (24-h avg in µg/m³)

Sr. No	Monitoring Location	Date	Parameters				
			PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
1	Dabhali	20-06-2019	70	38	12	22	0.61
		10-09-2019	72	40	12	25	0.59
		29-11-2019	72	41	10	21	0.95
2	Salempura	20-06-2019	71	40	12	26	0.65
		10-09-2019	70	41	14	27	0.65
		29-11-2019	70	39	8	17	0.93
3	Dadumajra	20-06-2019	73	42	12	23	0.67
		10-09-2019	73	38	13	25	0.62
		29-11-2019	68	38	11	23	0.88
4	Near Storm Water Sump	18-06-2019	71	40	13	24	0.68
		10-09-2019	77	46	17	29	0.73
		28-11-2019	71	39	12	26	0.66
5	Near Loco Shed	18-06-2019	79	47	12	26	0.66
		10-09-2019	77	46	15	31	0.71
		28-11-2019	79	42	14	29	0.71
6	Near Switch Yard	18-06-2019	76	43	15	26	0.69
		10-09-2019	78	46	16	30	0.69
		28-11-2019	75	44	16	33	0.74
7	Near NDCT	18-06-2019	77	43	14	26	0.58
		10-09-2019	74	41	14	27	0.76
		28-11-2019	82	46	15	30	0.70
		Min	68	38	8	17	0.58
		Max	82	47	17	33	0.95
		Average	**74**	**42**	**13**	**26**	**0.71**
National Standard			**100 (24-hrs average)**	**60 (24-hrs average)**	**80 (24-hrs average)**	**80 (24-hr average)**	**4 (1-hrs average)**

Source : Eco Laboratories & Consultants Pvt. Ltd. (Sector-74, Mohali, Punjab-160071)

Cont…..Ambient Air Quality inside & outside the Plant Boundary (24-h avg in µg/m³)

Sr. No	Monitoring Location	Date	Parameters				
			PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
1	Dabhali	13-03-2020	66	30	12	23	0.77
		24-06-2020	64	33	9	19	0.56
		11-09-2020	70	38	12	28	0.61
		23-12-2020	93	51	10	16	1.2
2	Salempura	13-03-2020	72	38	9	19	0.73
		24-06-2020	67	36	8	17	0.64
		11-09-2020	77	44	11	26	0.65
		23-12-2020	95	54	13	18	1.3

3	Dadumajra	13-03-2020	70	36	9	25	0.76
		24-06-2020	66	34	7	19	0.60
		11-09-2020	75	43	9	23	0.69
		23-12-2020	96	54	11	19	1.3
4	Near Storm Water Sump	13-03-2020	65	36	11	24	0.60
		24-06-2020	61	30	8	18	0.55
		11-09-2020	75	42	10	23	0.73
		22-12-2020	88	43	8	12	1.2
5	Near Loco Shed	13-03-2020	75	40	12	30	0.68
		24-06-2020	71	39	10	22	0.63
		11-09-2020	79	47	13	26	0.64
		21-12-2020	88	49	11	19	1.3
6	Near Switch Yard	13-03-2020	73	41	15	31	0.68
		24-06-2020	66	35	9	20	0.58
		11-09-2020	72	40	13	27	0.71
		22-12-2020	91	46	6	9	1.3
7	Near NDCT	13-03-2020	78	43	13	28	0.63
		24-06-2020	69	38	11	25	0.61
		11-09-2020	72	40	12	25	0.68
		21-12-2020	89	46	10	14	1.4
		Min	61	30	6	9	0.55
		Max	96	54	15	31	1.4
		Average	**77**	**42**	**11**	**22**	**0.85**
National Standard			**100 (24-hrs average)**	**60 (24-hrs average)**	**80 (24-hrs average)**	**80 (24-hr average)**	**4 (1-hrs average)**

Source : Eco Laboratories & Consultants Pvt. Ltd. (Sector-74, Mohali, Punjab-160071)
Inter stellar Testing Centre Pvt. Ltd. (Industrial Area Phase-1, Panchkula-134109, Haryana)

Cont…..Ambient Air Quality inside & outside the Plant Boundary (24-h avg in µg/m^3)

Sr. No	Monitoring Location	Date	Parameters				
			PM_{10} µg/m^3	$PM_{2.5}$ µg/m^3	SO_2 µg/m^3	NO_2 µg/m^3	CO mg/m^3
1	Dabhali	13-03-2021	86	43	10	19	1.3
		19-06-2021	65	34	17	20	1.3
		10-09-2021	82	37	10	17	1.8
		17-12-2021	90	51	8	13	1.0
2	Salempura	13-03-2021	92	48	12	17	1.4
		19-06-2021	73	38	16	19	1.4
		10-09-2021	87	35	9	14	1.4
		17-12-2021	92	48	13	27	1.2
3	Dadumajra	13-03-2021	89	44	10	15	1.2
		19-06-2021	68	31	14	18	1.5
		10-09-2021	93	40	12	18	2.5
		17-12-2021	94	53	12	19	1.1
4	Near Storm Water Sump	10-03-2021	84	43	8	12	1.3
		07-09-2021	86	40	12	17	1.0

		15-12-2021	94	55	12	20	1.3
5	Near Loco Shed	10-03-2021	81	40	9	13	1.3
		07-09-2021	81	37	8	14	2.2
		15-12-2021	89	49	8	13	1.5
6	Near Switch Yard	10-03-2021	88	45	6	10	1.4
		07-09-2021	85	39	6	10	3.6
		15-12-2021	97	57	16	33	1.4
7	Near NDCT	10-03-2021	87	40	6	10	1.2
		07-09-2021	89	42	11	18	2.6
		Min	68	31	6	10	1
		Max	97	57	16	33	3.6
		Average	**86**	**43**	**10**	**17**	**1.65**
National Standard			**100 (24-hrs average)**	**60 (24-hrs average)**	**80 (24-hrs average)**	**80 (24-hr average)**	**4 (1-hrs average)**

Source : Interstellar Testing Centre Pvt. Ltd. (Industrial Area Phase-1, Panchkula-134109, Haryana)

Cont…..Ambient Air Quality inside & outside the Plant Boundary (24-h avg in µg/m^3)

Sr. No	Monitoring Location	Date	Parameters				
			PM_{10} µg/m^3	$PM_{2.5}$ µg/m^3	SO_2 µg/m^3	NO_2 µg/m^3	CO mg/m^3
1	Dabhali	16-06-2022	87	40	12	22	1.3
		10-09-2022	83	35	7	10	1.1
2	Salempura	16-06-2022	83	37	8	15	1.3
		10-09-2022	90	41	10	15	1.3
3	Dadumajra	16-06-2022	83	41	10	19	1.2
		10-09-2022	86	37	5	10	1.2
4	Near Storm Water Sump	13-06-2022	87	43	8	13	1.4
		08-09-2022	81	36	7	10	1.4
5	Near Loco Shed	13-06-2022	84	43	10	15	1.3
		08-09-2022	85	38	6	12	1.3
6	Near Switch Yard	13-06-2022	83	42	6	11	1.3
		08-09-2022	86	39	8	13	1.1
7	Near NDCT	13-06-2022	80	38	12	22	1.4
		08-09-2022	82	37	7	11	1.1
		Min	80	35	5	10	1.1
		Max	90	43	12	22	1.4
		Average	**84**	**39**	**8**	**14**	**1.26**
National Standard			**100 (24-hrs average)**	**60 (24-hrs average)**	**80 (24-hrs average)**	**80 (24-hr average)**	**4 (1-hrs average)**

Source : Inter stellar Testing Centre Pvt. Ltd. (Industrial Area Phase-1, Panchkula-134109, Haryana)

Cont…..Ambient Air Quality inside & outside the Plant Boundary (24-h avg in µg/m³)

Sr. No	Date		Parameters				
			PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
1	2019	Minimum	68	38	8	17	0.58
		Maximum	82	47	17	33	0.95
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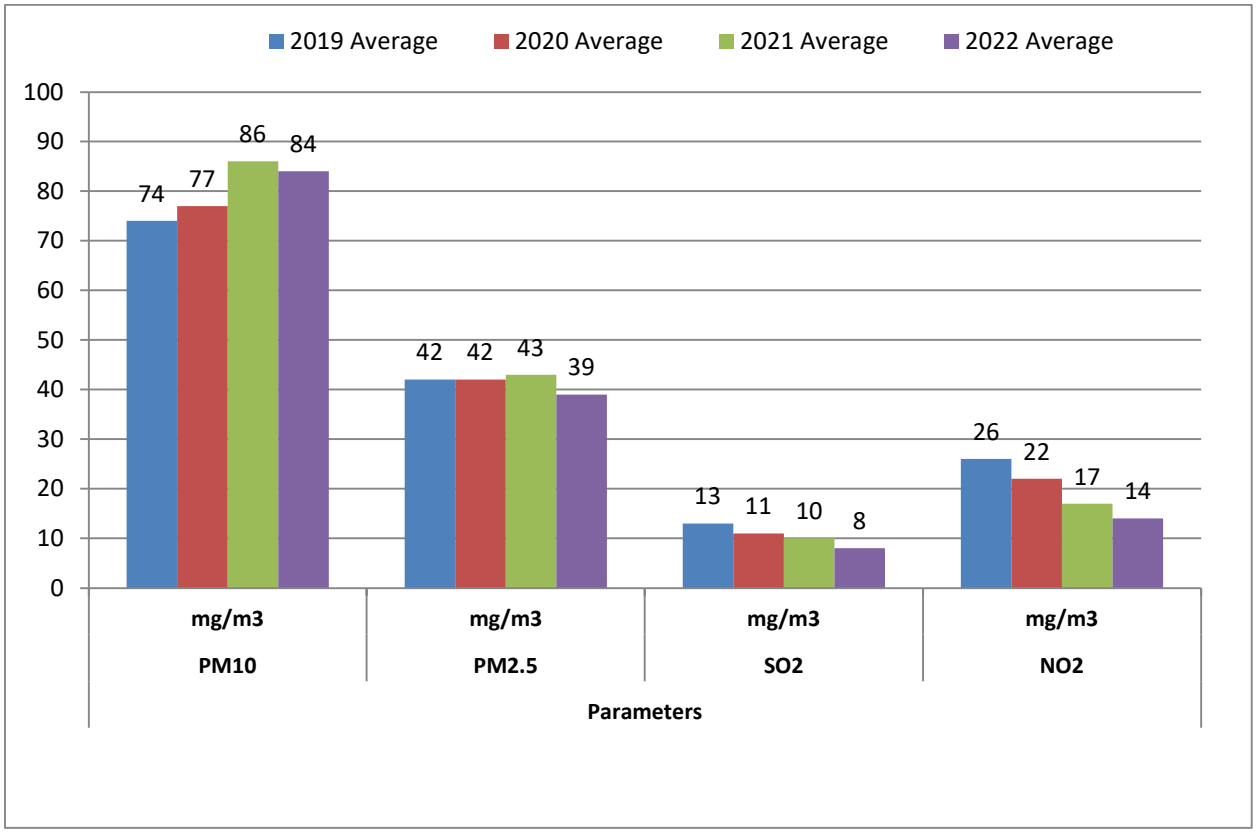
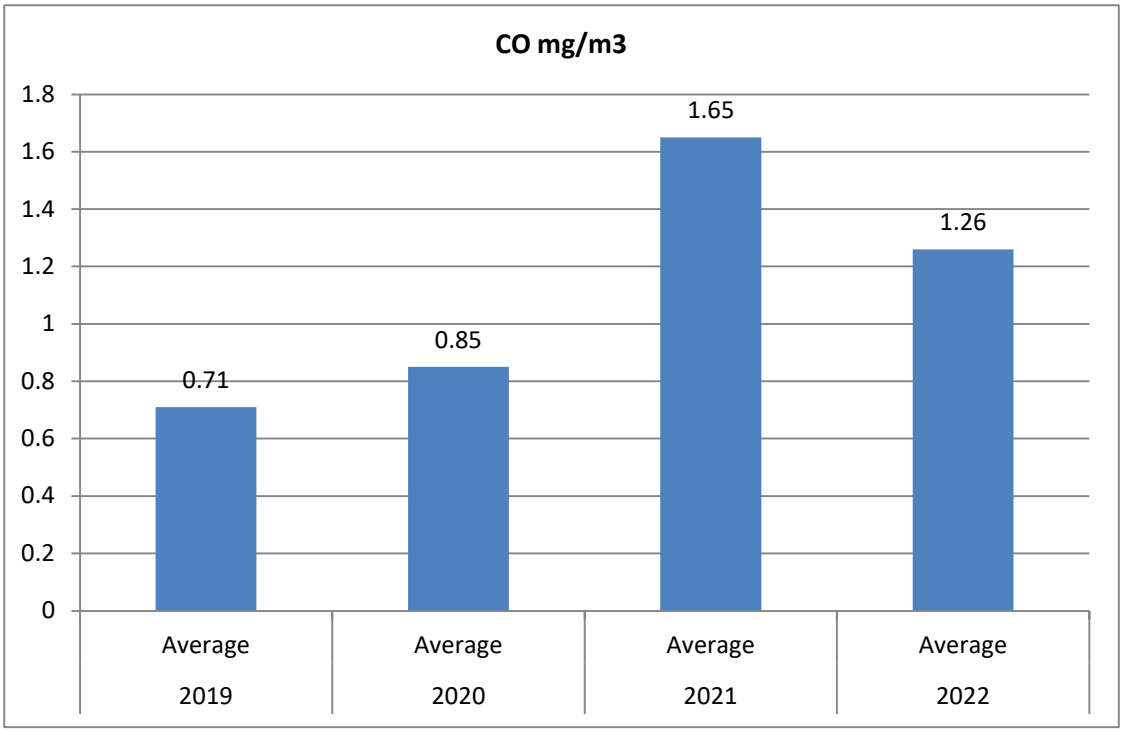
2	2020	Minimum	61	30	6	9	0.55
		Maximum	96	54	15	31	1.4
		Average	**77**	**42**	**11**	**22**	**0.85**
3	2021	Minimum	68	31	6	10	1
		Maximum	97	57	16	33	3.6
		Average	**86**	**43**	**10**	**17**	**1.65**
4	2022	Minimum	80	35	5	10	1.1
		Maximum	90	43	12	22	1.4
		Average	**84**	**39**	**8**	**14**	**1.26**





2.3 Ground Water Quality

Ground water (hand pump / tube well) is the main source of drinking and irrigation in the study area. Ground water samples (9 Nos) were collected from villages located around the power plant. The water samples were analysed for physicochemical and biological parameters as per the Standard Methods (APHA). The results were compared with the drinking water quality standard prescribed by the Bureau of Indian Standards (IS: 10500:2012). The pH of the samples was found to be alkaline (7.41 - 8.18). TDS values of the sample ranges between 150 - 1380 mg/l. Hardness content of the sample ranges between 52 - 440 mg/l. Calcium values of the samples ranges between 16 - 120 mg/l. Magnesium values of the samples ranges between 2.9 - 34 mg/l. Chloride values of the samples ranges between 35 - 280 mg/l. Fluoride levels were found to be within the beneficial levels of 0.4 mg/l to 1.5 mg/l (less than 0.4 mg/l fluoride in drinking water will cause dental caries and more than 1.5 mg/l fluoride in drinking water will cause dental and skeletal fluorosis). The ground water did not show any oil or bacterial contamination. Heavy metals like Pb, Cu, Mn, Cr, Ni, Cd, Hg, As, and Se were found to be below the detectable limit.

Figure 5: Ground Water Sampling Locations

Table 3: Ground Water Quality Test Results

	Parameters	Unit	Nalash	Surkalan	Dadu majra	Salempur	Dabhali	Acceptable Limit IS:10500:2012	Permissible Limit IS:10500:2012
1	pH	-	8.14	7.41	8.14	8.18	7.78	6.5 to 8.5	No relaxation
2	Conductivity	µmhos/cm	1120	890	850	880	1980	-	-
3	Turbidity	NTU	1.5	<1	<1	1.8	2	5	15
4	Total Dissolved Solids	mg/l	790	630	590	620	1380	500	2000
5	Total Hardness as $CaCO_3$	mg/l	210	260	210	260	440	200	600
6	Calcium as Ca	mg/l	60	64	56	68	120	75	200

7	Magnesium as Mg	mg/l	14.6	24	17	22	34	30	100
8	Sulphate	mg/l	72	58	52	65	112	200	400
9	Chlorides as Cl	mg/l	90	72	60	80	280	250	1000
10	Nitrates as NO_3	mg/l	8.5	7.5	7.2	10.5	12.5	45	No relaxation
11	Fluoride as F	mg/l	0.54	0.45	0.42	1.24	1.32	1.0	1.5
12	Iron as Fe	mg/l	0.18	0.12	0.08	0.22	0.26	0.3	No relaxation
13	Copper as Cu	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	1.5
14	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	No relaxation
15	Manganese as Mn	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	0.1	0.3
16	Zinc as Zn	mg/l	0.58	0.48	0.40	0.82	1.08	5	15
17	Chromium	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.05	No relaxation
18	Nickel as Ni	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	No relaxation
19	Oil & Grease	mg/l	Nil	Nil	Nil	Nil	Nil		0.03
20	Cadmium as Cd	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	No relaxation
21	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	No relaxation
22	Arsenic as As	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.01	0.05
23	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	No relaxation
24	Total coliform	MPN/100 ml	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Cont……Ground Water Quality Test Results

	Parameters	**Unit**	**Rangia**	**Harna**	**Haripur**	**Badalimajra**	**Acceptable Limit IS:10500:2012**	**Permissible Limit IS:10500:2012**
1	pH	-	7.89	7.68	8.08	8.12	6.5 to 8.5	No relaxation
2	Conductivity	µmhos/cm	920	710	980	210	-	-
3	Turbidity	NTU	1.5	<1	1.5	<1	5	15
4	Total Dissolved Solids	mg/l	650	510	690	150	500	2000
5	Total Hardness as $CaCO_3$	mg/l	250	260	210	52	200	600
6	Calcium as Ca	mg/l	60	64	60	16	75	200
7	Magnesium as Mg	mg/l	24	24	14.6	2.9	30	100
8	Sulphate	mg/l	72	62	72	28	200	400

9	Chlorides as Cl	mg/l	85	70	85	35	250	1000
10	Nitrates as NO_3	mg/l	9.2	8.2	10.8	6.8	45	No relaxation
11	Fluoride as F	mg/l	0.40	1.14	1.24	0.42	1.0	1.5
12	Iron as Fe	mg/l	0.12	0.22	0.24	0.08	0.3	No relaxation
13	Copper as Cu	mg/l	<0.02	<0.02	<0.02	<0.02	0.05	1.5
14	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01	0.01	No relaxation
15	Manganese as Mn	mg/l	<0.05	<0.05	<0.05	<0.05	0.1	0.3
16	Zinc as Zn	mg/l	0.75	0.85	0.95	0.25	5	15
17	Chromium	mg/l	<0.005	<0.005	<0.005	<0.005	0.05	No relaxation
18	Nickel as Ni	mg/l	<0.01	<0.01	<0.01	<0.01	0.02	No relaxation
19	Oil & Grease	mg/l	Nil	Nil	Nil	Nil		0.03
20	Cadmium as Cd	mg/l	<0.001	<0.001	<0.001	<0.001	0.003	No relaxation
21	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	0.001	No relaxation
22	Arsenic as As	mg/l	<0.001	<0.001	<0.001	<0.001	0.01	0.05
23	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01	0.01	No relaxation
24	Total coliform	MPN/100 ml	Nil	Nil	Nil	Nil	Nil	Nil

2.4 Surface Water Quality

One canal water sample was collected. The sample was analyzed for physico-chemical and biological parameters as per Standard Methods (APHA). Hg, As, Pb and Cr were found to be below the detectable limit. The surface water quality is fit for irrigation purpose.

2.5 Soil Quality

Nine soil samples were collected from agriculture fields around the plant. The samples were analysed for pH, conductivity, Organic Matter and metallic constituents. pH was found to be moderately alkaline (7.8 to 8.5), conductivity was found to be normal (<1000 µmhos/cm) and Organic Matter was found to be suffient (0.8%). The concentration of Lead was found to be <0.3 mg/kg, Nickel: 6.2 to 8.5 mg/kg, Cadmium: <0.1 mg/kg, Chromium: <0.2 mg/kg, Arsenic: < 0.2 mg/kg and Mercury: <0.1 mg/kg.

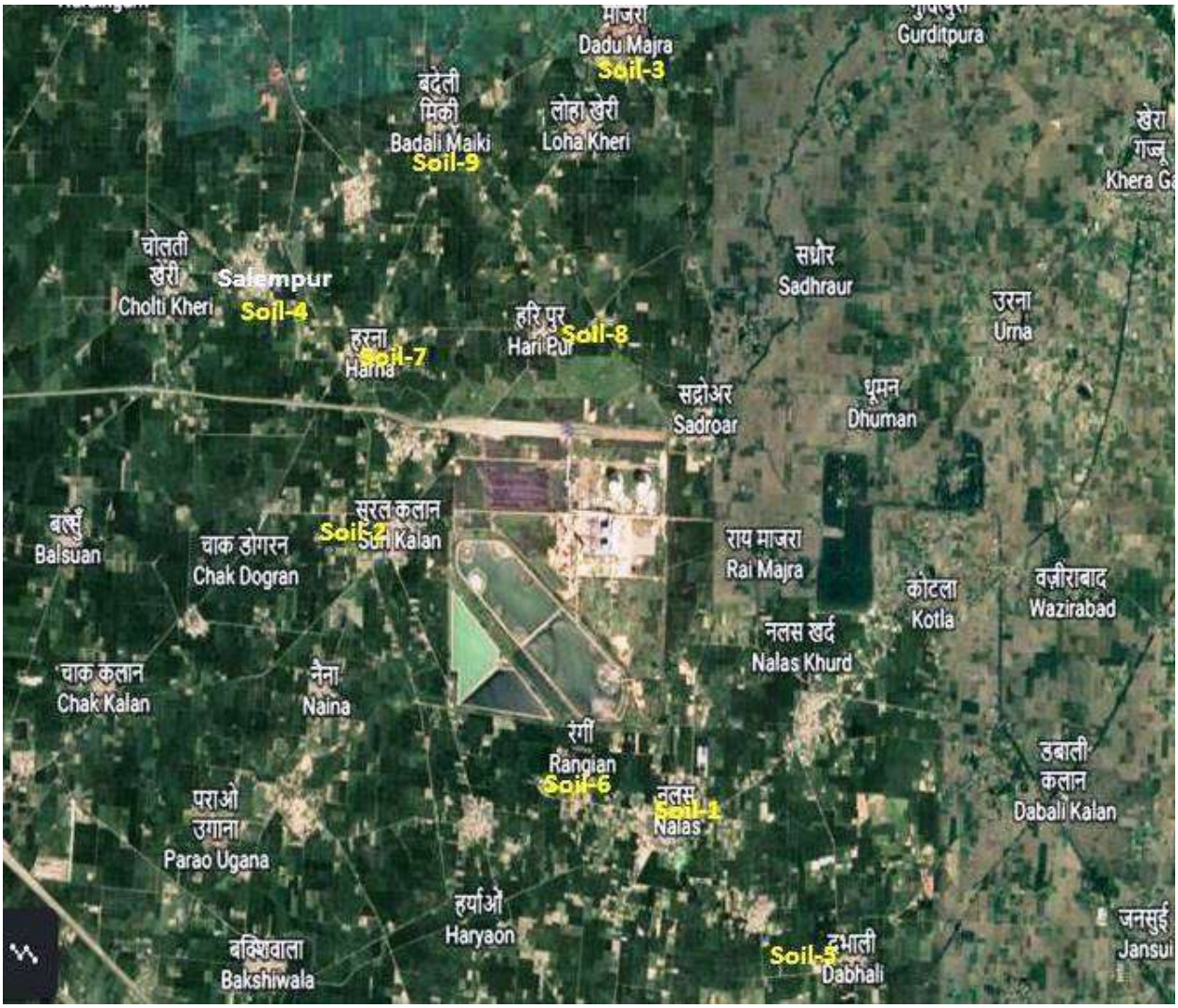


Figure 6: Soil Sampling Locations

Table 4: Soil Quality Test Results

	Parameters	Unit	Nalas	Surkalan	Dadumajra	Salempur	Dabhali
1	pH (20% slurry)	-	8.35	8.32	8.26	8.16	8.18
2	Conductivity (20% slurry)	µmhos/cm	120	70	120	60	110
3	Organic Matter	%	0.82	0.80	0.90	0.78	0.88
4	Available Phosphorous	kg/ha	52	48	52	45	56
5	Available Nitrogen	kg/ha	174	168	176	162	180
6	Nickel as Ni	mg/kg	8.5	7.5	6.8	6.5	7.2
7	Copper as Cu	mg/kg	3.2	3.5	2.5	2.8	2.8
8	Cadmium as Cd	mg/kg	ND	ND	ND	ND	ND
9	Chromium as Cr	mg/kg	0.18	0.16	0.12	0.10	0.14

10	Iron as Fe	mg/kg	2.8	4.2	3.2	3.8	3.5
11	Zinc as Zn	mg/kg	22	32	18	26	26
12	Lead as Pb	mg/kg	ND	ND	ND	ND	ND
13	Arsenic	mg/kg	ND	ND	ND	ND	ND
14	Mercury	mg/kg	ND	ND	ND	ND	ND

cont……..Soil Quality Test Results

	Parameters	Unit	Rangia	Harna	Haripur	Badali Maiki
1	pH (20% slurry)	-	7.98	7.90	8.38	7.96
2	Conductivity (20% slurry)	µmhos/cm	60	110	90	50
3	Organic Matter	%	0.80	0.92	0.88	0.78
4	Available Phosphorous	kg/ha	45	58	52	45
5	Available Nitrogen	kg/ha	172	180	182	170
6	Nickel as Ni	mg/kg	6.5	7.8	8.2	6.2
7	Copper as Cu	mg/kg	2.2	2.5	3.8	2.8
8	Cadmium as Cd	mg/kg	ND	ND	ND	ND
9	Chromium as Cr	mg/kg	0.10	0.12	0.18	0.14
10	Iron as Fe	mg/kg	2.8	2.5	3.5	2.2
11	Zinc as Zn	mg/kg	22	24	28	20
12	Lead as Pb	mg/kg	ND	ND	ND	ND
13	Arsenic	mg/kg	ND	ND	ND	ND
14	Mercury	mg/kg	ND	ND	ND	ND

2.6 Heavy Metals in Food Samples

Rice, dal, wheat and maize and locally grown vegetables are the staple food of the people of this area. Chicken, goat meat and eggs are also consumed by about 30% people. Samples of rice, dal, wheat, gram, pulses, potato, onion, tomato were collected from 9 crop fields around the power plant. No heavy metals were detected in any of the food samples (heavy metals like Arsenic, mercury, cadmium, chromium, lead and nickel were found to be less than 0.1 mg/kg).

CHAPTER 3: BASELINE HEALTH STATUS

3.1 Pre-Project Data of Human Health

Village-wise or Taluk-wise health records of population of villages of the study area is not available with the Health Department of State Government.

3.2 Primary Health Survey

A cross-sectional study is an observational one. The defining feature of a cross-sectional study is that it can compare different population groups at a single point in time. This is like taking a snapshot. Findings are drawn from whatever fits into the frame. The benefit of a cross-sectional study design is that it allows comparing many different variables at the same time. However, cross-sectional studies may not provide definite information about cause-and-effect relationships. This is because such studies offer a snapshot of a single moment in time; they do not consider what happens before or after the snapshot is taken.

Principally two issues were focused during the survey; i) the types of health problems likely to be caused by discharges from coal based thermal power plant and ii) the spectrum of health problems that the subjects living in the study area might experience when exposed to different environmental media.

Suitable random sample of people living in the impact and non-impact zone was considered for health check-up. The sample people live, eat and work in similar microenvironment and are likely to be exposed to similar environmental pollutants. For completing the exercise designed questionnaire was used. The design of the questionnaire was “Interviewer Administered”.

Primary heath survey was carried out by organizing health camps at five (5) locations during the period 07-12-2022 to 09-12-2022. The selected locations represented the highest and moderate impact area and control area due to stack emissions from NPL. Cross-sectional population was screened for the health check-up. Health check-up was done using a questionnaire. Each subject was initially asked questions by the team and then the health checkup was done by a qualified Doctor.

A total of 309 subjects includes children, adolescents, adults and elderly, who were exposed in the existing environment for more than 5 years. The selected locations for carrying out health survey is provided in Table 6 and marked in Figure 6.

Table 5: Name of Locations Selected for Carrying out Health Survey

S. No	Location	Distance & Direction from NPL	Impacted / Control Area	Date of Health Check-up	Persons Checked
1	Surkalan	1.7 Km, West	Slightly Impacted	08-12-2022 (FN)	74
2	Dabhali	3.8 Km, South	Moderately Impacted	07-12-2022 (AN)	38
3	Dadumajra	3.5 Km, North	Slightly impacted	08-12-2022 (AN)	110
4	Nalas	2.0 Km, South East	Severely Impacted	07-12-2022 (FN)	44
5	Bakshiwala	4.5 Km, South West	Non-Impacted	09-12-2022 (FN)	43
	Total				309

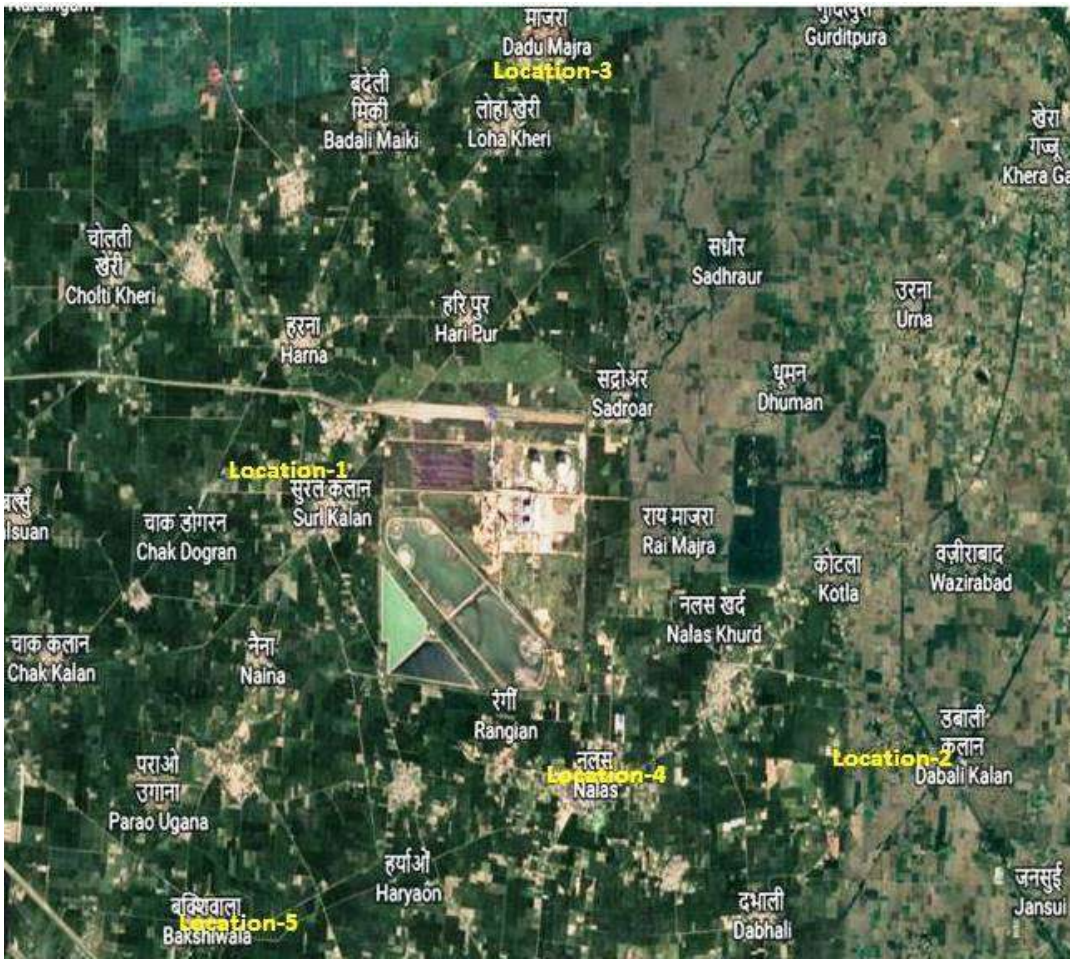


Figure 7 Health Survey Locations Marked on Google Image

3.3 Findings of Primary Health Survey

Five vital signs were observed for each subject; namely height, weight, temperature, blood pressure and pulse rate. General appearance of each subject like development and nutrition status, body habits, deformities, attention to grooming, cleanliness of nail, skin, hair and tongue were also noted. Lung Function was done for willing and capable subjects. ECG was done for subjects who complained of heart problems and as recommended by the Doctor-in-charge. Routine urine test and blood test were done for subjects who were recommended by the Doctor-in-charge.

The physical examination included the following parameters:

HEENT (Head, Eyes, Ears, Nose, Throat)

Head: Size and shape

Eyes: Inspection of conjunctivae and lids, Examination of pupils and irises (e.g., reaction to light and accommodation, size and symmetry).

Ears, Nose and Throat: External inspection of ears and nose (e.g., overall appearance, scars, lesions, masses), Otoscopic examination of external auditory canals and tympanic membranes, Assessment of hearing (e.g., whispered voice, finger rub, tuning fork), Inspection of nasal mucosa, septum and turbinate, Inspection of lips, teeth and gums, Examination of pharynx, oral mucosa, salivary glands, hard and soft palates, tongue, tonsils and posterior pharynx.

Neck: Examination of neck (e.g., masses, overall appearance, symmetry, tracheal position, crepitus), Examination of thyroid (e.g., enlargement, tenderness, mass)

Respiratory System: Assessment of respiratory effort (e.g., intercostal retractions, use of accessory muscles, diaphragmatic movement), Percussion of chest (e.g., dullness, flatness, hyper-resonance), Palpation of chest (e.g., tactile fremitus), Auscultation of lungs (e.g., breath sounds, adventitious sounds, rubs), Lung Function using Peak Expiratory Function Meter.

Cardiovascular System: Palpation of heart (e.g., location, size, thrills), Auscultation of heart with notation of abnormal sounds and murmurs, examination of carotid arteries (e.g., pulse amplitude, bruits), abdominal aorta (e.g., size, bruits), femoral arteries (e.g., pulse amplitude, bruits), pedal pulses (e.g., pulse amplitude) and extremities for edema and/or varicosities

3.4 Body Mass Index (BMI)

BMI is calculated using the weight and height of the people. Normal BMI ranges from 18.5 kg/m^2 – 24.9 kg/m^2. Person with BMI below 18.5 kg/$m^2$is termed underweight and above 25 kg/m^2 is overweight. People with BMI greater than 30 kg/m^2 are termed obese.

Table 6 : BMI Results of the Five Sampling Locations (n= 309)

	Name of Location	Normal Weight (%)	Overweight (%)	Obese %	Underweight (%)
1	Surkalan	37.83	28.37	8.1	25.67
2	Dabhalikalan	31.57	28.95	34.21	5.26
3	Dadumajra	45.45	16.36	5.4	32.72
4	Nalas	59.1	20.45	20.45	0
5	Bakshiwala	65.11	23.25	11.63	0

Majority of people in Bakshiwala and Nalash were found to have normal weight. Majority of people in Dabhalii and Surkalan were found to be overweight. 32.72% people of Dadumajra were found to be underweight. 34.21% people of Dabhali were found to be Obese.

3.5 Lung Function Test

The peak expiratory flow rate (PEFR) is a test that measures how fast a person can exhale (breathe out). This test checks lung functioning, and is often used by patients who have asthma. Asthma is a chronic condition characterized by ongoing inflammation of the airways. Common asthma symptoms include shortness of breath that worsens with activity, wheezing, and cough. The flow of exhaled air from the lungs may be restricted due to inflammation or congestion from excess mucous.

The basic pulmonary function as per the standard prescribed by the American Thoracic Society was conducted [including the equipment that met the specifications so as to have reproducible and reliable measurements of lung functions]. Each subject was educated before the Spirometry that was undertaken by a trained person in a comfortable and sitting posture so as to get the best value. Out of the three attempts made by each subject, best value is selected.

Table 7: Normal PEF Values for Males (l / min)

Age in years	PEF Values of People of Specified Height and Years				
	60”	65”	70”	75”	80”
20	554	602	649	693	740
25	543	590	636	679	725
30	532	577	622	664	710
35	521	565	609	651	695
40	509	552	596	636	680
45	498	540	583	622	665
50	486	527	569	607	649
55	475	515	556	593	634
60	463	502	542	578	618
65	452	490	529	564	603
70	440	477	515	550	587

Table 8: Normal PEF Values for Females (l / min)

Age in years	PEF Values of People of Specified Height and Years				
	60”	65”	70”	75”	80”
20	390	423	460	496	529
25	385	418	454	490	523
30	380	413	448	483	516
35	375	408	442	476	509
40	370	402	436	470	502
45	365	397	430	464	495
50	360	391	424	457	488
55	355	386	418	451	482
60	350	380	412	445	475
65	345	375	406	439	468
70	340	369	400	432	461

Table 9: Normal PEF Values for Adolescents (l / min)

Height (Inches)	Males & Females
43”	147
44”	160
45”	173
46”	187
47”	200
48”	214
49”	227
50”	240
51”	254
52”	267

53”	280
54”	293
55”	307
56”	320
57”	334
58”	347
59”	360
60”	373
61”	387
62”	400
63”	413
64”	427
65”	440
66”	454

Table 10: Results of Lung Function Test

Location	Males		Females	
	Normal PEF % population	Below Normal PEF % population	Normal PEF % population	Below Normal PEF % population
Surkalan	90	10	93	7
Dabhalikalan	91	9	92	8
Dadumajra	92	8	92	8
Nalash	90	10	90	10
Bakshiwala	93	8	95	5

Observation: 93% males and 95% females of the study area have normal lung function. This shows a healthy population status of the study area.

3.6. General Health Parameters

Majority of subjects were from good to moderate socio economic background but their health was not under any stress due to environmental factors, nutritional factors, or availability of primary health care, etc. The general hygiene related to nails, skin and teeth of the people were found to be good. Malnutrition was absent. No disease or any chronic condition that could be related to environmental pollution has been observed in the population of study area.

None of the people reported cancer, gross neurologic, cardiovascular, hepatic or renal damage/ There was not a single case of congenital abnormality.

Table 11 General Health Disorders Found in Population around NPL

S. No	Disorders	% cases observed
Cardiovascular Disorders		
1	Persistent chest pain	2
2	Abnormal pulse rate	1
3	Hypertension	7
Respiratory Disorders		
1	Cough	5.8
2	Headache	11
3	Breathlessness	3
4	Asthma	0
5	Chronic Obstructive Pulmonary Disease (COPD)	0
Other Health Disorders		
1	Dental problems	10
2	Joint pain	26
2	Diabetes Mellitus	14
3	Eye Disorder	8
4	Low hemoglobin in Females	15
5	Low hemoglobin in Males	10

Table 12: Cases of Health Disorders found in Population around NPL

	Name of Disorders	%		Name of Disorders	%
1	**Eye Checkup**		**4**	**Dental Checkup**	
	Corneal clouding	0.8		Fluorosis	0.6
	Conjunctival Xerosis	1		Leadline	0.4
	Muddy conjunctiva	0.8		Bleeding gums	1.2
	Cataract	4		Dental caries	2
2	**Ear Check up**			Pyorrhea	3
	Ear ache	0.4	5	**Skin check up**	
	Ear discharge	0		Dermatitis	2
	Deafness	0.4		Rash	1
	Ear Infection	0.4		Fungal or Bacterial Infection	1
3	**Tongue check up**		6	Oedema (Present)	0.4
	Desquamation		7	Tonsils (Enlarged)	0.4
	Thrush	1	8	Neck lymph nodes (enlarged)	0.4
	Protruded	1			

Table 13- Results of Health Survey: Category of Disease Vs. Age Group

LOCATION 1 SURKALAN					
Category of Disease	**% of Cases Reported in Following Age Groups**				
	Children (5 to 12)	**Adolescence (12+ to 18)**	**Adult (18+ to 40)**	**Middle Age (40+ to 60)**	**Elderly Above 60**
Addiction				1	
High BP			3	15	17
Low BP			4	1	1
Coughing			4	4	5
Fever			3		2
Headache			8	3	8
Breathlessness				1	3
Chest Pain			1		1
LOCATION 2 DABHALIKALAN					
Category of Disease	**% of Cases Reported in Following Age Groups**				
	Children	**Adolescence**	**Adult**	**Middle Age**	**Above 60**
Addiction					
High BP			13	24	21
Low BP		1		2	
Coughing		4	2		4
Fever	2	4	1		
Headache			10	5	8
Breathlessness			3		
Chest Pain				2	
LOCATION 3 DADUMAJRA					
Category of Disease	**% of Cases Reported in Following Age Groups**				
	Children	**Adolescence**	**Adult**	**Middle Age**	**Above 60**
Addiction				1	
High BP			3	11	14
Low BP			1		
Coughing				1	1
Fever					2
Headache			3	1	6
Breathlessness					
Chest Pain			1		2
LOCATION 4 NALASH					
Category of Disease	**% of Cases Reported in Following Age Groups**				
	Children	**Adolescence**	**Adult**	**Middle Age**	**Above 60**
Addiction				1	
High BP			6	10	45
Low BP					

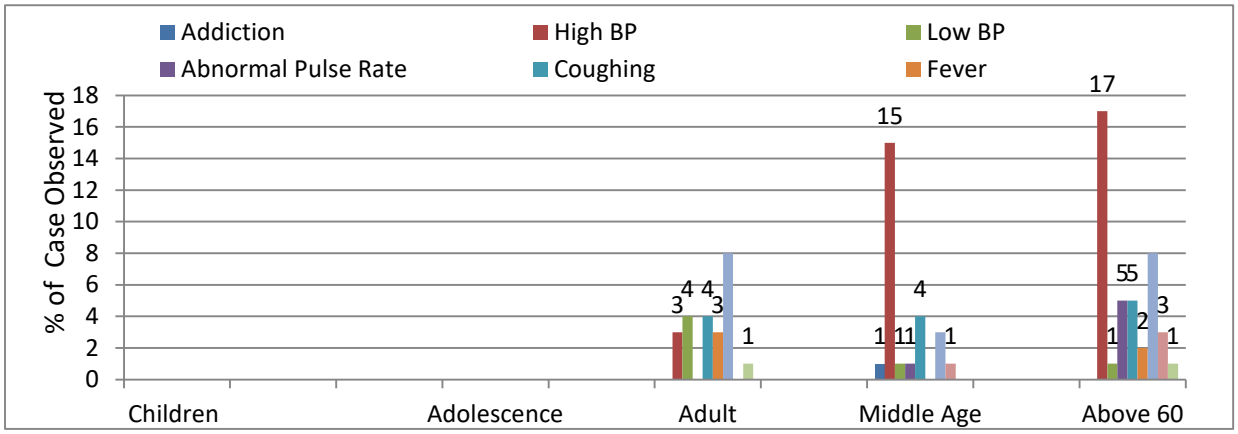
Coughing			2		4
Fever	1	1	2		6
Headache			2	2	10
Breathlessness					
Chest Pain			1		2
LOCATION 5 BAKSHIWALA					
Category of Disease	**% of Cases Reported in Following Age Groups**				
	Children	**Adolescence**	**Adult**	**Middle Age**	**Above 60**
Addiction					
High BP			9	25	23
Low BP					
Coughing		1	3	3	
Headache			2	14	10
Breathlessness					
Chest Pain					

Table 14 Summary of Health Checkup Done at Five Locations

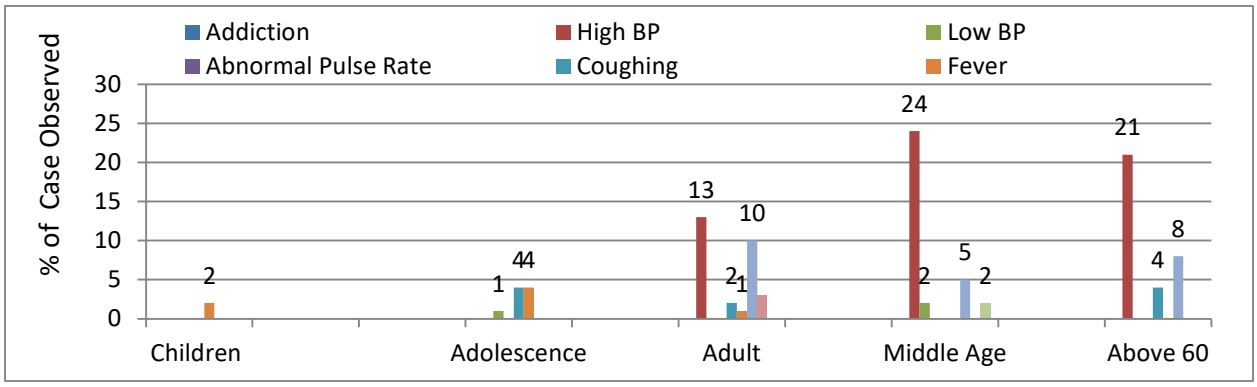
	Name of Location	Over Weight	Cough	High BP	Headache	Other Noted Health Problems
1	Surkalan Slightly impacted	28	13	35	19	Knee joint pain in elderly
2	Dabhali kalan Moderately impacted	29	10	58	23	-
3	Dadumajra Slightly impacted	16	2	28	10	Knee joint pain in elderly
4	Nalash Severely impacted	20	6	61	14	-
5	Bakshiwala Non-Impacted -Control)	23	7	57	26	-

3.7 Observation on Each Locations

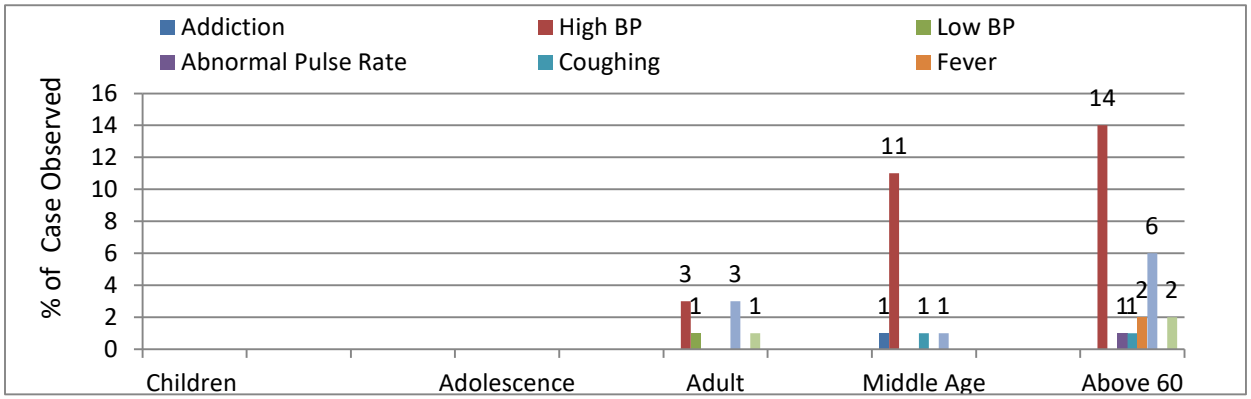
1. Surkalan: 3% of adult age and 2% of aged were suffering from fever. 4% adult, 4% middle age and 5% of aged were suffering from coughing. 3% of adult age, 15% of middle aged and 17% of elderly aged have high BP. 4% of adult age, 1% of middle aged and 1% of elderly aged have low BP. 1% of adult and 1% of aged were suffering from prominent chest pain. 8% of adult, 3 % of middle aged 8% of aged were suffering from headache. No people were suffering from asthma and COPD were reported.



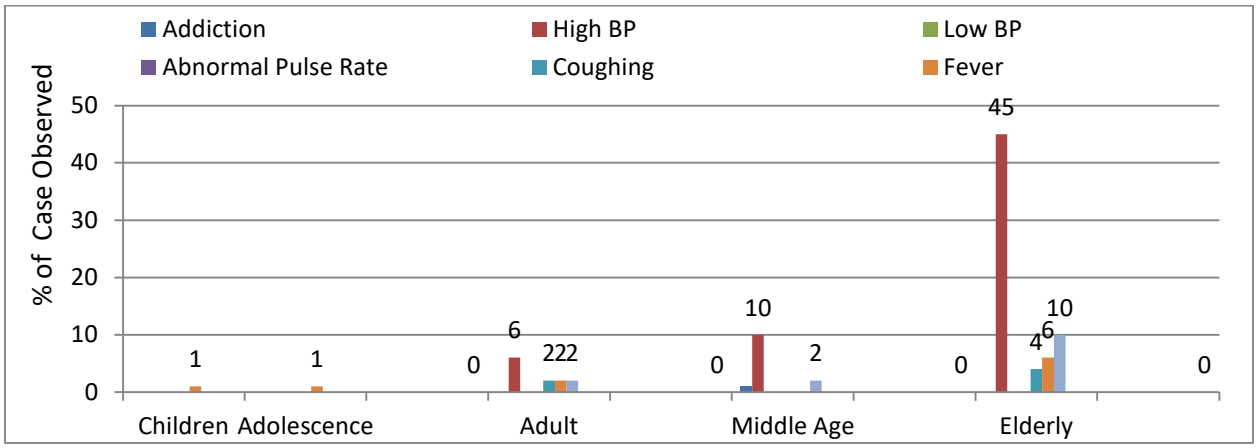
2. Dabhalikalan: 2% children, 4% adolescence and 1% of adult aged were suffering from fever. 4% adolescence, 2% adult and 4% of aged were suffering from coughing. 13% of adult age, 24% of middle aged and 21% of elderly aged have high BP. 1% of adolescence age and 2% of middle aged have low BP. 2% of middle age was suffering from prominent chest pain. 10% of adult, 5 % of middle aged 8% of aged were suffering from headache. No cases of asthma and COPD were reported.



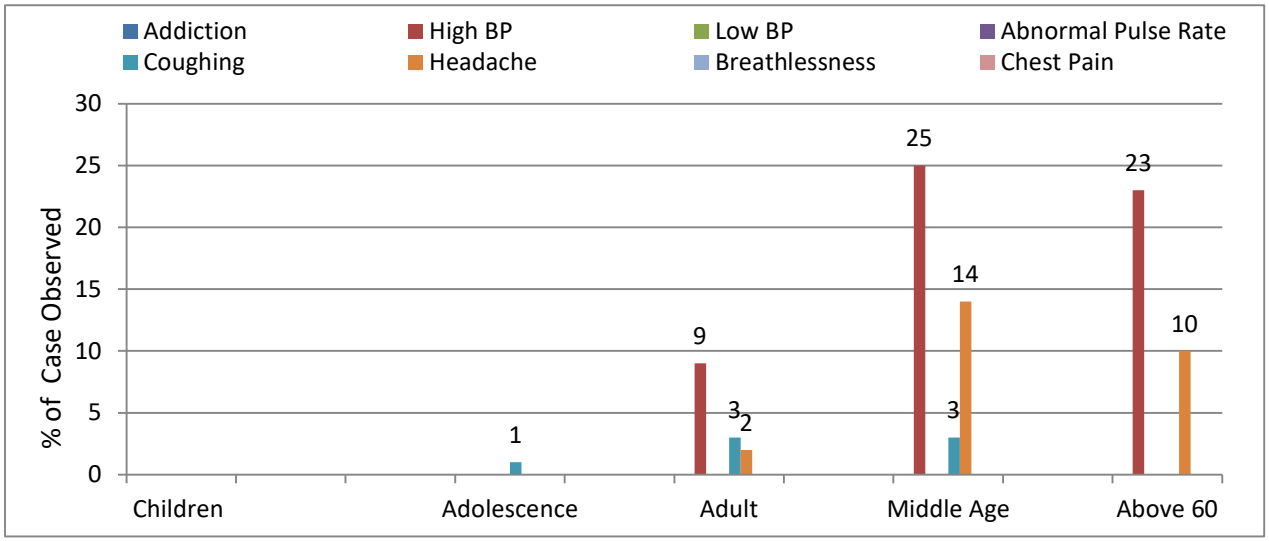
3. Dadumajra: 2% of aged were suffering from fever.1% middle age and 1% of aged were suffering from coughing. 3% of adult age, 11% of middle aged and 14% of elderly aged have high BP. 1% of adult age have low BP. 1% of adult and 2% of aged were suffering from prominent chest pain. 3% of adult, 1 % of middle aged 6% of aged were suffering from headache. No people were suffering from asthma and COPD were reported.



4. Nalash: 1% children, 1% adolescence 2% adult and 6% of aged were suffering from fever. 2% adult and 4% of aged were suffering from coughing. 6% of adult age, 10% of middle aged and 45% of elderly aged have high BP. 1% of adult and 2% of aged was suffering from prominent chest pain. 2% of adult, 2 % of middle aged 10% of aged were suffering from headache. No cases of asthma and COPD were reported.



5. Bakshiwala: 1% adolescence, 3% adult and 3% middle age were suffering from coughing. 9% of adult age, 25% of middle aged and 23% of elderly aged have high BP. 2% of adult, 14 % of middle aged 10% of aged were suffering from headache. No people were suffering from asthma and COPD were reported.


Addiction
High BP
Low BP
Abnormal Pulse Rate
Coughing
Headache
Breathlessness
Chest Pain
% of Case Observed
30
25
20
15
10
5
0
1
9
3
2
25
3
14
23
10
Children
Adolescence
Adult
Middle Age
Above 60

CHAPTER 4 : SUMMARY & RECOMMENDATION

a. Air Environment: The ambient air quality of the impacted and non-impacted areas is found to be well-within the prescribed National Standards.

b. Water Environment: The ground water samples were found to meet the BIS standards at all locations. The surface water sample were found to meet the Best Designated Use Criteria 'C' of CPCB (fit for irrigation and drinking after conventional treatment).

c. Soil Environment: Lead, nickel, arsenic, mercury, cobalt, cadmium, chromium levels were found to be within the normal level. Organic matter was found to be suffience, conductivity was found to be normal and pH was found to be moderately alkaline.

d. Crops and vegetables: No heavy metals were detected in the crops and vegetable samples.

e. Impact on Human Health: Human Health Survey: Human health profiling was done for 309 resident people of five villages, who are exposed to the existing environment for more than seven years. High BP was found in majority of male adults; Nalash - 61%, Dhabali - 58% Bakshiwala - 57% and Surkalan - 35%. Major complaints of elderly people in Surkalan and Dadumajra were related to pain in knee joints.

No cases of respiratory disorders linked to air pollution like Bronchitis, Asthma or Chronic Obstructive Pulmonary Disorder were found in the people. No disease or any chronic condition that could be related to air pollution / effluent discharges from coal based power plant has been observed in the population of the study area. None of the people in the study area reported any serious health problem such as Cancer, Gross Neurologic, Hepatic or Renal Damage and Congenital Abnormality.

Recommendation

Considering the fact that there is a growing international pressure against coal based thermal power plants bacause it is perceived that the emission and discharges are causative factors for some adverse human health impacts, the health study should be continuously done after a gap of two years or as suggested by the regulatory authorities.

APPENDIX - A

REFERENCES

REFERENCES

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NIOSH (National Institute for Occupational Safety and Health). 2000. The NIOSH Pocket Guide to Chemical Hazards. Cincinnati, OH.

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APPENDIX-B

PHOTO GALLERY

HEALTH CHECKEUP CAMP SURAL KALAN

HEALTH CHECKEUP CAMP SURAL KALAN






HEALTH CHECKEUP CAMP DABHALIKALAN






HEALTH CHECKEUP CAMP DADUMAJRA






HEALTH CHECKEUP CAMP NALAS

HEALTH CHECKEUP CAMP BAKSHIWALA

APPENDIX-C

TEST RESULTS

EMTRC CONSULTANTS PRIVATE LIMITED

EMTRC Lab: Recognized by Ministry of Environment, Forests & Climate Change, Govt. of India

Gazette Notification SO: 3744 (E), 17-10-2019 Accredited by NABL - ISO/IEC 17025:2005 (TC-7376)

Registered Office Tower 5 / 102 (FF), CWG village, NH24, Near Akshardham Temple, Delhi 110092

Phone: 9810032481, 011 21211228, email: emtrcjkm@gmail.com , website: www.emtrc.in

----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 01/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Ground Water
Date of Sampling : 17-10-2022
Location of Sampling : Nalash
Sampling Procedure : Grab Sampling
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Test Methods	RESULTS	Acceptable Limit IS:10500:2012	Permissible Limit IS:10500:2012
1	pH	-	APHA-4500	8.14	6.5 to 8.5	No relaxation
2	Conductivity	μmhos/cm	APHA-2510	1120	-	-
3	Turbidity	NTU	APHA-2030B	1.5	5	15
4	Total Dissolved Solids	mg/l	APHA-2540B	790	500	2000
5	Total Hardness as $CaCO_3$	mg/l	APHA-2340C	210	200	600
6	Calcium as Ca	mg/l	APHA-4500B	60	75	200
7	Magnesium as Mg	mg/l	APHA-4500B	14.6	30	100
8	Sulphate	mg/l	APHA-4500B	72	200	400
9	Chlorides as Cl	mg/l	APHA-4500B	90	250	1000
10	Nitrates as NO_3	mg/l	APHA-4500	8.5	45	No relaxation
11	Fluoride as F	mg/l	APHA-4500D	0.54	1.0	1.5
12	Iron as Fe	mg/l	APHA-3111B	0.18	0.3	No relaxation
13	Copper as Cu	mg/l	APHA-3111B	<0.02	0.05	1.5
14	Lead as Pb	mg/l	APHA-3111B	<0.01	0.01	No relaxation
15	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.1	0.3
16	Zinc as Zn	mg/l	APHA-3111B	0.58	5	15
17	Chromium	mg/l	APHA-3111B	<0.005	0.05	No relaxation
18	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.02	No relaxation
19	Oil & Grease	mg/l	APHA-5520D	Nil		0.03
20	Cadmium as Cd	mg/l	APHA-3111B	<0.001	0.003	No relaxation
21	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001	No relaxation
22	Arsenic as As	mg/l	APHA-3111B	<0.002	0.01	0.05
23	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01	No relaxation
24	Total coliform	MPN/100 ml	APHA-9230B	Nil	Nil	Nil

Authorized Signatory
MUKESH KUMAR

EMTRC CONSULTANTS PRIVATE LIMITED

EMTRC Lab: Recognized by Ministry of Environment, Forests & Climate Change, Govt. of India

Gazette Notification SO: 3744 (E), 17-10-2019 Accredited by NABL - ISO/IEC 17025:2005 (TC-7376)

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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 02/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Ground Water
Date of Sampling : 17-10-2022
Location of Sampling : Surkalan
Sampling Procedure : Grab Sampling
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Test Methods	RESULTS	Acceptable Limit IS:10500:2012	Permissible Limit IS:10500:2012
1	pH	-	APHA-4500	7.41	6.5 to 8.5	No relaxation
2	Conductivity	μmhos/cm	APHA-2510	890	-	-
3	Turbidity	NTU	APHA-2030B	<1	5	15
4	Total Dissolved Solids	mg/l	APHA-2540B	630	500	2000
5	Total Hardness as $CaCO_3$	mg/l	APHA-2340C	260	200	600
6	Calcium as Ca	mg/l	APHA-4500B	64	75	200
7	Magnesium as Mg	mg/l	APHA-4500B	24	30	100
8	Sulphate	mg/l	APHA-4500B	58	200	400
9	Chlorides as Cl	mg/l	APHA-4500B	72	250	1000
10	Nitrates as NO_3	mg/l	APHA-4500	7.5	45	No relaxation
11	Fluoride as F	mg/l	APHA-4500D	0.45	1.0	1.5
12	Iron as Fe	mg/l	APHA-3111B	0.12	0.3	No relaxation
13	Copper as Cu	mg/l	APHA-3111B	<0.02	0.05	1.5
14	Lead as Pb	mg/l	APHA-3111B	<0.01	0.01	No relaxation
15	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.1	0.3
16	Zinc as Zn	mg/l	APHA-3111B	0.48	5	15
17	Chromium	mg/l	APHA-3111B	<0.005	0.05	No relaxation
18	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.02	No relaxation
19	Oil & Grease	mg/l	APHA-5520D	Nil		0.03
20	Cadmium as Cd	mg/l	APHA-3111B	<0.001	0.003	No relaxation
21	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001	No relaxation
22	Arsenic as As	mg/l	APHA-3111B	<0.002	0.01	0.05
23	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01	No relaxation
24	Total coliform	MPN/100 ml	APHA-9230B	Nil	Nil	Nil

Authorized Signatory
MUKESH KUMAR

EMTRC CONSULTANTS PRIVATE LIMITED

EMTRC Lab: Recognized by Ministry of Environment, Forests & Climate Change, Govt. of India

Gazette Notification SO: 3744 (E), 17-10-2019 Accredited by NABL - ISO/IEC 17025:2005 (TC-7376)

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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 03/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Ground Water
Date of Sampling : 17-10-2022
Location of Sampling : Dadumajra
Sampling Procedure : Grab Sampling
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Test Methods	RESULTS	Acceptable Limit IS:10500:2012	Permissible Limit IS:10500:2012
1	pH	-	APHA-4500	8.14	6.5 to 8.5	No relaxation
2	Conductivity	μmhos/cm	APHA-2510	850	-	-
3	Turbidity	NTU	APHA-2030B	<1	5	15
4	Total Dissolved Solids	mg/l	APHA-2540B	590	500	2000
5	Total Hardness as $CaCO_3$	mg/l	APHA-2340C	210	200	600
6	Calcium as Ca	mg/l	APHA-4500B	56	75	200
7	Magnesium as Mg	mg/l	APHA-4500B	17	30	100
8	Sulphate	mg/l	APHA-4500B	52	200	400
9	Chlorides as Cl	mg/l	APHA-4500B	60	250	1000
10	Nitrates as NO_3	mg/l	APHA-4500	7.2	45	No relaxation
11	Fluoride as F	mg/l	APHA-4500D	0.42	1.0	1.5
12	Iron as Fe	mg/l	APHA-3111B	0.08	0.3	No relaxation
13	Copper as Cu	mg/l	APHA-3111B	<0.02	0.05	1.5
14	Lead as Pb	mg/l	APHA-3111B	<0.01	0.01	No relaxation
15	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.1	0.3
16	Zinc as Zn	mg/l	APHA-3111B	0.40	5	15
17	Chromium	mg/l	APHA-3111B	<0.005	0.05	No relaxation
18	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.02	No relaxation
19	Oil & Grease	mg/l	APHA-5520D	Nil		0.03
20	Cadmium as Cd	mg/l	APHA-3111B	<0.001	0.003	No relaxation
21	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001	No relaxation
22	Arsenic as As	mg/l	APHA-3111B	<0.002	0.01	0.05
23	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01	No relaxation
24	Total coliform	MPN/100 ml	APHA-9230B	Nil	Nil	Nil

Authorized Signatory
MUKESH KUMAR

EMTRC CONSULTANTS PRIVATE LIMITED

EMTRC Lab: Recognized by Ministry of Environment, Forests & Climate Change, Govt. of India

Gazette Notification SO: 3744 (E), 17-10-2019 Accredited by NABL - ISO/IEC 17025:2005 (TC-7376)

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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 04/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Ground Water
Date of Sampling : 17-10-2022
Location of Sampling : Salempur
Sampling Procedure : Grab Sampling
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Test Methods	RESULTS	Acceptable Limit IS:10500:2012	Permissible Limit IS:10500:2012
1	pH	-	APHA-4500	8.18	6.5 to 8.5	No relaxation
2	Conductivity	μmhos/cm	APHA-2510	880	-	-
3	Turbidity	NTU	APHA-2030B	1.8	5	15
4	Total Dissolved Solids	mg/l	APHA-2540B	620	500	2000
5	Total Hardness as $CaCO_3$	mg/l	APHA-2340C	260	200	600
6	Calcium as Ca	mg/l	APHA-4500B	68	75	200
7	Magnesium as Mg	mg/l	APHA-4500B	22	30	100
8	Sulphate	mg/l	APHA-4500B	65	200	400
9	Chlorides as Cl	mg/l	APHA-4500B	80	250	1000
10	Nitrates as NO_3	mg/l	APHA-4500	10.5	45	No relaxation
11	Fluoride as F	mg/l	APHA-4500D	1.24	1.0	1.5
12	Iron as Fe	mg/l	APHA-3111B	0.22	0.3	No relaxation
13	Copper as Cu	mg/l	APHA-3111B	<0.02	0.05	1.5
14	Lead as Pb	mg/l	APHA-3111B	<0.01	0.01	No relaxation
15	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.1	0.3
16	Zinc as Zn	mg/l	APHA-3111B	0.82	5	15
17	Chromium	mg/l	APHA-3111B	<0.005	0.05	No relaxation
18	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.02	No relaxation
19	Oil & Grease	mg/l	APHA-5520D	Nil		0.03
20	Cadmium as Cd	mg/l	APHA-3111B	<0.001	0.003	No relaxation
21	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001	No relaxation
22	Arsenic as As	mg/l	APHA-3111B	<0.001	0.01	0.05
23	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01	No relaxation
24	Total coliform	MPN/100 ml	APHA-9230B	Nil	Nil	Nil

Authorized Signatory
MUKESH KUMAR

EMTRC CONSULTANTS PRIVATE LIMITED

EMTRC Lab: Recognized by Ministry of Environment, Forests & Climate Change, Govt. of India

Gazette Notification SO: 3744 (E), 17-10-2019 Accredited by NABL - ISO/IEC 17025:2005 (TC-7376)

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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 05/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Ground Water
Date of Sampling : 17-10-2022
Location of Sampling : Dhabali
Sampling Procedure : Grab Sampling
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Test Methods	RESULTS	Acceptable Limit IS:10500:2012	Permissible Limit IS:10500:2012
1	pH	-	APHA-4500	7.78	6.5 to 8.5	No relaxation
2	Conductivity	μmhos/cm	APHA-2510	1980	-	-
3	Turbidity	NTU	APHA-2030B	2	5	15
4	Total Dissolved Solids	mg/l	APHA-2540B	1380	500	2000
5	Total Hardness as $CaCO_3$	mg/l	APHA-2340C	440	200	600
6	Calcium as Ca	mg/l	APHA-4500B	120	75	200
7	Magnesium as Mg	mg/l	APHA-4500B	34	30	100
8	Sulphate	mg/l	APHA-4500B	112	200	400
9	Chlorides as Cl	mg/l	APHA-4500B	280	250	1000
10	Nitrates as NO_3	mg/l	APHA-4500	12.5	45	No relaxation
11	Fluoride as F	mg/l	APHA-4500D	1.32	1.0	1.5
12	Iron as Fe	mg/l	APHA-3111B	0.26	0.3	No relaxation
13	Copper as Cu	mg/l	APHA-3111B	<0.02	0.05	1.5
14	Lead as Pb	mg/l	APHA-3111B	<0.01	0.01	No relaxation
15	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.1	0.3
16	Zinc as Zn	mg/l	APHA-3111B	1.08	5	15
17	Chromium	mg/l	APHA-3111B	<0.005	0.05	No relaxation
18	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.02	No relaxation
19	Oil & Grease	mg/l	APHA-5520D	Nil		0.03
20	Cadmium as Cd	mg/l	APHA-3111B	<0.001	0.003	No relaxation
21	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001	No relaxation
22	Arsenic as As	mg/l	APHA-3111B	<0.001	0.01	0.05
23	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01	No relaxation
24	Total coliform	MPN/100 ml	APHA-9230B	Nil	Nil	Nil

Authorized Signatory
MUKESH KUMAR

EMTRC CONSULTANTS PRIVATE LIMITED

EMTRC Lab: Recognized by Ministry of Environment, Forests & Climate Change, Govt. of India

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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 02/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Ground Water
Date of Sampling : 17-10-2022
Location of Sampling : Rangia
Sampling Procedure : Grab Sampling
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Test Methods	RESULTS	Acceptable Limit IS:10500:2012	Permissible Limit IS:10500:2012
1	pH	-	APHA-4500	7.89	6.5 to 8.5	No relaxation
2	Conductivity	μmhos/cm	APHA-2510	920	-	-
3	Turbidity	NTU	APHA-2030B	1.5	5	15
4	Total Dissolved Solids	mg/l	APHA-2540B	650	500	2000
5	Total Hardness as $CaCO_3$	mg/l	APHA-2340C	250	200	600
6	Calcium as Ca	mg/l	APHA-4500B	60	75	200
7	Magnesium as Mg	mg/l	APHA-4500B	24	30	100
8	Sulphate	mg/l	APHA-4500B	72	200	400
9	Chlorides as Cl	mg/l	APHA-4500B	85	250	1000
10	Nitrates as NO_3	mg/l	APHA-4500	9.2	45	No relaxation
11	Fluoride as F	mg/l	APHA-4500D	0.40	1.0	1.5
12	Iron as Fe	mg/l	APHA-3111B	0.12	0.3	No relaxation
13	Copper as Cu	mg/l	APHA-3111B	<0.02	0.05	1.5
14	Lead as Pb	mg/l	APHA-3111B	<0.01	0.01	No relaxation
15	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.1	0.3
16	Zinc as Zn	mg/l	APHA-3111B	0.75	5	15
17	Chromium	mg/l	APHA-3111B	<0.005	0.05	No relaxation
18	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.02	No relaxation
19	Oil & Grease	mg/l	APHA-5520D	Nil		0.03
20	Cadmium as Cd	mg/l	APHA-3111B	<0.001	0.003	No relaxation
21	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001	No relaxation
22	Arsenic as As	mg/l	APHA-3111B	<0.001	0.01	0.05
23	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01	No relaxation
24	Total coliform	MPN/100 ml	APHA-9230B	Nil	Nil	Nil

Authorized Signatory
MUKESH KUMAR

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Gazette Notification SO: 3744 (E), 17-10-2019 Accredited by NABL - ISO/IEC 17025:2005 (TC-7376)

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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 07/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Ground Water
Date of Sampling : 17-10-2022
Location of Sampling : Harna
Sampling Procedure : Grab Sampling
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Test Methods	RESULTS	Acceptable Limit IS:10500:2012	Permissible Limit IS:10500:2012
1	pH	-	APHA-4500	7.68	6.5 to 8.5	No relaxation
2	Conductivity	μmhos/cm	APHA-2510	710	-	-
3	Turbidity	NTU	APHA-2030B	<1	5	15
4	Total Dissolved Solids	mg/l	APHA-2540B	510	500	2000
5	Total Hardness as $CaCO_3$	mg/l	APHA-2340C	260	200	600
6	Calcium as Ca	mg/l	APHA-4500B	64	75	200
7	Magnesium as Mg	mg/l	APHA-4500B	24	30	100
8	Sulphate	mg/l	APHA-4500B	62	200	400
9	Chlorides as Cl	mg/l	APHA-4500B	70	250	1000
10	Nitrates as NO_3	mg/l	APHA-4500	8.2	45	No relaxation
11	Fluoride as F	mg/l	APHA-4500D	1.14	1.0	1.5
12	Iron as Fe	mg/l	APHA-3111B	0.22	0.3	No relaxation
13	Copper as Cu	mg/l	APHA-3111B	<0.02	0.05	1.5
14	Lead as Pb	mg/l	APHA-3111B	<0.01	0.01	No relaxation
15	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.1	0.3
16	Zinc as Zn	mg/l	APHA-3111B	0.85	5	15
17	Chromium	mg/l	APHA-3111B	<0.005	0.05	No relaxation
18	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.02	No relaxation
19	Oil & Grease	mg/l	APHA-5520D	Nil		0.03
20	Cadmium as Cd	mg/l	APHA-3111B	<0.001	0.003	No relaxation
21	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001	No relaxation
22	Arsenic as As	mg/l	APHA-3111B	<0.001	0.01	0.05
23	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01	No relaxation
24	Total coliform	MPN/100 ml	APHA-9230B	Nil	Nil	Nil

Authorized Signatory
MUKESH KUMAR

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Gazette Notification SO: 3744 (E), 17-10-2019 Accredited by NABL - ISO/IEC 17025:2005 (TC-7376)

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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 08/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Ground Water
Date of Sampling : 17-10-2022
Location of Sampling : Haripur
Sampling Procedure : Grab Sampling
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Test Methods	RESULTS	Acceptable Limit IS:10500:2012	Permissible Limit IS:10500:2012
1	pH	-	APHA-4500	8.08	6.5 to 8.5	No relaxation
2	Conductivity	μmhos/cm	APHA-2510	980	-	-
3	Turbidity	NTU	APHA-2030B	1.5	5	15
4	Total Dissolved Solids	mg/l	APHA-2540B	690	500	2000
5	Total Hardness as $CaCO_3$	mg/l	APHA-2340C	210	200	600
6	Calcium as Ca	mg/l	APHA-4500B	60	75	200
7	Magnesium as Mg	mg/l	APHA-4500B	14.6	30	100
8	Sulphate	mg/l	APHA-4500B	72	200	400
9	Chlorides as Cl	mg/l	APHA-4500B	85	250	1000
10	Nitrates as NO_3	mg/l	APHA-4500	10.8	45	No relaxation
11	Fluoride as F	mg/l	APHA-4500D	1.24	1.0	1.5
12	Iron as Fe	mg/l	APHA-3111B	0.24	0.3	No relaxation
13	Copper as Cu	mg/l	APHA-3111B	<0.02	0.05	1.5
14	Lead as Pb	mg/l	APHA-3111B	<0.01	0.01	No relaxation
15	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.1	0.3
16	Zinc as Zn	mg/l	APHA-3111B	0.95	5	15
17	Chromium	mg/l	APHA-3111B	<0.005	0.05	No relaxation
18	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.02	No relaxation
19	Oil & Grease	mg/l	APHA-5520D	Nil		0.03
20	Cadmium as Cd	mg/l	APHA-3111B	<0.001	0.003	No relaxation
21	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001	No relaxation
22	Arsenic as As	mg/l	APHA-3111B	<0.001	0.01	0.05
23	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01	No relaxation
24	Total coliform	MPN/100 ml	APHA-9230B	Nil	Nil	Nil

Authorized Signatory
MUKESH KUMAR

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Gazette Notification SO: 3744 (E), 17-10-2019 Accredited by NABL - ISO/IEC 17025:2005 (TC-7376)

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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 09/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Ground Water
Date of Sampling : 17-10-2022
Location of Sampling : Badalimai
Sampling Procedure : Grab Sampling
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Test Methods	RESULTS	Acceptable Limit IS:10500:2012	Permissible Limit IS:10500:2012
1	pH	-	APHA-4500	8.12	6.5 to 8.5	No relaxation
2	Conductivity	μmhos/cm	APHA-2510	210	-	-
3	Turbidity	NTU	APHA-2030B	<1	5	15
4	Total Dissolved Solids	mg/l	APHA-2540B	150	500	2000
5	Total Hardness as $CaCO_3$	mg/l	APHA-2340C	52	200	600
6	Calcium as Ca	mg/l	APHA-4500B	16	75	200
7	Magnesium as Mg	mg/l	APHA-4500B	2.9	30	100
8	Sulphate	mg/l	APHA-4500B	28	200	400
9	Chlorides as Cl	mg/l	APHA-4500B	35	250	1000
10	Nitrates as NO_3	mg/l	APHA-4500	6.8	45	No relaxation
11	Fluoride as F	mg/l	APHA-4500D	0.42	1.0	1.5
12	Iron as Fe	mg/l	APHA-3111B	0.08	0.3	No relaxation
13	Copper as Cu	mg/l	APHA-3111B	<0.02	0.05	1.5
14	Lead as Pb	mg/l	APHA-3111B	<0.01	0.01	No relaxation
15	Manganese as Mn	mg/l	APHA-3111B	<0.05	0.1	0.3
16	Zinc as Zn	mg/l	APHA-3111B	0.25	5	15
17	Chromium	mg/l	APHA-3111B	<0.005	0.05	No relaxation
18	Nickel as Ni	mg/l	APHA-3111B	<0.01	0.02	No relaxation
19	Oil & Grease	mg/l	APHA-5520D	Nil		0.03
20	Cadmium as Cd	mg/l	APHA-3111B	<0.001	0.003	No relaxation
21	Mercury as Hg	mg/l	APHA-3111B	<0.001	0.001	No relaxation
22	Arsenic as As	mg/l	APHA-3111B	<0.001	0.01	0.05
23	Selenium as Se	mg/l	APHA-3111B	<0.01	0.01	No relaxation
24	Total coliform	MPN/100 ml	APHA-9230B	Nil	Nil	Nil

Authorized Signatory
MUKESH KUMAR

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Gazette Notification SO: 3744 (E), 17-10-2019 Accredited by NABL - ISO/IEC 17025:2005 (TC-7376)

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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 10/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Surface Water
Date of Sampling : 17-10-2022
Location of Sampling : Bhakra Nagal
Sampling Procedure : Grab Sampling
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Test Methods	RESULTS
1	pH	-	APHA-4500	7.82
2	Conductivity	μmhos/cm	APHA-2510	260
3	Turbidity	NTU	APHA-2030B	1.5
4	Temperature	^{0}C	APHA-4500	24
5	Total Dissolved Solids	mg/l	APHA-2540B	180
6	Total Hardness as $CaCO_3$	mg/l	APHA-2340C	110
7	Calcium as Ca	mg/l	APHA-4500B	36
8	Magnesium as Mg	mg/l	APHA-4500B	4.8
9	BOD	mg/l	IS:3025 P44 1993 (RA 2003)	2.5
10	COD	mg/l	APHA-5220C	15
11	Sulphate	mg/l	APHA-4500B	24
12	Chlorides as Cl	mg/l	APHA-4500B	32
13	Nitrates as NO_3	mg/l	APHA-4500	4.8
14	Fluoride as F	mg/l	APHA-4500D	0.38
15	Iron as Fe	mg/l	APHA-3111B	0.14
16	Copper as Cu	mg/l	APHA-3111B	<0.02
17	Lead as Pb	mg/l	APHA-3111B	<0.01
18	Manganese as Mn	mg/l	APHA-3111B	<0.05
19	Zinc as Zn	mg/l	APHA-3111B	0.32
20	Chromium	mg/l	APHA-3111B	<0.005
21	Nickel as Ni	mg/l	APHA-3111B	<0.01
22	Oil & Grease	mg/l	APHA-5520D	0.28
23	Cadmium as Cd	mg/l	APHA-3111B	<0.001
24	Mercury as Hg	mg/l	APHA-3111B	<0.001
25	Arsenic as As	mg/l	APHA-3111B	<0.001
26	Selenium as Se	mg/l	APHA-3111B	<0.01
27	Total coliform	MPN/100 ml	APHA-9230B	80

Authorized Signatory
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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 11/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Soil Sample
Date of Sampling : 17-10-2022
Sampling Procedure : SOP
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Nalash	Dhabali	Dadumajra	Surkalan	Salempur
1	pH (20% slurry)	-	8.35	8.18	8.26	8.32	8.16
2	Conductivity (20% slurry)	µmhos/cm	120	110	120	70	60
3	Organic Matter	%	0.82	0.88	0.90	0.80	0.78
4	Available Phosphorous	kg/ha	52	56	52	48	45
5	Available Nitrogen	kg/ha	174	180	176	168	162
6	Nickel as Ni	mg/kg	8.5	7.2	6.8	7.5	6.5
7	Copper as Cu	mg/kg	3.2	2.8	2.5	3.5	2.8
8	Cadmium as Cd	mg/kg	ND	ND	ND	ND	ND
9	Chromium as Cr	mg/kg	0.18	0.14	0.12	0.16	0.10
10	Iron as Fe	mg/kg	2.8	3.5	3.2	4.2	3.8
11	Zinc as Zn	mg/kg	22	26	18	32	26
12	Lead as Pb	mg/kg	ND	ND	ND	ND	ND
13	Arsenic	mg/kg	ND	ND	ND	ND	ND
14	Mercury	mg/kg	ND	ND	ND	ND	ND

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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 12/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Soil Sample
Date of Sampling : 17-10-2022
Sampling Procedure : SOP
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

	Parameters	Unit	Harna	Rangia	Badali Majra	Haripur
1	pH (20% slurry)	-	7.90	7.98	7.96	8.38
2	Conductivity (20% slurry)	µmhos/cm	110	60	50	90
3	Organic Matter	%	0.92	0.80	0.78	0.88
4	Available Phosphorous	kg/ha	58	45	45	52
5	Available Nitrogen	kg/ha	180	172	170	182
6	Nickel as Ni	mg/kg	7.8	6.5	6.2	8.2
7	Copper as Cu	mg/kg	2.5	2.2	2.8	3.8
8	Cadmium as Cd	mg/kg	ND	ND	ND	ND
9	Chromium as Cr	mg/kg	0.12	0.10	0.14	0.18
10	Iron as Fe	mg/kg	2.5	2.8	2.2	3.5
11	Zinc as Zn	mg/kg	24	22	20	28
12	Lead as Pb	mg/kg	ND	ND	ND	ND
13	Arsenic	mg/kg	ND	ND	ND	ND
14	Mercury	mg/kg	ND	ND	ND	ND

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MUKESH KUMAR

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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 12/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Fruits & Vegetables
Date of Sampling : 17-10-2022 & 18-10-2022
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Dhabali Village					
Parameter	**Unit**	**Grass**	**Milk**	**Rice**	**Wheat**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Dhabali Village					
Parameter	**Unit**	**Potato**	**Tomato**	**Onion**	**Chana Dal**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Authorized Signatory
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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 13/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Fruits & Vegetables
Date of Sampling : 17-10-2022 & 18-10-2022
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Dadumajra Village					
Parameter	**Unit**	**Grass**	**Jowar**	**Rice**	**Wheat**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Dadumajra Village					
Parameter	**Unit**	**Potato**	**Tomato**	**Onion**	**Green Chilli**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Authorized Signatory
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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 14/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Fruits & Vegetables
Date of Sampling : 17-10-2022 & 18-10-2022
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Nalash					
Parameter	**Unit**	**Grass**	**Gram**	**Rice**	**Wheat**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Nalash					
Parameter	**Unit**	**Potato**	**Tomato**	**Onion**	**Green Chilli**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Authorized Signatory
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----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 15/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Fruits & Vegetables
Date of Sampling : 17-10-2022 & 18-10-2022
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Salempur Village					
Parameter	**Unit**	**Grass**	**Jowar**	**Rice**	**Wheat**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Salempur Village					
Parameter	**Unit**	**Potato**	**Tomato**	**Onion**	**Tur Dal**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Authorized Signatory
MUKESH KUMAR

EMTRC CONSULTANTS PRIVATE LIMITED

EMTRC Lab: Recognized by Ministry of Environment, Forests & Climate Change, Govt. of India

Gazette Notification SO: 3744 (E), 17-10-2019 Accredited by NABL - ISO/IEC 17025:2005 (TC-7376)

Registered Office Tower 5 / 102 (FF), CWG village, NH24, Near Akshardham Temple, Delhi 110092

Phone: 9810032481, 011 21211228, email: emtrcjkm@gmail.com , website: www.emtrc.in

----------TEST REPORT----------

Date: 24-10-2022

Report No. : EMTRC/NPL - 16/2022
Issued To : Nabha Power Limited
Village Nalash, Tehsil Rajpura, District Patial, Punjab
No. of Pages : 1 of 1
Type of Sample : Fruits & Vegetables
Date of Sampling : 17-10-2022 & 18-10-2022
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Surkalan Village					
Parameter	**Unit**	**Grass**	**Jowar**	**Rice**	**Wheat**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Surkalan Village					
Parameter	**Unit**	**Potato**	**Tomato**	**Onion**	**Chana Dal**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

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Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Rangia Village					
Parameter	**Unit**	**Grass**	**Jowar**	**Rice**	**Wheat**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Rangia Village					
Parameter	**Unit**	**Potato**	**Tomato**	**Onion**	**Masood Dal**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

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Date of Sampling : 17-10-2022 & 18-10-2022
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Harna Village					
Parameter	**Unit**	**Grass**	**Milk**	**Rice**	**Wheat**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Harna Village					
Parameter	**Unit**	**Potato**	**Tomato**	**Onion**	**Green Chilli**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

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Date of Sampling : 17-10-2022 & 18-10-2022
Sample Collected & Brought to Lab by : EMTRC Staff

TEST RESULTS

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Haripur Village					
Parameter	**Unit**	**Grass**	**Gram**	**Rice**	**Wheat**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Heavy Metal in grass, milk, Fruits, vegetable and other products collected from Haripur Village					
Parameter	**Unit**	**Potato**	**Tomato**	**Onion**	**Chana Dal**
Lead as Pb	mg/kg	ND	ND	ND	ND
Chromium as Cr	mg/kg	ND	ND	ND	ND
Nickel as Ni	mg/kg	ND	ND	ND	ND
Cadmium as Cd	mg/kg	ND	ND	ND	ND
Mercury as Hg	mg/kg	ND	ND	ND	ND
Arsenic as As	mg/kg	ND	ND	ND	ND

Authorized Signatory
MUKESH KUMAR

Annexure-18

Public Grievances Redressal Cell
Minutes of Meeting

Minutes of Meeting			
Date	25-09-2024	Time	10:30
Subject	Public Grievances Redressal Cell		
Venue	Board room		
Participants	1. Mr. Rajesh Kumar, Chairman		
	2. Mr. Prateek Gupta, Member		
	3. Mr. Devdutta Sarma, Member		
	4. Mr. Amit Kumar Garg,		
	5. Mr. Gaganvir Singh Cheema, Convener		
Absent	None		

1. Mr. Rajesh Kumar, ascertained that the requisite quorum was present and called the meeting to order.

2. Mr. Devdutta Sarma apprised the committee members of the action undertaken regarding the issues Recorded in the MOM dated 30th March 24 and complaints received during April-September 2024.

   (A) Issue of Wild Boars –

   a. No further update.
   b. No further concerns received from surrounding village panchayats.
   c. NPL had initiated construction of prefabricated boundary wall. 1200 meters of pre-fabricated boundary wall, constructed in March 2024 towards the Rangian/Nalash Kalan/Nalash Khurd villages - Point Closed

3. Further, Mr. Devdutta Sarma apprised the committee members of the various requests received during April 24 - September 24 period, and the actions & initiatives taken by NPL.

   (A) Ash spillage from Ash Silo area – Farmers of village Sadhror and Raimajra, continuously complaining about ash spillage from silos into their fields, damaging the crop and agriculture machinery.

   Action Point – Wind barrier damaged cloth to be checked & rectified as per requirement, completion by July 2024.

   Current Status: Wind Barrier cloth were replaced. Close monitoring to prevent fugitive dust through water sprinkling.

   (B) Pruning of trees along the plant boundary: Farmers from villages Sural, Haripur, Sadhror, Kotla, raise the concern that the shadow of overgrown tree branches, is hampering the crops growth.

   Action Point: To be completed by End May 2024.

   Current Status: Work completed towards Sadhror & Kotla, balance Sural & Haripur side will be completed by 15th October 2024.

(C) Overloading and over speeding of Tippers & Bulkers: Residents of villages Sadhror, Raimajra, Kotla and Mirjapur, are continuously taking up this issue of road safety and excessive dust around area.

Action Point - Speed Breakers have been installed at 03 locations - Rai Majra, Mirjapur & Jansua. All drivers have been instructed to adhere to speed limit. All vendors are ensuring the vehicles are covered with tarpaulins. Also, periodic water sprinkling is being ensured as per requirement.

This is a critical matter and continuous monitoring of situation to be ensured.

4. **Additional Points:**

(A) After lifting of soil from area adjoining Ash Pond, wild boar issue is again reported by residents of village Nalash & Rangian

Action Point: Additional boundary wall to be constructed on top priority. PO released, work to be completed by 20th December 2024

(B) Road repair from Mirjapur to Plant: Residents reported that, due to continuous Bulker & Tipper movement, road again damaged at various locations.

Action Point: Earth filling of potholes were done in the interim.

As there were no other open points for discussion and as no other member had any other points for discussion, the meeting was concluded.

Annexure-19

Annual Social Audit Report FY-24

NPL
Nabha Power Limited

FY 2022-23 & 2023-24 SOCIAL IMPACT ASSESSMENT REPORT

PREPARED BY:

Population Research Center
Panjab University
Chandigarh

SUBMITTED TO:

Nabha Power Limited
P.O. Box no. 28, Near Nalash,
Rajpura, Punjab -140401

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ACKNOWLEDGEMENT

This report is an outcome of the Impact Assessment undertaken by Population Research Centre Panjab University, Chandigarh. The study was undertaken in peripheral villages of the Nabha Power Limited (NPL) where CSR projects are executed in the fields of health, education, infrastructure, sports, environment conservation and skill development by the NPL officials.

We would like to express our heartfelt gratitude to Nabha Power Limited (NPL) and all of its officials who participated in the study at various levels, as well as for their insightful inputs on Nabha Power Limited's CSR programmes.

The support extended by Mr. Devdutta Sarma Deptt. Head, Mr. Gaganvir Singh Cheema (CSR Head), Mr. Gagandeep Singh Bajwa (Assist. Manager), Nitin Pandey (Sr. Manager) and Field staff for cooperating throughout the study and ensuring that the study sails smoothly. Their support and inputs are deeply appreciated. Therefore, we appreciate the partnership with Nabha Power Limited (NPL) and hope there will be many more upcoming CSR projects. We are grateful to Prof. Renu Vig, Vice-Chancellor, Panjab University, Chandigarh.

We like to express our gratitude to all of the stakeholders who contributed their time and effort to the research and provided unwavering support to ensure that it carried out well. Without the respondents, who were always eager to help, it would not have been possible to do credit to this study and complete it effectively. Their contributions have greatly enhanced the research. We also wish to acknowledge the efforts of the project teams, volunteers, and field workers whose dedication and hard work have been critical in both executing the CSR projects and gathering the data required for this report.

Sincere thanks to the Population Research Centre team for successfully conducting the impact assessment of the projects within the given timeframe.

Dr. Sukhbir Singh (PI) Dr. Gaurav Gaur (Co-PI) Prof. Kumool Abbi (Co-PI)

EXECUTIVE SUMMARY

The present evaluation study is an attempt to analyze the implementation of the CSR initiatives taken up by Nabha Power Limited (NPL). The main objectives of the impact assessment study were to:

1. To analyze the impact of the activities implemented by NPL at the individual and village level.
2. To examine the participation of the community in CSR programmes.
3. To highlight best practices, strategies, and initiatives adopted in the project.
4. To give suggestions and recommendations for improving the CSR activities of NPL.

The study is based both on primary and secondary data obtained from the randomly selected 25 villages out of the total 49 villages where the CSR initiatives were taken up by the company. The impact assessment was done for the two years i.e 2022-23 to 2023-24. The secondary data from the village-level officials and the primary data from the beneficiaries obtained from the structured schedules form the basis for the present findings of the study.

The analysis of the implementation of the impact assessment study in the selected areas indicates that the overall social development of the villagers is positively associated with the infrastructure and services provided by the company. Infrastructural developments like the village peripheral road, community shed, Panchayat cum Production Centres, buildings in schools; EWS Housing Scheme; health and education-related initiatives are found to be playing an important role and they are essential for enhancing the level of development in these villages.

However, a certain amount of disparity cannot be ruled out in the level of development among different projects. To lessen the disparities in development among different projects, model projects need to be identified and replicated in the potential targets of development.

INTRODUCTION

The Sustainable Development Goals (SDGs) were adopted in 2015 to end poverty, protect the planet, and ensure prosperity for all - as part of the new sustainable development agenda. The realization of such goals related to sustainable development for all needs collaboration from the govt., civil society, as well as businesses, which have emerged as huge actors in the social, political, and economic spheres since globalization.

Though some form of CSR can be witnessed during the Industrial Revolution of the 16-17th century in Europe, its modern manifestation developed during the 1950s. As a concept, it is a philosophy or vision about the organic relationship of business and society. In practice, CSR encourages organizations to consider the interest of society by taking responsibility for the impact of the organization's activities on customers, employees, shareholders, communities and the environment in all aspects of its operations as well as directly contributing some amount of its profits towards the betterment of the society.

India is one of the first few nations to have rolled out a regulation on CSR, making it compulsory for companies belonging to a certain bracket to contribute 2% of their profits towards society by choosing from a number of initiatives laid down by the govt. Such regulations and policy frameworks help in effectively working towards the achievement of the SDGs, by streamlining the CSR efforts towards pre-decided social goals.

NPL and Their Commitment to CSR

Nabha Power Limited (NPL) is a wholly owned subsidiary of L&T (Larsen and Toubro) Power Development Limited. It has been successfully operating a 2x700 MW supercritical thermal power plant at Rajpura in the state of Punjab since 2014. Efficient and reliable power from NPL forms the backbone of electricity supply to the state. The entire power generated from this plant is contracted with Punjab State Power Corporation Limited (erstwhile PSEB) for a period of 25 years under a Power Purchase Agreement (PPA).

Besides being a leader in its craft, NPL has also acted as a torchbearer through its strong policy on CSR. The objective of CSR in the Company is to improve the quality

of life of the communities residing in its environs by long-term value creation, inclusive growth, and empowerment. NPL integrates Corporate Social Responsibility, or CSR, into its operational framework with great emphasis on social and environmental considerations. These, in culturally sensitive forms with local customs and values, contributed immensely towards the betterment of the local communities. For NPL, CSR goes beyond regulatory compliance; it is an avenue to engage with neighboring communities meaningfully. The company's sustained approach to CSR has fostered goodwill and a collaborative spirit. Local communities actively participate in the CSR planning process, working in conjunction with NPL towards shared goals. Addressing the developmental needs of these villages is a team of professionals, backed by a comprehensive CSR committee.

Nabha Power's initiatives focus on a number of themes stipulated from the Companies Act 2013, like enhancing education, empowering rural women, and equipping the youth for financial self-reliance. Efforts directed towards rural infrastructure development and health promotion have significantly improved the quality of life for the local inhabitants.

NPL continues to expand its engagement with the local communities, consistently adding to its portfolio of impactful projects. The overarching goal remains the promotion of inclusive growth, aligning with Nabha Power's CSR ethos: "Together Towards a Brighter Future."

Objectives of the Study

The overall objective of the study is to examine direct and indirect outcomes, and impacts and to assess the effectiveness of the complete range of NPL's interventions and institutions on the resources, lives and livelihoods of its target communities especially the poor in the program areas. The main objectives of the impact assessment study were to:

1. To analyze the impact of the activities implemented by NPL at the individual and village level.
2. To examine the participation of the community in CSR programmes.
3. To highlight best practices, strategies, and initiatives adopted in the project.
4. To give suggestions and recommendations for improving the CSR activities of NPL.

Methodology

This research mostly depends on the primary data collected through questionnaires from the beneficiaries availing these services in the catchment villages. Some secondary data was also sourced from the project implementing officials. Their participation was voluntary, confidential, and anonymous and no financial compensation was given for the respondents' time. Informed consent was sought from all the respondents before data collection.

The convenience sampling method has been used to collect information regarding the projects led by NPL and their impacts on the respondents' lives. The respondents belonged to the catchment villages of NPL, which were benefitting from the CSR projects taken up by the NPL, including Nalas Kalan, Nalas Khurd, Harna, Mirjapur, Kotla, Rangian, Akbarpur, Bhagrana, Sural Kalan, Dabali Kalan, Dadu Majra, Basantpura, Badali Mai Ki, Bhappal, Ugani Sahib, Kharola, Rajpura, Sadhror, Sindhran, Gurditpura, Loha Kheri, Cholti Kheri, and Chandu Majra.

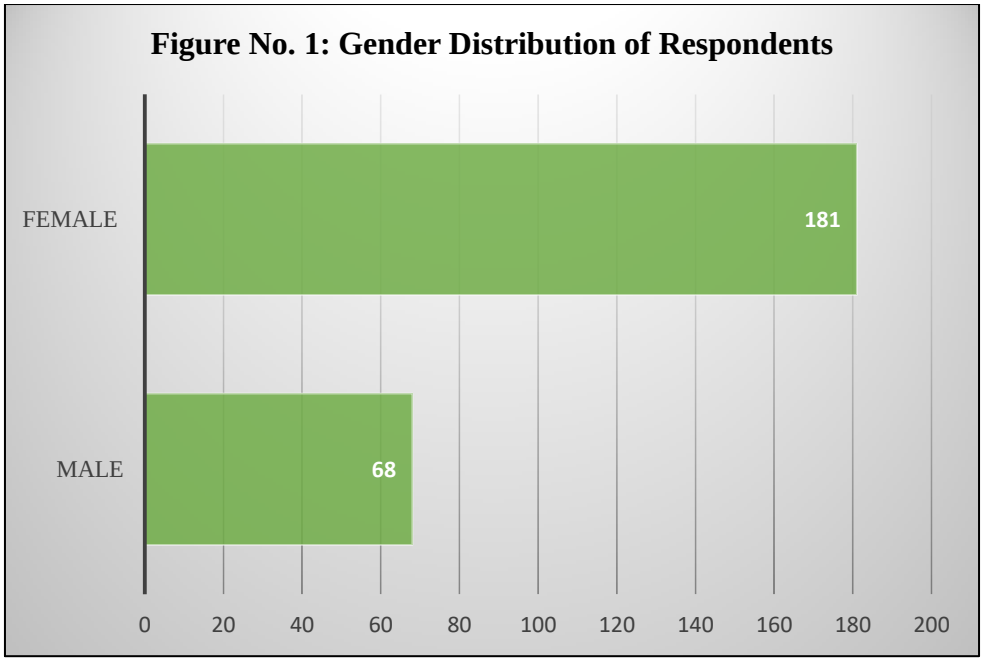
QUANTITATIVE FINDINGS

Demographic Profiling of Respondents

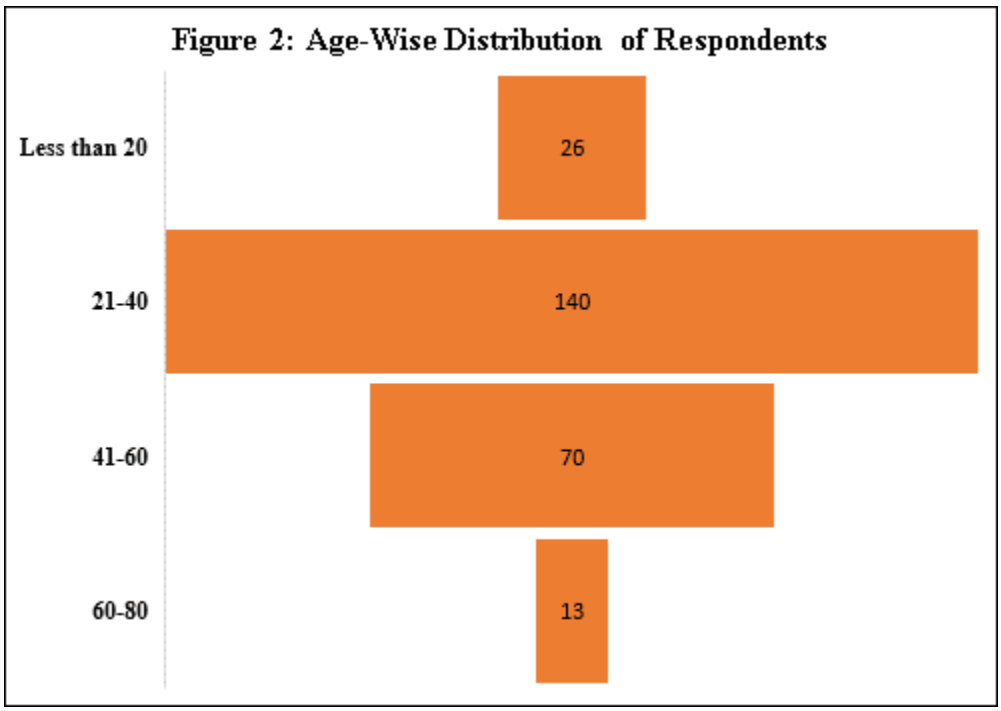
An understanding of the socio-economic profile of the respondents is an indispensable component in any research work; this is more so in the context of assessing social and economic impacts. An in-depth socio-economic profile gives an understanding of demographic features with respect to age, sex, income, educational level, and occupation, among others. Such information enables researchers/planners/social scientists to design and implement more effective and targeted interventions. Such an approach would ensure that the CSR initiatives are objectively assessed with a fair understanding of their effect on various socio-economic groups.

Gender Distribution

Understanding the distribution by gender is important in understanding the CSR activities to ensure that masculine and feminine perspectives and experiences are taken fully into account for a more balanced and complete evaluation. The gender distribution of the respondents indicates the participation rates of both males and females. Out of the total respondents, 68 are male, whereas a significantly higher number, 181, are female. This distribution suggests a greater engagement or representation of female participants in the survey.



Age-Wise Distribution of Respondents

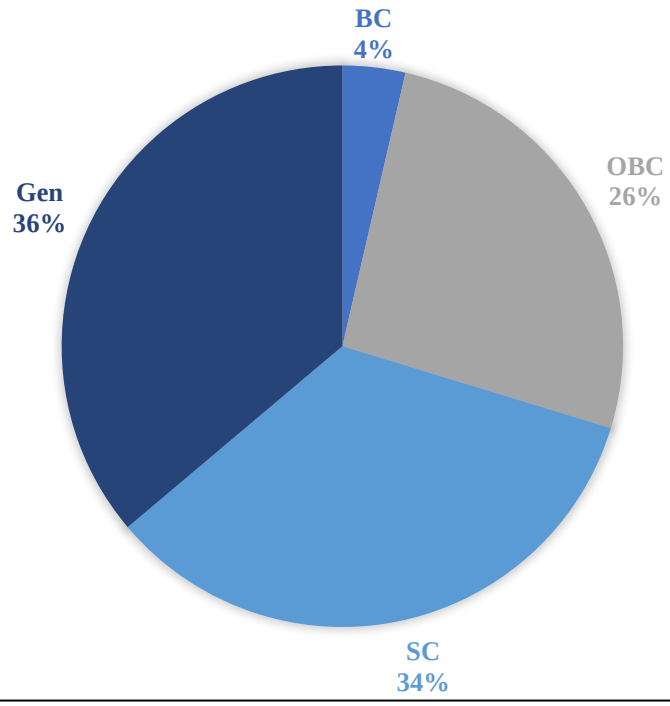


The age-wise distribution of the respondents reveals a diverse demographic spread. The majority of the respondents, accounting for 140 individuals, fall within the 21-40 age bracket, highlighting a significant representation of young to middle-aged adults. This is followed by 70 respondents in the 41-60 age group, indicating a substantial presence of mature adults. The younger demographic, those under 20 years old, comprises 26 respondents, while the elderly segment, aged 60-80, consists of 13 respondents. This

distribution provides a comprehensive overview of the population engaged in the survey, ensuring that the perspectives and needs of various age groups are well-represented in the analysis.

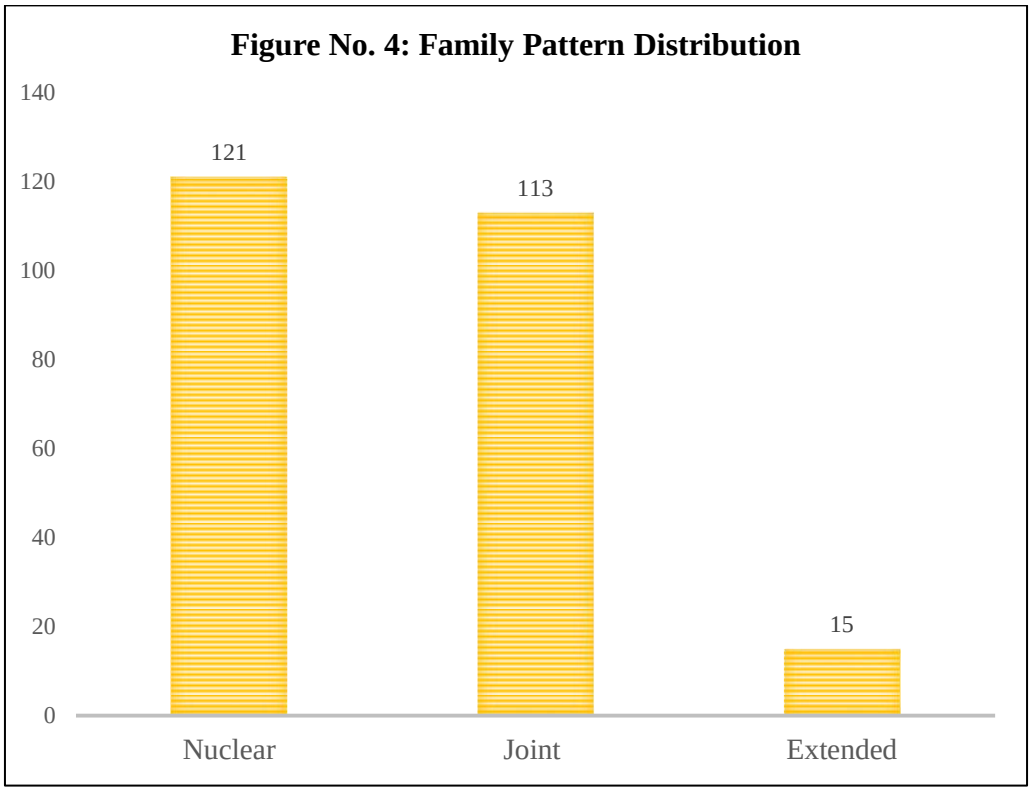
Social Group Distribution

Figure no. 3: Social Group Distribution



Analyzing the responses across these diverse social categories is crucial for understanding the differential impacts of CSR activities and ensuring that the developmental programs are equitable and address the needs of all segments of the population. The social group distribution of the respondents showcases a varied representation across different social categories. The data indicates that the largest groups are from the General category with 90 respondents, followed by 85 respondents from the Scheduled Castes (SC) category. The Other Backward Classes (OBC) category accounts for 65 respondents, while the Backward Classes (BC) category has the smallest representation with 9 respondents.

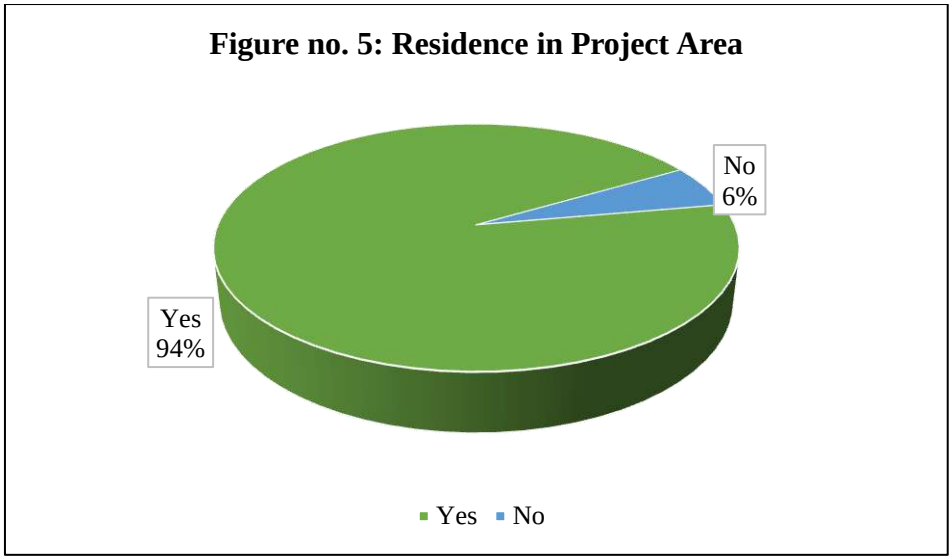
Family Pattern Distribution



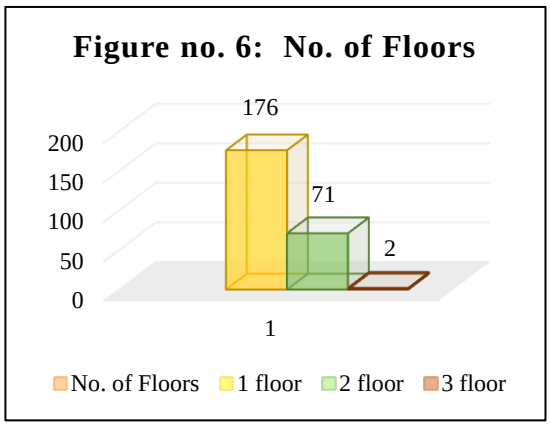
This distribution highlights the variety of family dynamics within the community, providing valuable insights into the social context in which the CSR activities are being evaluated. Understanding these family patterns is essential for assessing how different household structures may influence the impact and effectiveness of developmental programs. The majority of respondents, 121, belong to nuclear families, indicating a prevalent trend of smaller family units. This is closely followed by 113 respondents who are part of joint families, reflecting traditional family arrangements where extended family members live together. Additionally, 15 respondents belong to extended families, which include relatives beyond the immediate family unit.

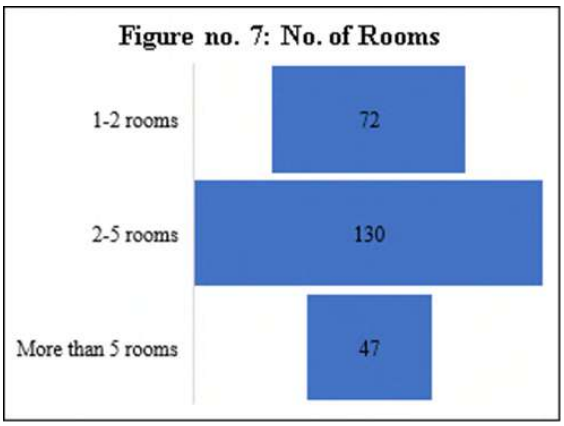
Residence in Project Area

The diagram shows whether respondents' houses fell within the project area. Out of the total respondents, 235 individuals (94%) reported that their houses were within the project area, while 14 respondents (6%) indicated that their houses are not. Moreover, when asked about the type of structure they lived in, nearly all of them reported that they lived in ‘residential’ structures.



No. of Floors and Rooms





The diagram contains information on the number of floors and rooms in the houses where the respondents live. From the total respondents, 176 respondents (70%) reported living in a one-floor house, while 71 respondents (29%) live in a two-floor house and 2 respondents (1%) reported living in a three-floor house. For the number of rooms, 72 respondents answered that they have 1-2 rooms in their respective homes. A majority of the subjects, 130 respondents, indicated that they have 2-5 rooms, while 47 responded with more than 5 rooms. On the whole, from this data, it emerges that most respondents live in one-floor houses with 2-5 rooms, while a small proportion reside in multi-story and also in homes with fewer/more rooms.

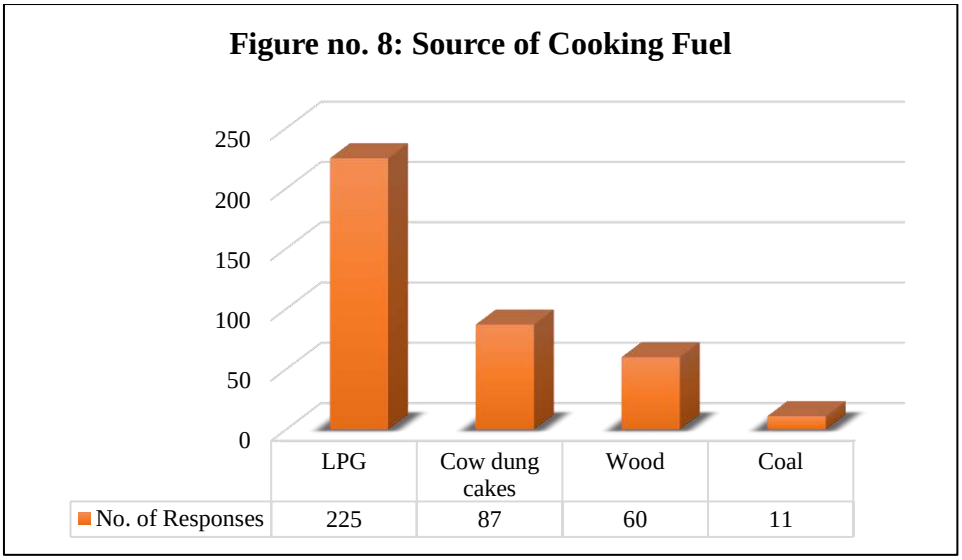
Electricity, Water, and Sanitation

All the respondents reported that electricity was available in their accommodation. Moreover, toilets were also available, and nearly all toilets were of the Pour Flush style.

When asked about the source of drinking water, all respondents said that they received piped supply, while some respondents also mentioned supplementary sources like Submersible Borewell, etc.

Source of Cooking Fuel

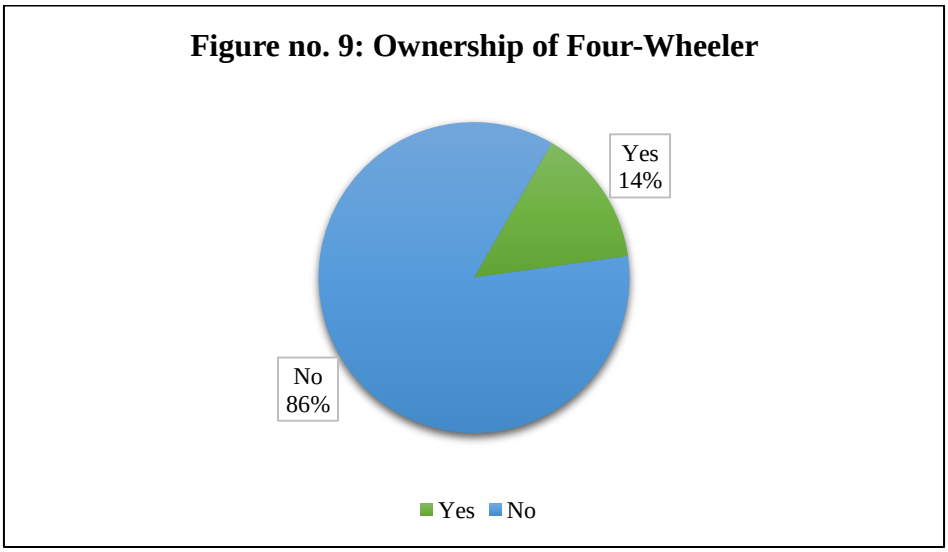
Figure no. 8: Source of Cooking Fuel



The diagram shows the sources of cooking fuel used by respondents. Out of the total respondents, 225 individuals (90%) reported using LPG as their cooking fuel. In addition to LPG, 87 respondents (34%) use cow dung cakes, 60 respondents (24%) use wood, and 11 respondents (4%) rely on coal. This indicates that LPG is the most commonly used cooking fuel among respondents, while cow dung cakes, wood, and coal serve as additional sources of cooking fuel.

Ownership of Four-Wheeler

Figure no. 9: Ownership of Four-Wheeler



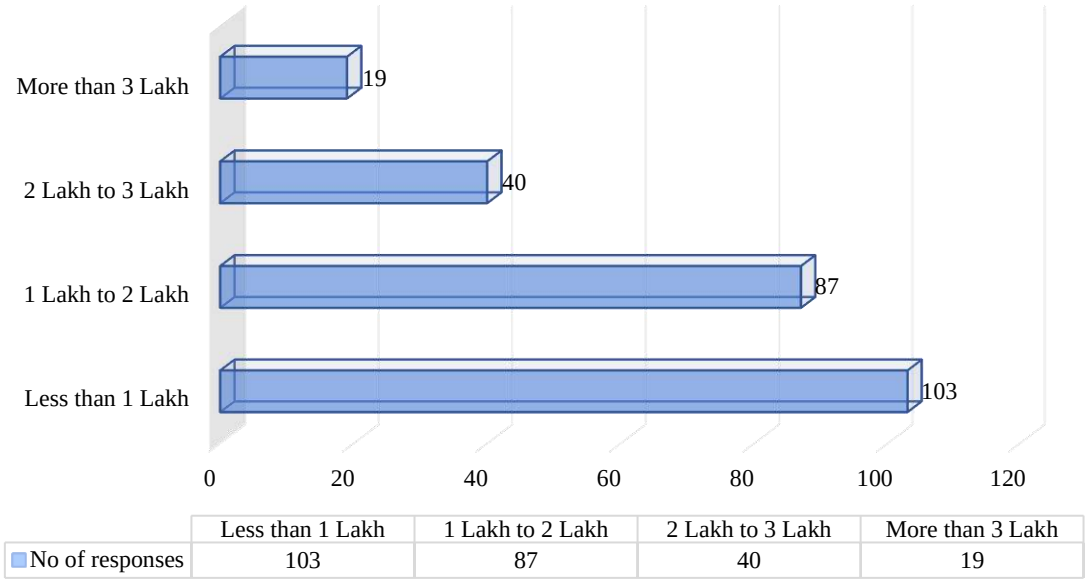
The diagram shows whether respondents own a four-wheeler or not. Out of the total respondents, 36 individuals (14%) reported owning a four-wheeler, while 213 respondents (86%) indicated that they do not. This suggests that the majority of respondents do not own a four-wheeler.

Occupation

The respondents belonged to diverse occupations, ranging from labourer, farmer, agricultural workers, mason, artisan, vegetable seller to shop owners, school teachers, tailor, beautician, etc.

Family Income

Figure no. 10: Family Income per Annum



The diagram shows the annual family income of respondents. Out of the total respondents, 103 individuals responded that they earn less than 1 Lakh per annum. In addition, 87 responded that their income was between 1 Lakh and 2 Lakh annually, 40 between 2 Lakh and 3 Lakh, and 19 responded with an income of more than 3 Lakh. Therefore, it means that most of the respondents earn less than 1 Lakh annually, and few earn in higher income brackets.

RURAL DEVELOPMENT

NPL has initiated rural infrastructural development activities in the villages of the project area. A baseline study was conducted before the work started, keeping in view the demands and suggestions that originated from the Village Panchayat and the community. These engagements helped ensure that interventions were aligned to actual needs of the communities. The local residents of the village, along with the Panchayat, acted as major stakeholders in this initiative by leading the process of identifying some of the key problem areas and facilitating this project's implementation. The different projects with their objectives and location are as follows:

Table No. 1: Rural Development Initiatives by NPL, their Objectives and Location

Rural Development Initiative	Objectives	Location
Construction and Renovation of Roads	Providing better road connectivity to village people and improving basic infrastructure which leads to overall development and ambiance of the community.	Chandu Majra, Khrola, Gurditpura, Majri, Kehargarh, Badali Mai Ki, Cholti Kheri, Harna, Jansua, Badal Colony, Rangian, and Sadhror.
Repair and Renovation of Panchayat Centres (Community Centres)	These can be utilized for common village purposes.	Dabali Khurd, Rangian, Balsuan, and Mirjapur.
Construction of Community Shed	Providing a common facility to village people & panchayats to organize social/family functions.	Rai Majra
Rain Shelter	To address the issue of water logging under the Railway bridge at Vill. Cholti Khedi	Cholti Khedi
Natural Drains and Solid Waste Management Projects	Cleaning of natural drains to prevent water logging in fields and damaged crops.	Various villages of Patiala and Fatehgarh Districts

Awareness of these Structures

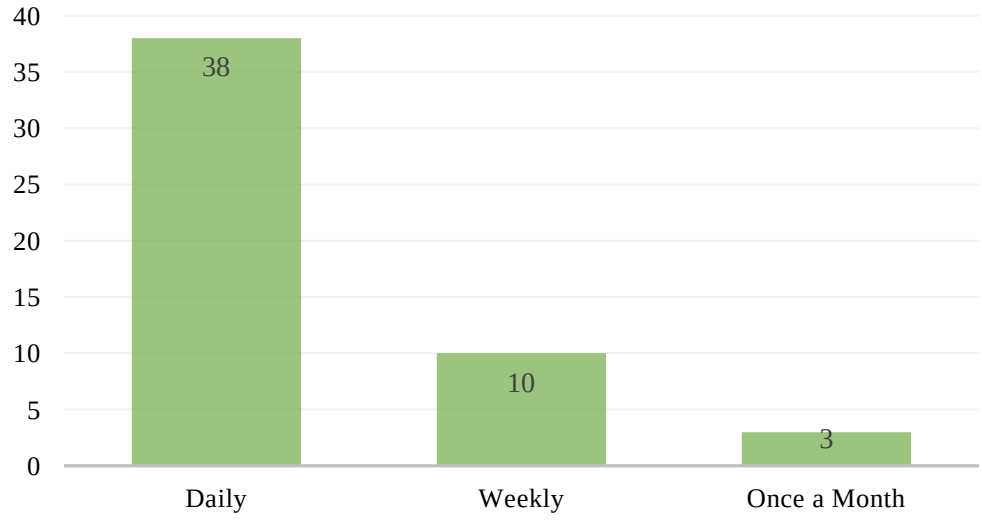
The respondents from the following sample villages were aware of the following structures developed by NPL in their villages.

Table No. 2: Villages Selected in Sample and Awareness of Structures

Sample Village	Aware of these structures
Cholti Khedi	Panchayat cum Training Centre, Village Peripheral Road, Sports Ground, Community Shed
Mirjapur	Panchayat cum Training Centre, Village Peripheral Road, Sports Ground
Ugani Sahib	Panchayat cum Training Centre, Village Peripheral Road
Chandu Majra	Village Peripheral Road
Sural Kalan	Village Peripheral Road, Boundary, and Flooring at village Dharamshala
Rangian	Village Peripheral Road, Community Shed
Sindhran	Village Peripheral Road, Community Shed
Gurditpura	Village Peripheral Road, Sports Ground
Kharola	Village Peripheral Road
Harna	Village Peripheral Road
Bhagrana	Village Peripheral Road
Badali Mai Ki	Village Peripheral Road

Frequency of Usage

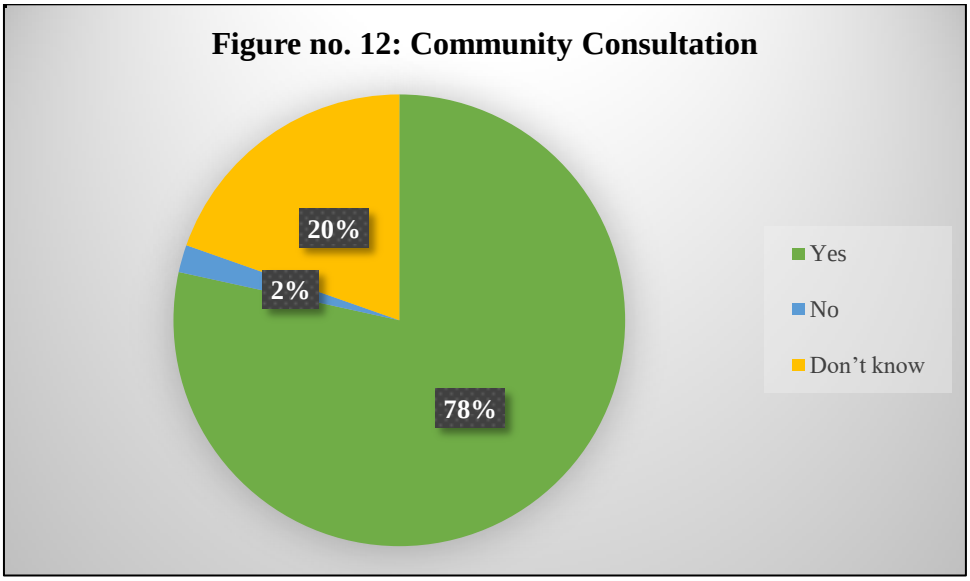
Figure no. 11: Frequency of Usage



The diagram provides an overview of the frequency of usage of rural infrastructure developed by NPL. Out of a total of 51 respondents, the majority, 38 individuals (74%), reported using the infrastructure daily. This high daily usage indicates that the infrastructure is an integral part of the community's daily activities, significantly contributing to their routine and quality of life. Additionally, 10 respondents (20%) utilize the infrastructure weekly, while 3 individuals (6%) indicated that they use it once a month. The varied frequencies of usage underscore the broad utility and relevance of the infrastructure improvements, catering to both frequent and occasional needs of the community members.

Community Consultation before Construction

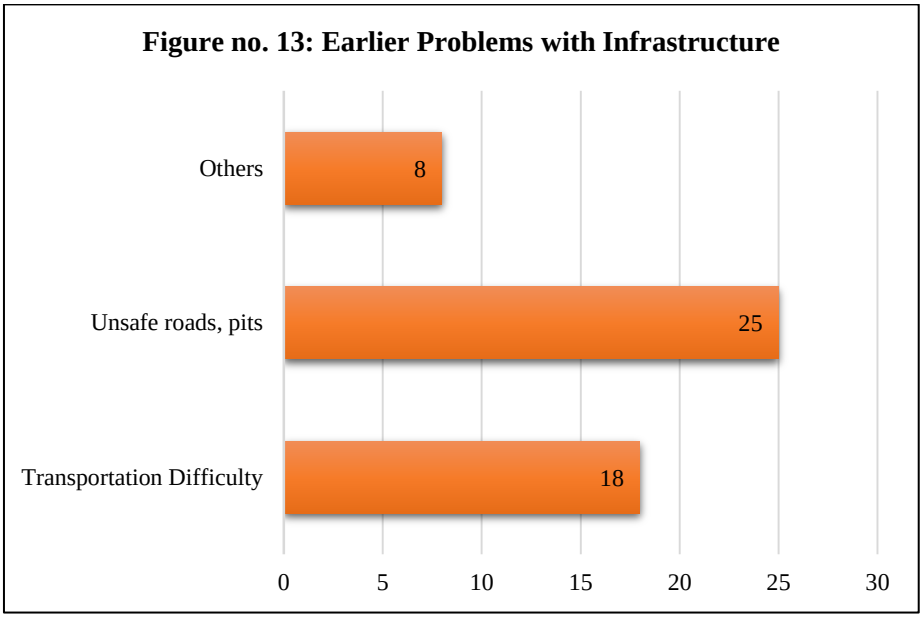
Figure no. 12: Community Consultation



This diagram illustrates the level of community consultation by the Panchayat before the development of structures by NPL. According to the data, a substantial majority of 40 respondents (78%) confirmed that the Panchayat did consult the community before these developments. This indicates a strong participatory approach, ensuring that the needs and opinions of the villagers were considered in the planning process. Only 1 respondent (2%) stated that there was no consultation. Additionally, 10 respondents (20%) were unsure about whether such consultations took place. Overall, the data underscores the importance of community involvement in developmental projects, reflecting a predominantly inclusive and transparent decision-making process.

Problems Faced by Community before Infrastructural Development

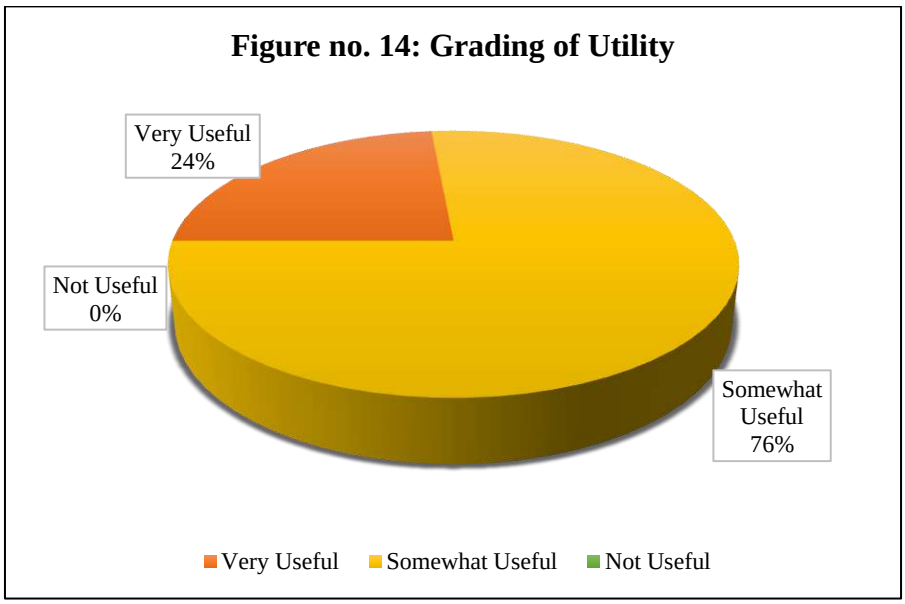
Figure no. 13: Earlier Problems with Infrastructure



This diagram gives a depiction of the problems faced by the community before the infrastructure improvements by NPL were implemented. The two problems pointed out in the survey, which stand out, were related to construction of peripheral road. 25 respondents (49%) identified unsafe roads and pits as the primary issue. Additionally, 18 respondents (35%) reported transportation difficulties, underscoring the challenges faced by villagers in commuting efficiently and safely. Furthermore, 8 respondents (16%) cited various other problems, like Water Logging, Lack of a common place for socio-cultural gatherings, etc.

Grading of Utility of Structures

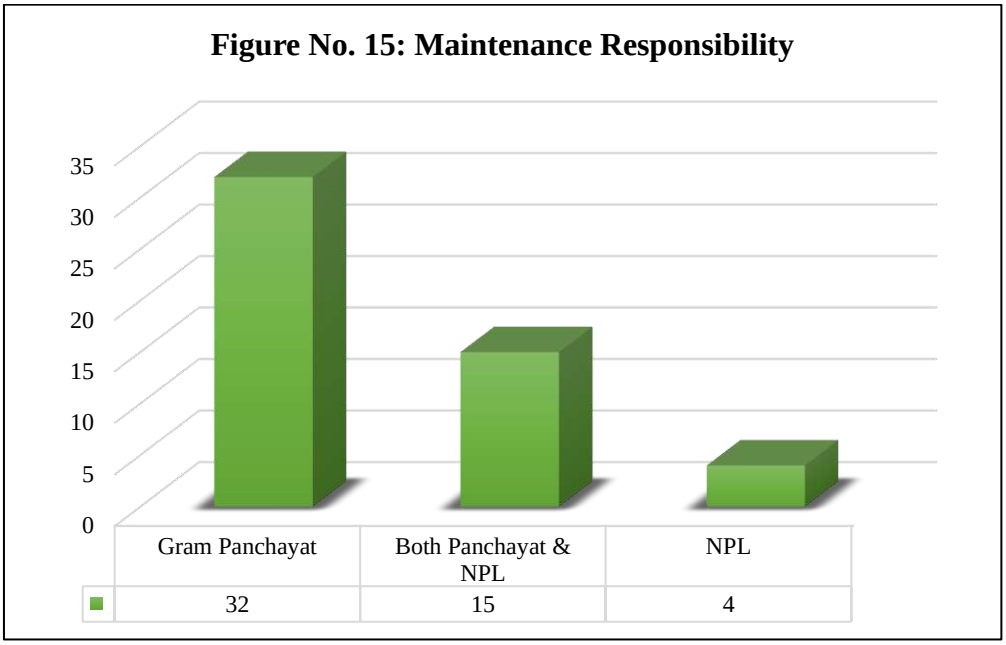
Figure no. 14: Grading of Utility



The table presents the respondents' grading of the utility of the infrastructure developed by NPL. A significant majority, 39 respondents (76%), rated the infrastructure as "Somewhat Useful," indicating that while the improvements have positively impacted their lives, there may still be areas for further enhancement. Additionally, 12 respondents (24%) found the infrastructure to be "Very Useful," reflecting a high level of satisfaction and the tangible benefits experienced by these individuals. Notably, no respondents rated the infrastructure as "Not Useful," suggesting that the developments have had a universally positive impact on the community. This feedback highlights the overall effectiveness of the infrastructure projects while also pointing to the potential for continued improvements to maximize their utility.

Maintenance Responsibility

Figure No. 15: Maintenance Responsibility



This diagram illustrates the respondents' perceptions regarding the future maintenance responsibility of the infrastructure developed by NPL. According to the data, 32 respondents (63%) reported that the Gram Panchayat is responsible for maintaining the structures. Another 15 (29%) respondents indicate that the maintenance responsibility is shared by both the Panchayat and NPL. A smaller number, 4 respondents (8%), think that NPL alone handles the maintenance.

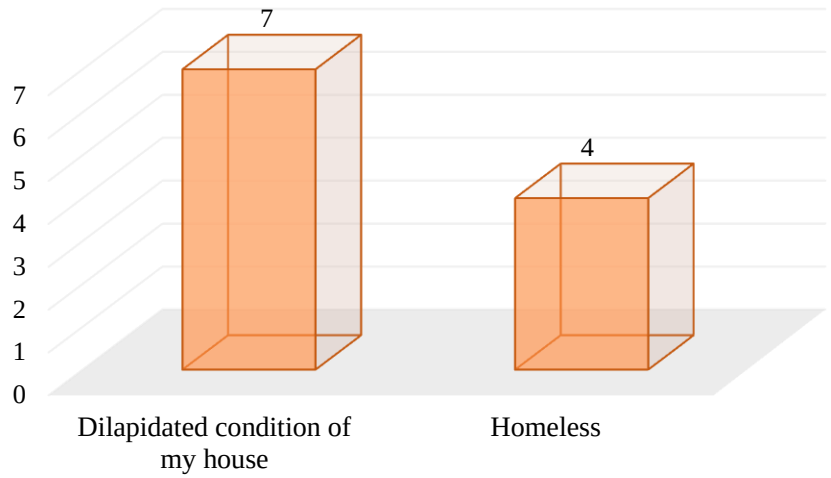
EWS HOUSING

As part of their efforts towards rural development, NPL also worked towards providing homes to extremely poor households that don't have shelter or live in unsafe or pathetic conditions. Provision of dignified homes to underprivileged families would give them a life of dignity and safety and enhance their morale to make efforts to fulfill other family survival needs. This work was carried out based on families' or communities' requests covering around 70 beneficiaries. EWS Housing Project was carried out in Bhagrana, Haripur, Loha Khedi, Dabali Khurd, Sural Khurd, Kotla, Bhateri, Urna, Basantpura, Mirzapur, Bhappal, Sarai Banjara Basti, Niamatpur, Harna, Nalash Kalan, Sural Kalan, Sadhror ,Rangian.

For the purposes of impact assessment, one respondent each was identified from Bhagrana, Chandu Majra, Dadu Majra, Nalas Khurd, and Mirjapur from the people who were given homes under the project.

Reason for Provision of House

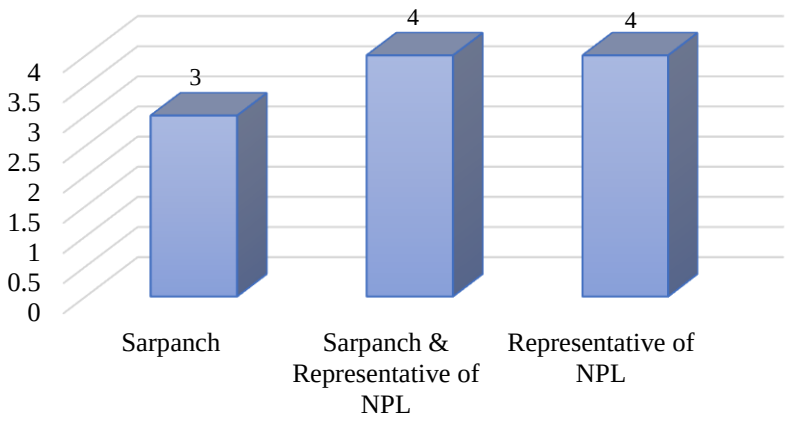
Figure No. 16: Reason for Provision of House



The diagram outlines why respondents were given houses under the EWS Housing Project. Out of the total respondents, 7 individuals (63%) received houses due to the dilapidated condition of their previous homes, highlighting the urgent need for safe and stable housing for these families. Additionally, 4 respondents (37%) were provided houses because they were homeless, underscoring the project's role in addressing homelessness and providing essential shelter to those in need.

Authorities Requested

Figure No. 17: Authorities Requested for Provision of House



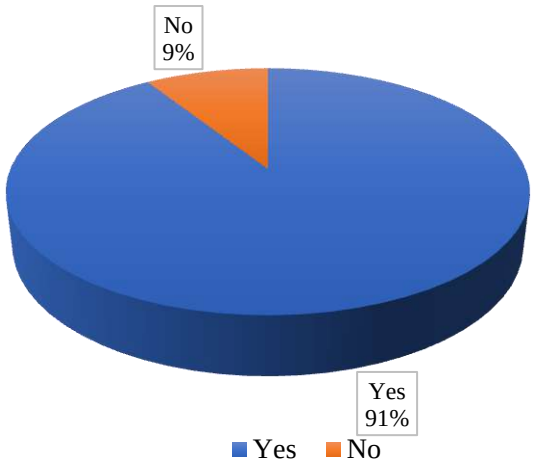
This diagram provides insights into the authorities approached by respondents for the provision of a house under the housing initiative. According to the data, 3 respondents (28%) requested the Sarpanch alone. Additionally, 4 respondents (36%) reached out to both the Sarpanch and a representative of NPL. Another 4 respondents (36%) requested help solely from the NPL representative.

Financial Contribution by Respondents

The respondents were asked whether they contributed any amount towards purchasing the house. All the respondents reported that they did not contribute any amount and the total amount they thought to be around 4 Lakhs, was paid by NPL only.

Satisfaction with the Provided House

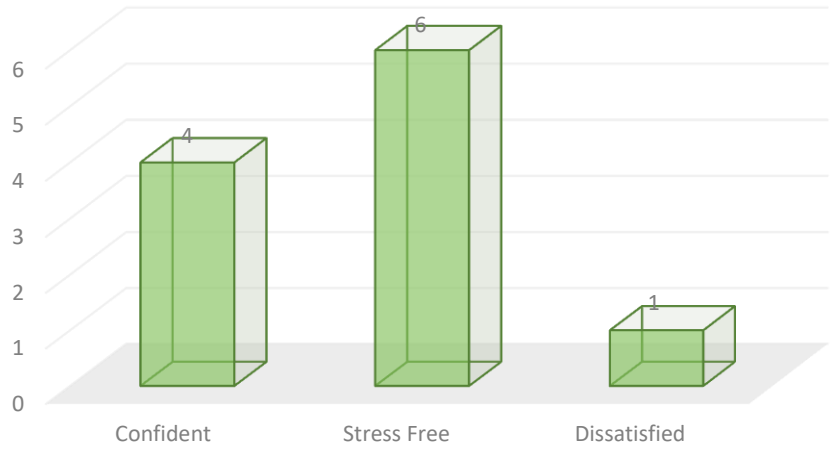
Figure No. 18: Satisfaction with the Provided House



The table shows the level of satisfaction among respondents regarding the houses provided to them under the housing initiative. Out of the total respondents, 10 individuals (91%) expressed satisfaction with the provided houses, indicating a positive reception and appreciation for the housing assistance received.

Impact on Life

Figure No. 19: Impact on Life of Housing



This diagram shows the impact of the EWS Housing Project on the lives of respondents. Out of the total respondents, 4 individuals (36%) reported feeling confident and 6 respondents (54%) reported that they felt stress-free, suggesting a positive impact and increased assurance in their lives.

WATER AND ENVIRONMENT

NPL has undertaken certain projects for environmental conservation in the identified villages. The selection of the projects was based on the requests and inputs from the Village Panchayat and the community to ensure that the interventions were aligned with the actual needs of the communities. The primary stakeholders in this initiative were the village residents and the Panchayat. The different projects with their objectives and estimated number of beneficiaries are as follows:

Table No. 3: Environment Related Initiatives, their Objectives and Location

Environmental Initiative	Objectives	Location
Rejuvenation of Ponds	• Removing Silt and Vegetation to enhance water storage capacity to prevent flooding. • Improve the quality of ponds for irrigation and fishery • Improving health, hygiene, ground water table, and ecological balance.	Urna Distt. Patiala, Punjab
Plantation & Afforestation	Contributing towards the environmental as well as social cause, by planting 10000 samplings (setting up Nanak Baghichi)	Cholti Khedi, Badali Mai Ki

Awareness of these Initiatives

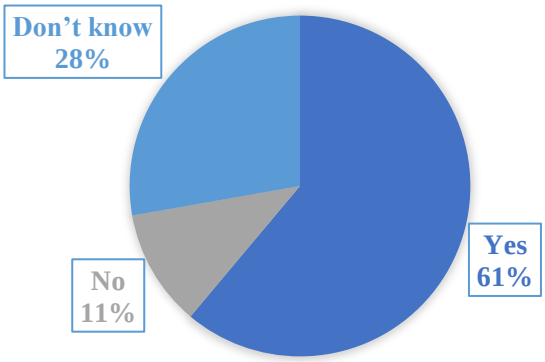
The respondents from the following sample villages were aware of the following initiatives undertaken by NPL in their villages.

Table No. 4: Sample Villages and Awareness of Initiatives

Sample Village	Aware of these Initiatives
Cholti Khedi	Plantation
Mirjapur	Pond Cleaning and Development, Plantation
Ugani Sahib	Pond Cleaning and Development
Badali Mai Ki	Plantation

Opinion on Importance of Water Conservation

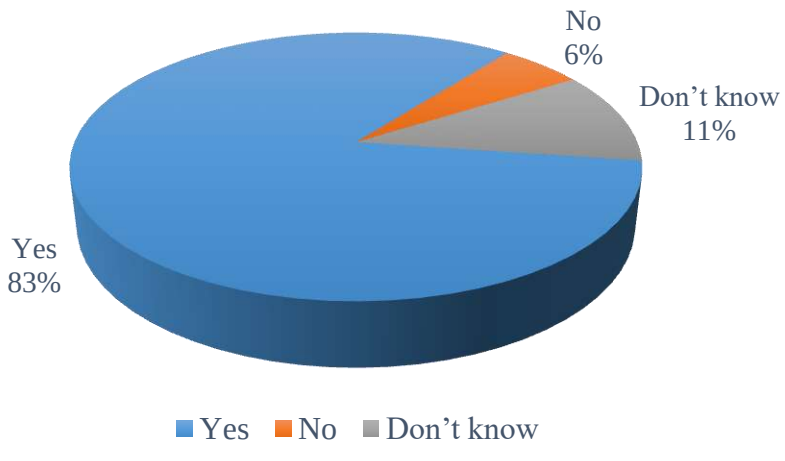
Figure No. 20: Opinion on Importance of Water Conservation



The diagram shows respondents' opinions on the importance of water conservation. Out of the total respondents, 11 individuals (61%) affirmed that they believe water conservation is important. In contrast, 2 respondents (11%) expressed that they do not consider water conservation important. Additionally, 5 respondents (28%) were unsure about the importance of water conservation. Overall, the majority view water conservation as significant.

Community Consultation before Pond Development

Figure No. 21: Community Consultation before Pond Development



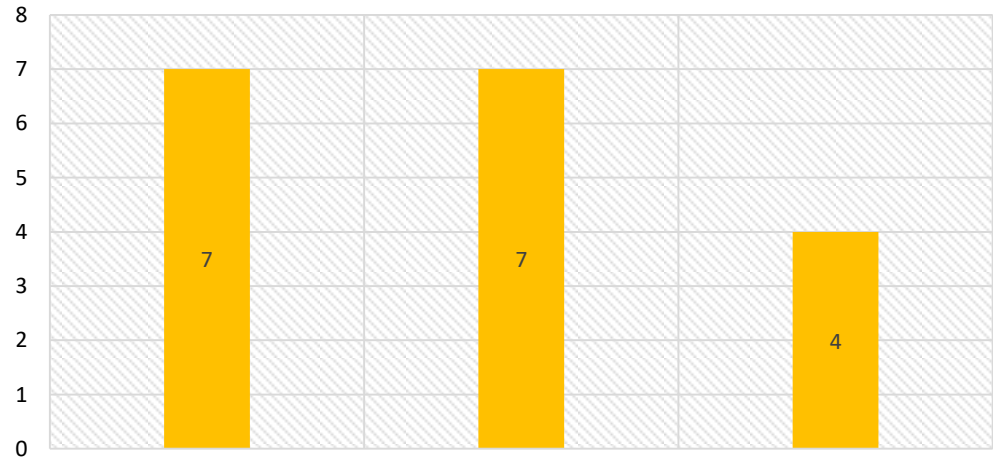
The diagram shows whether the community was consulted before the pond cleaning and development measures. Out of the total respondents, 15 individuals (83%) confirmed that the community was consulted prior to these environmental initiatives, indicating strong community involvement and consideration in the decision-making process. In contrast, 1 respondent (5%) stated that there was no consultation with the community. Additionally, 2 respondents (12%) were unsure about whether consultation took place. Overall, the majority of respondents acknowledged community consultation, reflecting a positive approach to inclusive decision-making.

Changes in Quality of Pond after Cleaning

All the respondents reported that the quality of the pond has improved after cleaning and development by the NPL. Additionally, they indicated that the primary use of the pond in their area was irrigation and households don't use it for personal purposes.

Maintenance Responsibility of Ponds

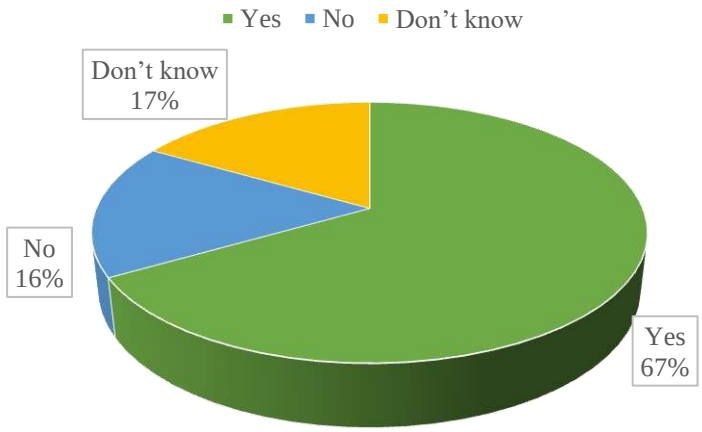
Figure No. 22: Maintenance Responsibility of Ponds



The above diagram shows respondents' perceptions regarding the authority responsible for the maintenance of ponds. Out of the total respondents, 7 individuals (39%) believe that the Panchayat is responsible for pond maintenance. Another 7 respondents (39%) think that both the Panchayat and NPL share this responsibility. Additionally, 4 respondents (22%) feel that NPL alone handles the maintenance of ponds.

Community Consultation Before Plantation

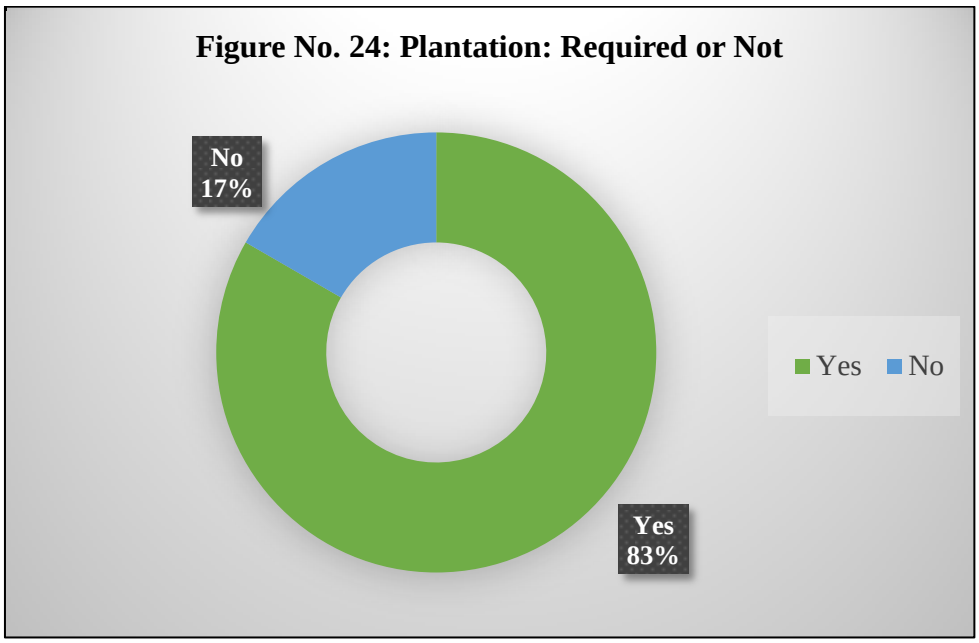
Figure No. 23: Consultation before Plantation



The diagram shows whether the community was consulted before the plantation activities. Out of the total respondents, 12 individuals (68%) confirmed that the community was consulted prior to the plantation, reflecting a significant level of engagement and consideration for community input in the process.

Opinion about Requirement of Plantation

Figure No. 24: Plantation: Required or Not



The diagram shows respondents' views on the need for plantation. Out of the total respondents, 15 individuals (83%) expressed that a plantation is required. Overall, the majority supports the need for plantation.

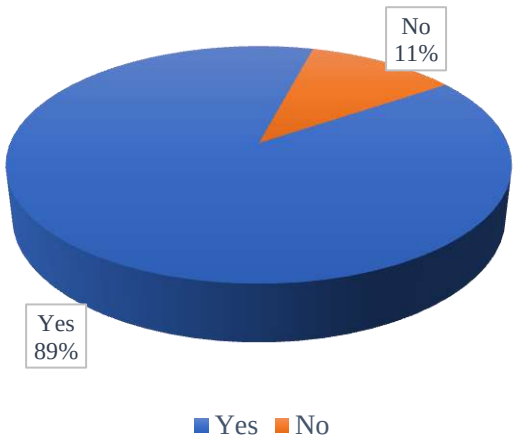
YOUTH AND SPORTS

NPL also strives to contribute towards the youth through development of sports and physical activity. As such, as part of its CSR initiative, the company undertakes different projects like developing a common sports facility (at Badal Colony), distribution of Sports Kit (various village of Patiala and Fatehgarh Districts), and organizing sports programmes of traditional games like Kabbadi and Tug of War, as well as modern games like Volley Ball and Cricket (Uppalheri, Harna, Mirjapur, Sindhran). These initiatives have been undertaken based on the requests made by Youth and Panchayat.

For the purposes of impact assessment, the respondents that participated in the survey related to sports activities belonged to Harna, Cholti Khedi, Bhappal, Sindhran, Mirjapur, Akbarpur, Ugani Sahib, Nalas Kalan, Gurditpura, Dabali Kalan, and Nalas Khurd. Their responses to the questions have been presented below.

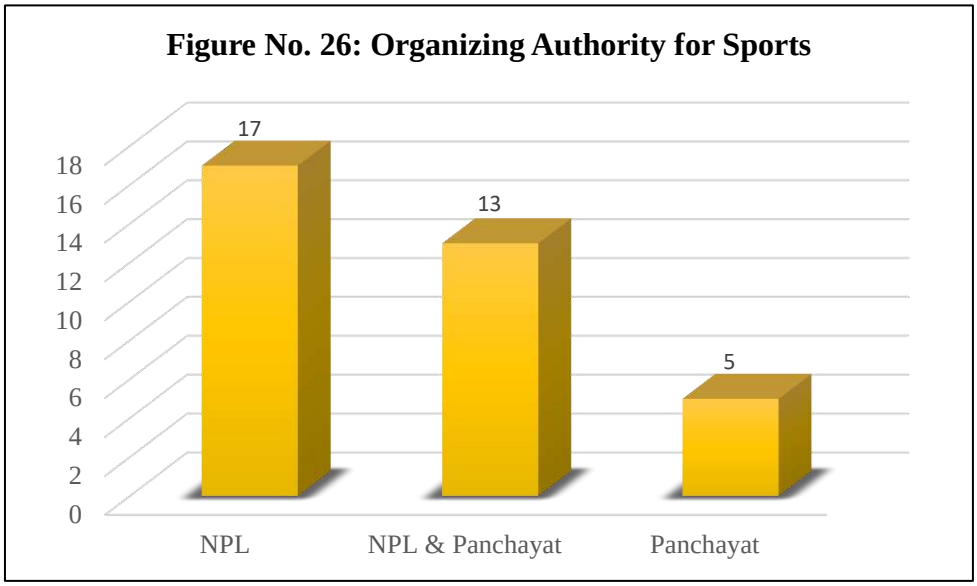
Whether Sports Activities were Organized or Not

Figure No. 25: Whether Sports Activities were Organized or Not



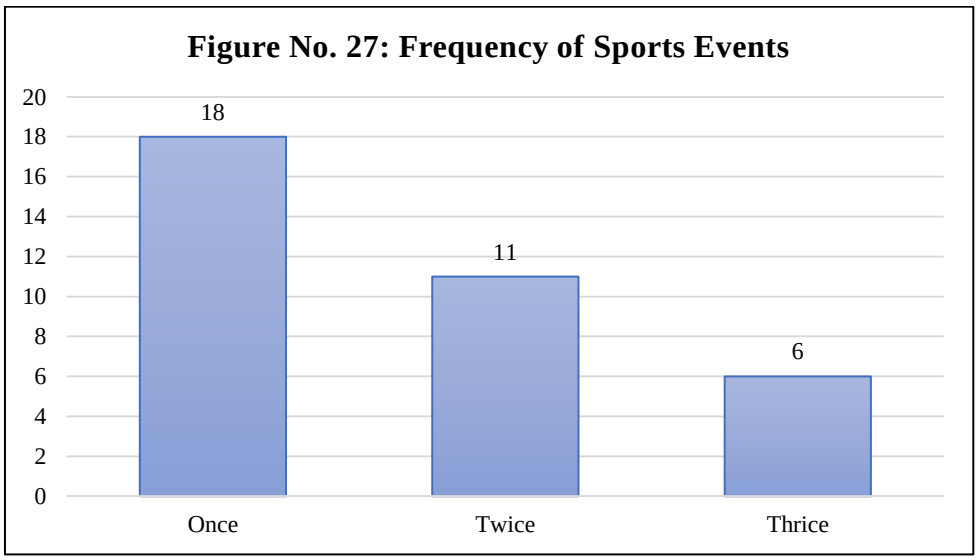
The diagram shows whether sports activities were organized in the respondents' area. Out of the total respondents, 31 individuals (89%) confirmed that sports activities were organized.

Organizing Authority



The diagram shows respondents' perceptions regarding the organizing authority of the sports activities. Out of the total respondents, 17 individuals (49%) believe that NPL organized the sports activities. Additionally, 13 respondents (37%) think that both NPL and the Panchayat were involved in organizing these activities. Meanwhile, 5 respondents (14%) feel that the Panchayat alone was responsible for organizing the sports activities.

Frequency of Sports Events

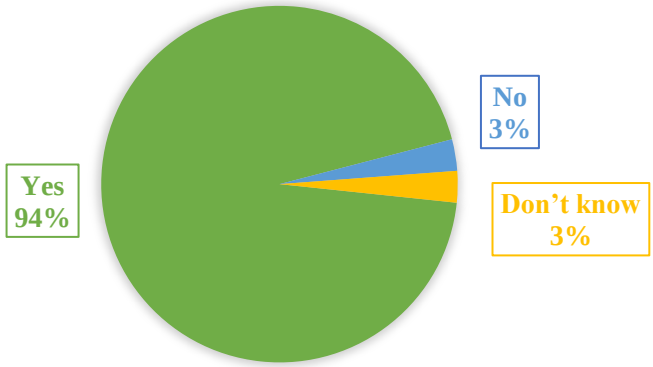


This diagram shows the frequency of sports events per year that occurred in the respondents' villages. Out of the total respondents, 18 individuals (51%) reported that sports events were organized once a year. Additionally, 11 respondents (31%) indicated

that sports events were held twice a year, while 6 respondents (18%) mentioned that these events occurred three times a year. The data reveals that sports events are regularly organized in the villages, with the majority experiencing at least one event annually.

Consultation before Organizing Sports Events

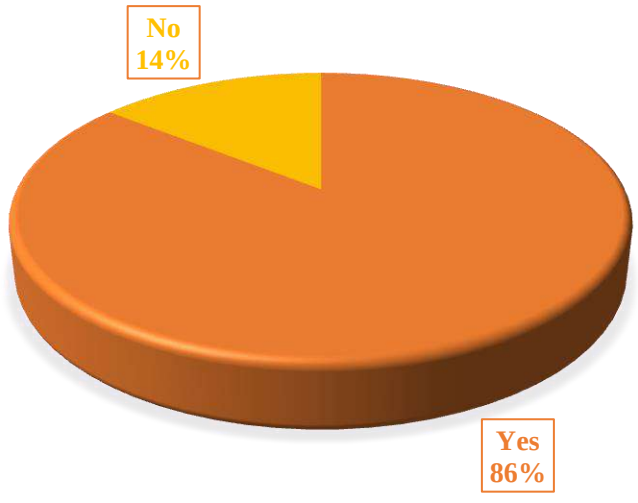
Figure no. 28: Consultation before Organizing Sports Events



This diagram shows respondents' responses to whether the community and Panchayat were consulted before organizing sports events. Out of the total respondents, 33 individuals (94%) confirmed that there was consultation with the community and Panchayat before organizing the sports events.

Satisfaction with Sports Events

Figure no. 29: Satisfaction with Sports Events



The diagram shows the satisfaction among respondents regarding sports activities. Out of the total respondents, 30 individuals (86%) expressed satisfaction with the sports events, indicating a positive reception and appreciation for these activities.

HEALTH

As part of their CSR initiative, NPL also works towards the health sector, to the end of providing quality and affordable healthcare to the residents of identified villages. NPL has different programmes through which it works in this sector. These projects were identified and worked upon based on the inputs and requests made by the community members and the Panchayat.

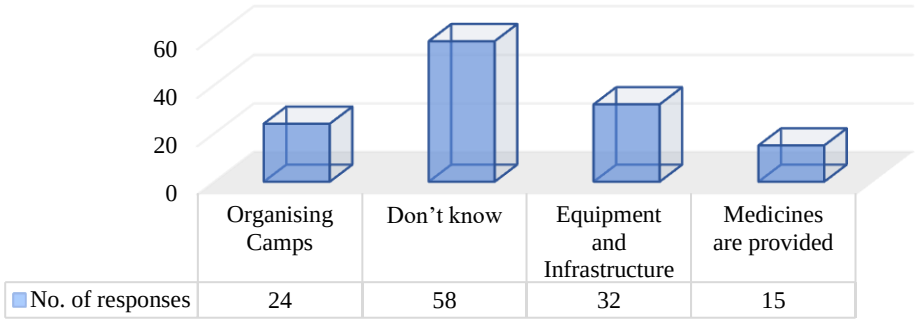
Table No. 5: Health-Related Initiatives, their Objectives and Location

Health-related Initiative	Objectives	Location
Blood Donation Camps	Motivating and encouraging the participation of youth in social activities like Blood Donation.	Uppalheri, Balsuan, Sindran, Gurditpura, Akbarpur
Generalized and Special Health Camps	Promoting preventive and curative health in NPL Catchment Villages.	Salempur, Gurdittpura, Nalash Kalan, Nalash Khurd, Harna, Bakshiwala, Mirjapur, Rangian, Akbarpur, Bhagrana, Sarai Banjara, Sural Kalan, Bhabali Kalan, Dadu Majra, Basantpura and Badali Mai Ki
Cancer Screening Camps (in association with World Cancer Care Charitable Society)	Enabling early detection through screening camps	Jansua, Bhappal, Urna, Akbarpur and Bhagrana

For the purpose of writing this report, respondents were taken from Harna, Cholti Khedi, Basantpura, Gurditpura, Kharola, Rajpura, Sural Kalan, Rangian, Dadu Majra, Dabali Kalan, Sindhran, Mirjapur, Ugani Sahib, Loha Khedi, Sadhror, Bhagrana, Bhappal, Nalas Khurd, and Akbarpur. People belonging to Bhagrana, Bhappal, and Akbarpur were also asked questions about the Cancer Screening Camps that were organized in their village.

Nature of NPL's Support

Figure No. 30: Nature of NPL's Support to Govt. Hospitals

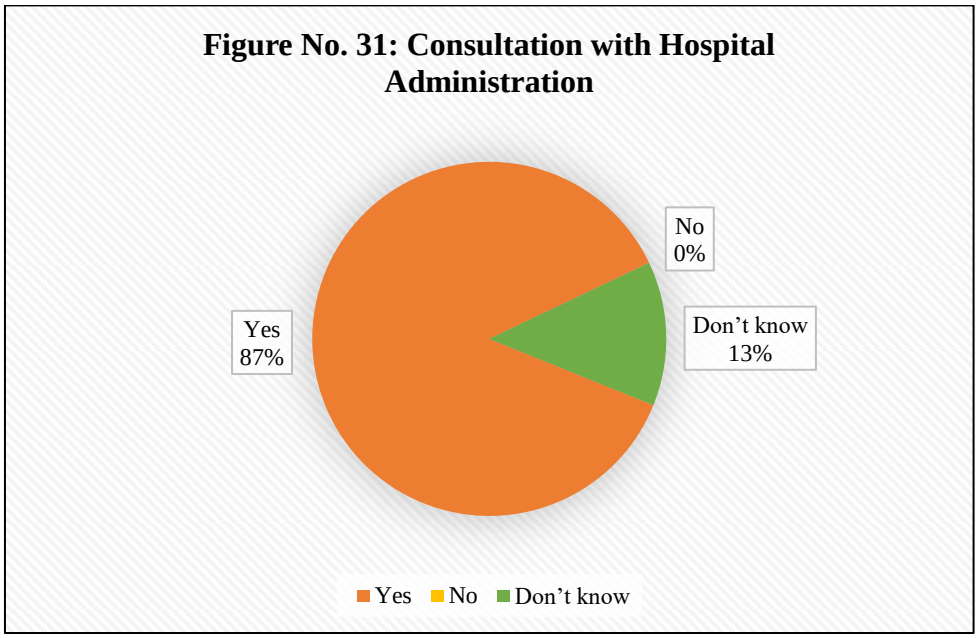


	Organising Camps	Don't know	Equipment and Infrastructure	Medicines are provided
No. of responses	24	58	32	15

The diagram shows respondents' descriptions of how NPL supports government hospitals in their area. Out of the total respondents, 24 individuals (19%) reported that NPL supports government hospitals by organizing camps. Additionally, 32 respondents (25%) mentioned that NPL contributes through providing equipment and infrastructure, and 15 respondents (12%) stated that NPL supplies medicines to government hospitals. 58 respondents (44%) were unaware of the specific ways NPL provides support. Overall, the responses indicate that NPL's support for government hospitals is multifaceted, including organizing medical camps, providing equipment and infrastructure, and supplying medicines.

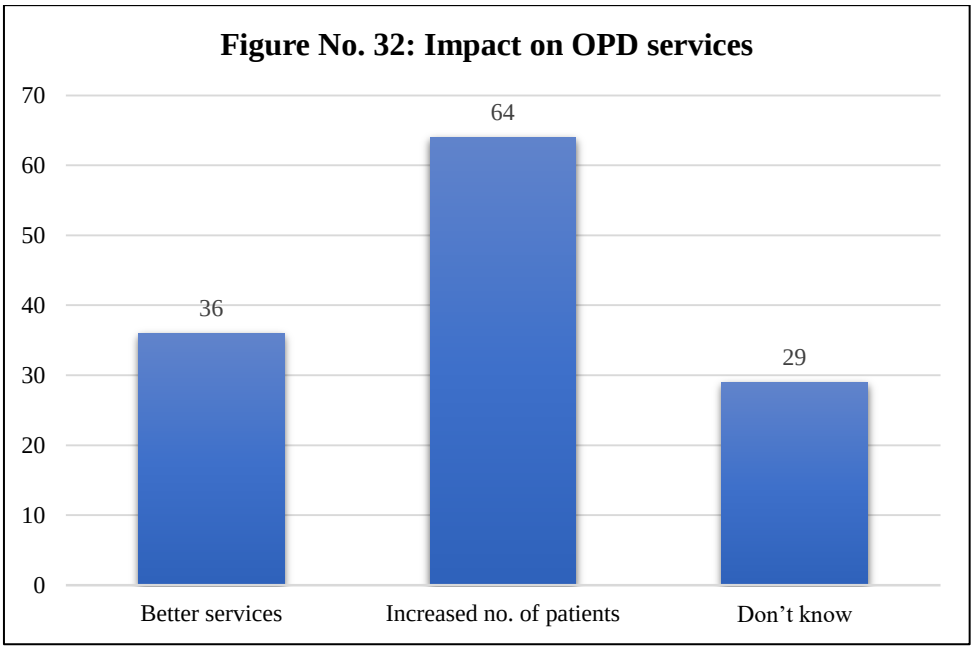
NPL has provided various facilities like big laundry machines, air conditioners, fridges, beds, CCTV cameras, LEDs, chairs, benches, almirahs, tables, medicines, water coolers, weighing machines, BP and Diabetes related apparatus, etc.

Consultation with Hospital Administration



The diagram shows whether the hospital administration was consulted before providing them with the equipment. Out of the total respondents, 112 individuals (87%) confirmed that the hospital administration was consulted. No respondents (0%) reported that the hospital administration was not consulted. Additionally, 17 respondents (13%) were unsure whether the consultation took place or not.

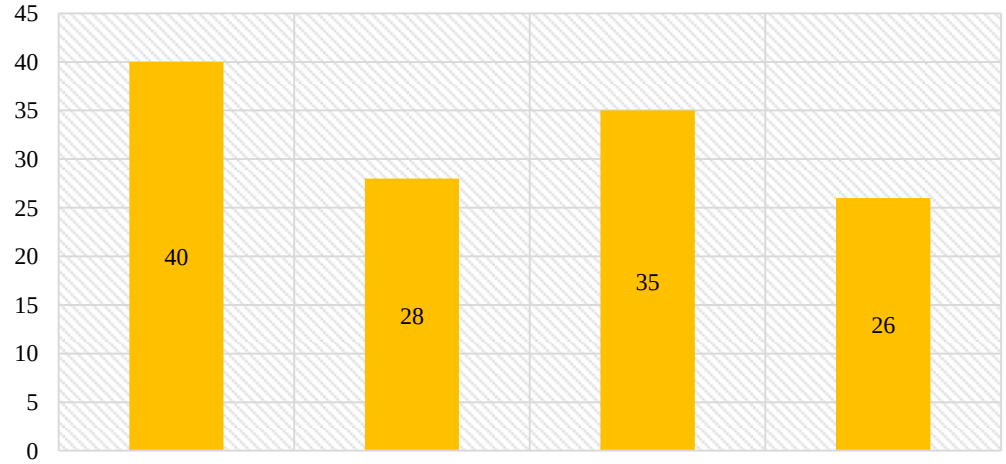
Impact on OPD Services



This diagram shows respondents' descriptions of the impact of health-related initiatives, such as providing medical professionals with quality infrastructure and equipment, on OPD services. Out of the total respondents, 36 individuals (28%) reported that the initiatives have resulted in better services in the OPD. Additionally, 64 respondents (49%) mentioned that the initiatives have led to an increased number of patients utilizing OPD services, indicating a significant rise in patient turnout. However, 29 respondents (23%) were unsure of the specific impact of these health-related initiatives. Overall, the responses suggest that the initiatives have positively influenced OPD services, particularly by enhancing service quality and increasing patient numbers.

Impact of Health-related Initiatives

Figure No. 33: Impact of Health-related initiatives

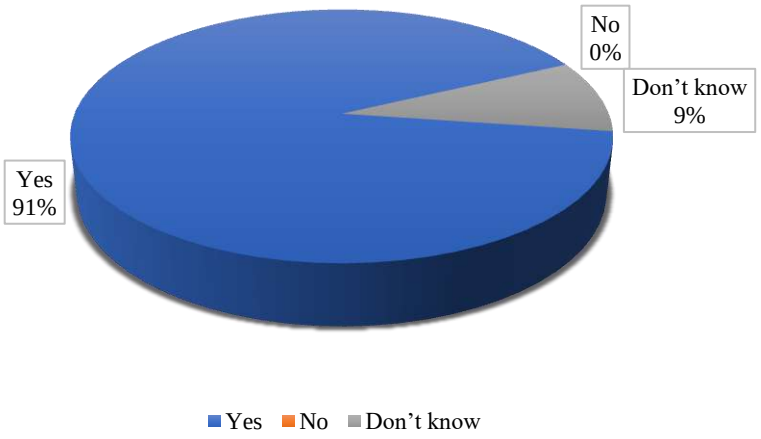


This diagram shows respondents' descriptions of the impact of health-related initiatives on villagers. Out of the total respondents, 40 individuals (31%) reported that these initiatives have increased awareness about health in the community. Additionally, 28 respondents (21%) mentioned that the initiatives have made healthcare more affordable for those in need. Moreover, 35 respondents (27%) stated that the initiatives have contributed to the early detection of health issues. However, 26 respondents (21%) were unsure of the specific impact of these health-related initiatives. The responses indicate that the health-related initiatives have positively influenced the community by raising health awareness, making healthcare more accessible, and promoting early detection of illnesses.

Consultation with Community

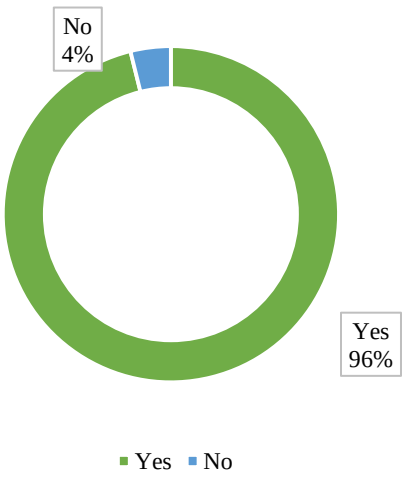
The table shows respondents' accounts on community consultation in the implementation of health-related initiatives. Out of the total respondents, 117 individuals (91%) confirmed that there was consultation with the community during the implementation of these initiatives. Notably, no respondents (0%) indicated a lack of consultation.

Figure No. 34: Community Consultation



Satisfaction with Services

Figure no. 35: Satisfaction with Health Services



The diagram shows whether the respondents' felt satisfied with the services provided or not. Out of the total respondents, 124 individuals (96%) expressed satisfaction with the services, indicating a strong positive reception and approval of the services offered.

SKILL DEVELOPMENT

As part of its CSR activities, NPL has taken the initiative of establishing skill development centres in their catchment villages. These centres play an instrumental role in equipping women with vocational skills and enabling them to secure respectable income opportunities. These skill development centres have been historically rooted in NPL Catchment Villages considering that at least 30 women are available for training. Different projects form a part of the skill development initiative of the NPL, which are as follows:

Table No. 6: Skill Development Initiatives, their Objectives and Location

Skill Development Initiative	Objectives	Location
Skill Training	Training women in Stitching- Tailoring and Beautician	Bakshiwala,Kharola, Sadhror, Sural Kalan,Mijrapur,Dhabali Kala, Rangian, Gurdittpura, Loha Khedi, Bhappal, Harna and Kotla
Udyogini: Production Centres	Income generation of women who wish to engage in job work provided in production centres (Stitching of School Dresses, Jute, Paper Bag and Phulkari) in 6 villages	Kharola, Rangian, Nalash, Sural Kalan, Bakshiwala, Sindhran
Udyogini: Entrepreneurship Development	Enterprise scaleup of trainees of NPL's Skill Development Program through in-kind support for setting up their enterprises	Salempur, Dadumajra, Bakshiwala, Balsua, Kotla, Naina, Nalash Khurd

The Udyogini Production Centres were continued in the locations where women were trained in Stitching and Tailoring, the desirous women were enrolled in the centre out of a survey. Similarly, for Udyogini Entrepreneurship, applicants were selected out of the applications received from the survey conducted by NPL Trainers in villages where training was conducted in the past. Certificates are also provided to deserving candidates, which can be used as proof of their skills and will enhance their employability.

For the impact assessment of this initiative, the women enrolled at skill training centres of Harna, Bhappal, Nalas Khurd, Loha Khedi, Mirjapur, Sural Kalan, Dabali Kalan, Rangian, Sindhran, Kharola, and Nalas Kalan were identified as respondents. The details of these skill development centres are as follows:

Table No. 7: Skill Development Centres and their Details

Village	Course	No. of Students	Trainer's Name	Trainer's Qualification	Trainer's Work Experience
Harna	Beautician	35	Satnam Kaur	12th	20 years
Bhappal	Beautician	34	Satnam Kaur	12th	20 years
Loha Khedi	Stitching	35	Sita Rani	M.A.	9 years
Mirjapur	Stitching	30+6 (WFH)	Kirna Devi	10th	13 years
Sural Kalan	Production	13	Kirna Devi	10th	13 years
Dabali Kalan	Stitching and Embroidery	30	Balbinder Kaur	B.A.	10 years
Rangian	Stitching	11	Malkit Kaur	12th	5 years
Sindhran	Stitching	12	Anubala	B.A.	12 years
Kharola	Beautician	35	Nancy	B.A.	14 years
Nalas Kalan	Beautician	38	Jagdeep Kaur	B.A.	2 years
Nalas Kalan	Production	13+8 (WFH)	Nancy	B.A.	14 years

NPL first provides the training and then gives employment to the deserving candidates of the centre. Income source has also been generated for the needy ones. Moreover, NPL also provides work to housewives that can't come to the centre, through the provision of work from home.

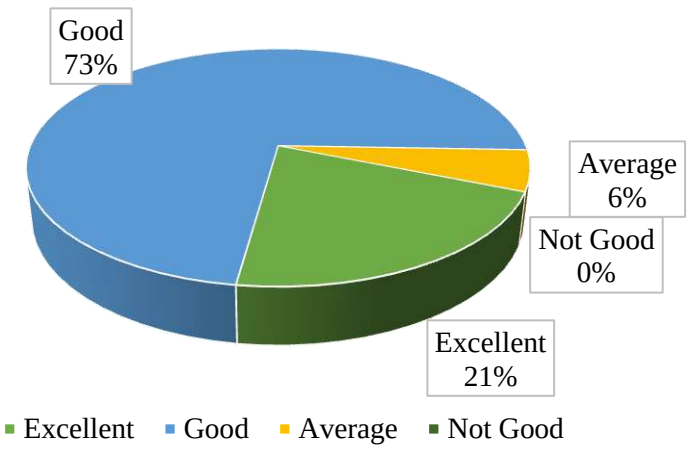
Their responses to various questions regarding their experience at these centres are presented below.

Availability of Equipment

All the respondents reported that the equipment required for their training and working, like sewing machine, interlock machine, embroidery machine, threads, needles, scissors, measuring tape, etc. are provided by NPL. In the Production Centre, raw materials in the form of jute, phulkari dupatta, paper are being provided by NPL for production of bags, pouches, kits, etc. Moreover, the centres are also equipped with desks, stools, white/black boards, proper lighting, ventilation, fans, drinking water, cleanliness, proper toilets.

Grading of Skill Development Initiatives

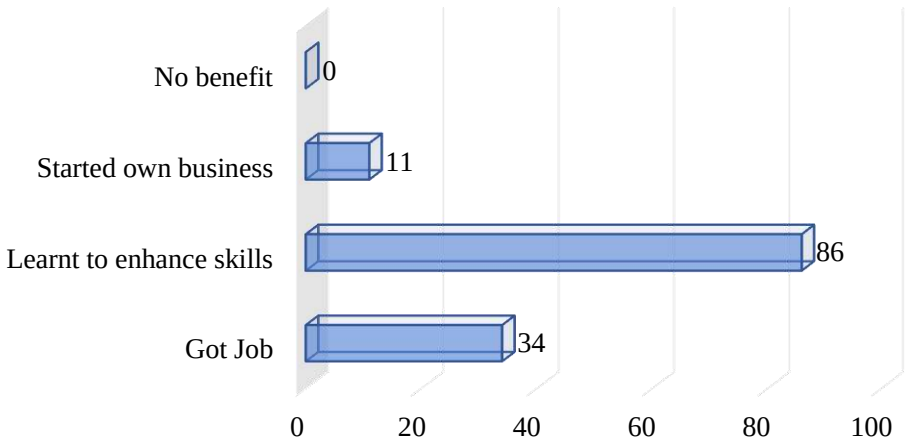
Figure No. 36: Grading of Skill Development Initiatives



The table shows respondents' evaluations of the skill development initiatives. Out of the total respondents, 19 individuals (21%) rated the initiatives as Excellent. A majority, 66 respondents (73%), considered them Good, while 5 respondents (6%) rated them as Average. No respondents rated the initiatives as Not Good. Overall, the evaluations indicate that the skill development initiatives are generally perceived positively, with most respondents rating them as Good or Excellent.

Benefits from Skill Development Initiatives

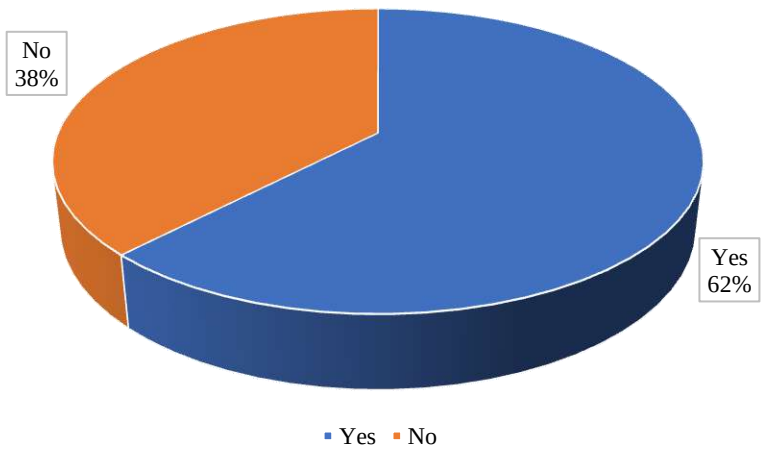
Figure No. 37: Benefits from Skill Development Initiatives



This diagram shows the benefits reported by respondents from the skill development initiatives. In this question, the respondents chose more than one option. Out of the total respondents, 34 individuals (37%) indicated that they benefited by securing a job. A significant majority, 86 respondents (95%), reported learning to enhance their skills. Additionally, 11 respondents (12%) started their own business as a result of the initiatives. No respondents reported receiving no benefit. Overall, the data suggests that the skill development initiatives primarily help individuals enhance their skills, with some also leading to employment or new business ventures.

Future Guidance Received from NPL

Figure no. 38: Future Guidance Received from NPL



The diagram shows whether respondents received future guidance from NPL. Out of the total respondents, 56 individuals (62%) reported receiving guidance, in the form of placement support or financial support to establish own business. ‘

EDUCATION

Education forms another key area in NPL’s CSR contribution. Since education is one of the most powerful tools that can help a community not only for the present generation but for posterity as well; NPL has chosen to work on supporting access to quality education in the catchment villages. To this end, NPL works through developing educational institutions as well as giving meaningful scholarships to deserving students. The initiatives that NPL has taken are based on need assessment surveys for the development of govt. schools. The different projects and the responses of the respondents related to their experience in these projects are presented below.

Integrated School Development Program

The Integrated School Development Program works towards creating resilient infrastructure in govt. schools of the Catchment Villages. As part of this program, they have built several rooms, playgrounds, etc.

For the impact assessment of these CSR activities, respondents were identified from the concerned schools in Aluna Basantpura, Gurditpura, Sodhrar, Loha Khedi, Badali Maiki, Sindhran, Kotla, Dadu Majra, Basanpura, Bhagrana, Ugani Sahib, and Nalas Kalan.

Awareness regarding Structures

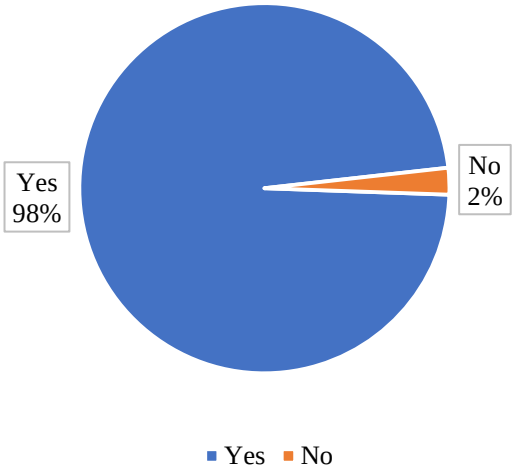
The respondents from the govt. schools following villages were aware of the following structures:

Tables No. 8: Schools and the Respective Structures Built

School Name	No. of Students	No. of Teachers	Awareness Regarding Structures
GSSS Aluna Basantpura	135	17	Library and Water Filter
GPS Gurditpura	58	3	Floor Work, Renovation, Repair of Mid-Day Meal Room & Painting, and Water Filter
GES Sadhror	49	2	Renovation and Water Filter
GES Loha Khedi	50	2+1(NPL)	Floor Work, Renovation, Sitting Desk, and Water Filter
GES Badali Maiki	39	1+1(NPL)	Renovation, New Toilets, and Water Filter
Govt. High School Badali Maiki	136	9	Floor Work, Renovation, Repair of Mid-Day Meal Room & Painting, Pathways, and Water Filter
GES Sindhran	35	1+1(NPL)	Water Filter
GPS Kotla	43	2	Floor Work, Renovation, Play Equipment (Swings & Slides, Multiplay Stations for primary sections), Repair of Mid-Day Meal Room & Painting, Pathways, and Water Filter
GPS Dadu Majra	65	2+1(NPL)	Floor Work, Renovation, Sitting Desk, Development of Play Ground, New Toilets, Pathways, Water Filter
GSSS Basantpura		4	Water Filter
GPS Dabali Kalan	64	2	Floor Work, Renovation, Water Filter
GES Bhagrana	77	4	Renovation, Water Filter
Govt. High School, Ugani Sahib	213	14	Floor Work, Renovation, Library, Development of Play Ground, Play Equipment (Swings & Slides, Multiplay Stations for primary sections)
GPS Nalas Kalan	160	6+1(NPL)	Floor Work, Renovation, Development of Play Ground, Play Equipment (Swings & Slides, Multiplay Stations for primary sections), New Toilets, Pathways, Water Filter

Consultation with Staff

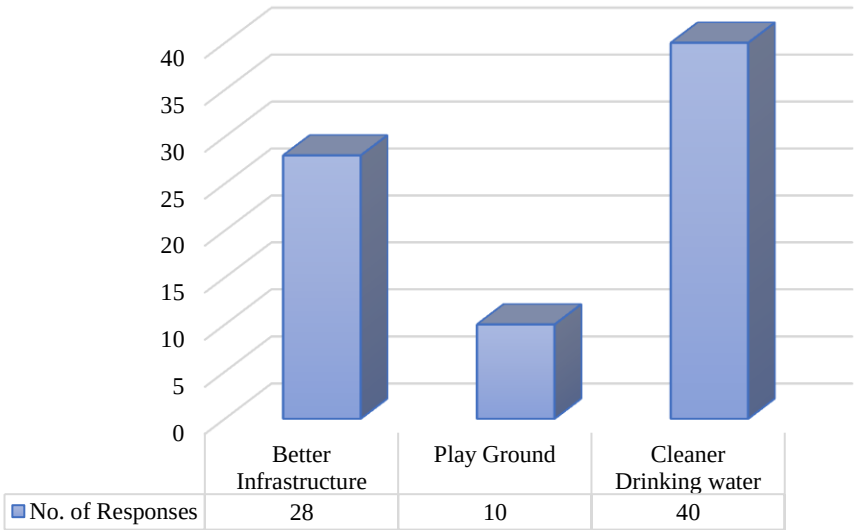
Figure No. 39: Consultation with School Staff



The diagram shows whether staff were involved in consultations regarding education-related initiatives. Out of the total respondents, 42 individuals (98%) reported that staff were part of the consultation process, they also presented proof in the form of minutes of meetings and consultation reports. This suggests that the majority of respondents experienced staff participation in the consultations for education-related initiatives.

Changes after Intervention

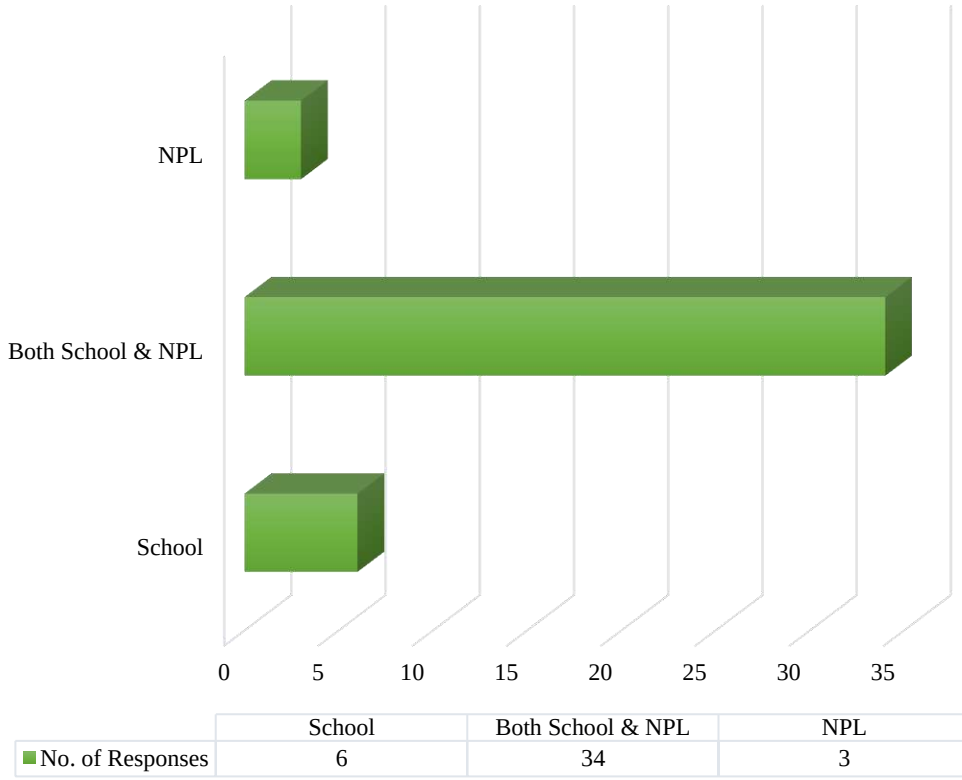
Figure no. 40: Changes after NPL's Intervention



The diagram shows the changes observed after the implementation of education-related initiatives. The respondents could choose more than one option in this question. Out of the total respondents, 28 individuals (65%) reported improvements in infrastructure. Additionally, 10 respondents (23%) noted the establishment of playgrounds, and 40 respondents (93%) observed cleaner drinking water. This data indicates that the most commonly observed change was cleaner drinking water, followed by better infrastructure and playgrounds.

Maintenance Responsibility

Figure No. 41: Maintenance Responsibility of Schools



The table shows the perception of respondents regarding responsibility for maintaining education-related initiatives. Out of the total respondents, 6 individuals (15%) indicated that maintenance is the responsibility of the school. A majority, 34 respondents (79%), reported that both the school and NPL share the maintenance responsibilities. 3 respondents (6%) stated that NPL alone is responsible for maintenance.

Learning Enrichment Programme at Primary Level

To enhance the quality of learning and education at the primary level, NPL worked on the following in some of the primary govt. schools of its catchment villages:

- Availability of additional teaching staff for English and Maths
- Getting academic support at home
- Appropriate class timings
- Easy to understand language
- Good teaching pedagogy
- Inclusive of raised concerns
- Building confidence in speaking, reading, and writing
- Enhance mathematical skill

The respondents at GPS Gurditpura, GES Loha Khedi, GES Badali Mai Ki, GPS Kotli, GPS Dadu Majra, GPS Dabali Kalan, GPS Nalas Kalan were aware of the Learning Enrichment Programme which was being carried out at these schools.

School Bag Distribution

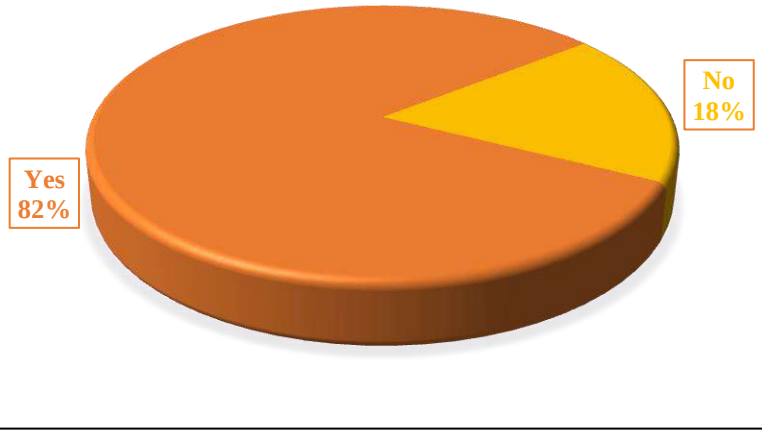
The respondents from govt. schools of Aluna Basantpura, Gurditpura, Sodhrar, Loha Khedi, Badali Mai ki, Sindhran, Kotla, Dadu Majra, Basantpura, Bhagrana, Ugani Sahib, and Nalas Kalan reported that the school bags were distributed to all the students in their school, who were present on the day of distribution.

School Adoption Programme

Under the school adoption programme, infrastructure was created by NPL, which was supposed to yield a positive effect on the quality of education and reduce absenteeism. Infrastructure ranging from buildings, furniture, painting, toilets, etc. to drinking water facility improvement, computers, etc. was developed by NPL in the govt. schools of Gurditpura, Sodhrar, Loha Khedi, Badali Mai ki, Sindhran, Kotla, Dadu Majra, Ugani Sahib, and Nalas Kalan. Their responses have been presented below.

Earlier Condition of Infrastructure

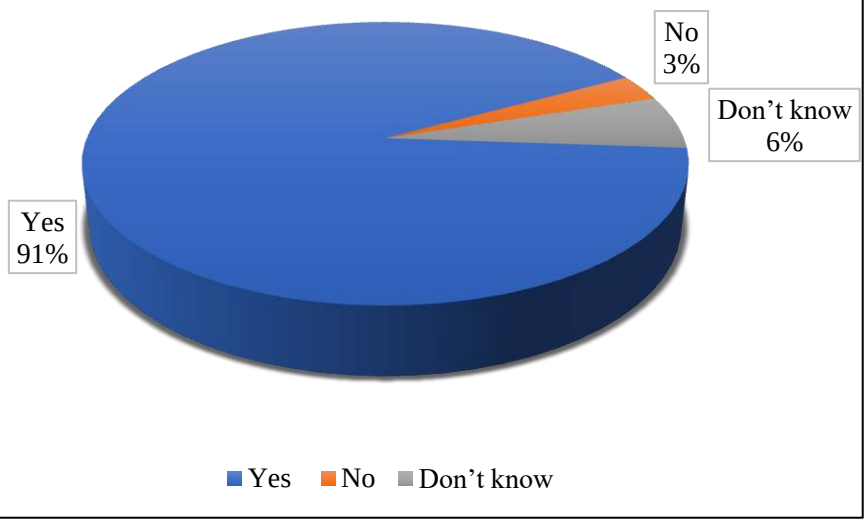
Figure No. 42: Dilapidated Condition of Structures before NPL's Intervention



This diagram shows the responses of respondents about the earlier condition of school infrastructure, i.e. whether the infrastructure was previously in a dilapidated condition. Out of the total respondents, 27 individuals (82%) reported that the infrastructure was previously dilapidated, while 6 respondents (18%) stated that it was not. This indicates that a significant majority of respondents observed that the infrastructure was in poor condition before the recent improvements.

Consultation before Intervention

Figure No. 43: Consultation before Intervention



The diagram shows the respondents' views on whether consultation took place before the intervention. Out of the total respondents, 30 individuals (91%) reported that consultation occurred prior to the intervention. They reported that consultation took place with all the stakeholders, i.e. School Staff, Gram Panchayat, and Parents.

Table No. 9: Infrastructure Created by NPL in Schools

School Name	Infrastructure Developed by NPL
GSSS Aluna Basantpura	Building Renovation, New construction
GPS Gurditpura	Building Renovation, New Construction, Furniture, Drinking Water Facility
GES Sadhror	Building Renovation, Painting, Drinking Water Facility
GES Loha Khedi	Building Renovation, New Construction, Furniture, Painting, Drinking Water Facility
GES Badali Maiki	Building Renovation, New Construction, Painting, Drinking Water Facility
Govt. High School Badali Maiki	Building Renovation, New Construction, Furniture, Painting, Drinking Water Facility
GPS Kotla	Building Renovation, New Construction, Furniture, Painting, Drinking Water Facility, Books
GPS Dadu Majra	Building Renovation, New Construction, Furniture, Painting, Drinking Water Facility
GPS Dabali Kalan	New Construction, Furniture, Drinking Water Facility
Govt. High School, Ugani Sahib	Building Renovation, Drinking Water Facility
GPS Nalas Kalan	New Construction, Painting, Drinking Water Facility, Books, Notebook, Stationery

Permission Before Renovation

The respondents were asked whether permission was taken from the competent authority before renovation. All the respondents reported that the competent authority was consulted, showing that the stakeholders were included in the decision-making process.

Functionality and Impact of Infrastructural Development

The respondents were asked about the functionality of toilets developed by the NPL. All the respondents have indicated that there was a separate toilet for female students in their respective school and they are completely functional- water is available, flush and taps are working, toilet seats are clean, and doors close properly.

With respect to the impact of infrastructural developments, the respondents have reported that infrastructural development has led to an increase in admissions, less dropout rate, and a reduction in absenteeism. Hence, infrastructural development done by NPL is positively contributing towards increasing the attendance at schools.

NPL Scholarships

NPL also grants scholarships to deserving students, so that they are able to access education. The objective of this scheme is the enrollment of youth in general and girls in particular in career courses namely GNM & BCA so that they can be employed after completion of their degree. The students for this scholarship are selected based on a survey and an eligibility test later.

For this report, 7 students availing this NPL Scholarship became the respondents and answered questions relating to this scholarship. Their answers have been presented below.

Criteria for the Scholarship

This scholarship was granted to students belonging to underprivileged backgrounds, who were enrolled in GNM or BCA course in the Swift College, Ghaggar Sarai. The criteria for scholarship was minimum 70% marks in 10^{th} and 12^{th} grade, and passing an eligibility test (getting 30-35 questions right out of 100).

Amount or Benefits of the Scholarship

The amount or benefits of the scholarship include whole course fees, which is paid by NPL; transport facility; books and study material; a tablet; and a theatre workshop at Alankaar Theatre.

Impact of the Scholarship

The students have reported that this NPL Scholarship has enabled them to pursue higher studies, gave them confidence, and gave them the belief that they can achieve something.

QUALITATIVE IMPACT OF THE PROJECTS

Infrastructure

The various rural infrastructural development projects that NPL has implemented have demonstrated changes in the lives of the community members in a positive way. These have remained very much based upon extensive baseline studies undertaken in conjunction with the Village Panchayat and the local community, to ensure that the projects would meet the real and pressing needs of the residents. Such inclusiveness helped in generating ownership of the villagers towards the project and to make sure that the projects happen in accordance with the particular difficulties of those people, like inadequate roads, transportation problems, no community space to congregate, etc.

The infrastructure that has been developed like the peripheral road, the community shed, the Panchayat cum Training Agency, the sports ground etc. today are very much a central part of the daily lives of the village. They shared that earlier the road was full of potholes and pits and is very much inconvenient for someone to travel through that road, especially when it rains. Their other necessity was for a sports ground and a community shed. The improvements here have, therefore, become an integral part of their routine activities, upping the quality of life with safer roads, better connectivity, and spaces for community gatherings. The community members have responded that the projects basically address the needs of the community. The respondents also raised the issue of sustainability which in itself is assured to a large extent by a collaboration between the Village Panchayat and the NPL. Therefore, it would not be naive to consider that these infrastructural developments are helping make the residents safer and more connected and engaged.

EWS Housing

The EWS Housing Scheme provided houses to the people from underprivileged sections who were either living in homes with very dilapidated conditions or who had no house at all. They received dignified accommodation, in pursuit of basic amenities like water supply, sanitation, and electricity. Requests coming from people in the village to the Village Panchayat and the NPL authorities became the basis for the identification of beneficiaries for this scheme.

According to reports, beneficiaries of such schemes say they have a feeling of security and safety due to the fact that a house is provided to them.

Since they assure themselves of having a roof above their head, they can now think about taking interest in terms of health and education of their family. This scheme has effectively improved the social and economic life of these beneficiaries, whereby they can think of something else rather than where to spend the night. With the worsening wealth inequalities and poor people's decreasing ability to own a house, NPL's scheme of providing them a decent place to stay in is reducing this inequality for the beneficiaries.

WATER & ENVIRONMENT

In general, the environmental conservation activities of NPL at identified locations have brought in tremendous changes to the livelihoods of the community. The projects have been identified with due consideration, based on the perception and demands of the Village Panchayat and the local community, to address urgent and real environmental concerns in these catchment villages.

The local water resource was a place where silt deposited and where reeds had grown in abundance. This stopped the irrigation use of them and led to the spread of a lot of diseases to any more people. So there was a need that was being felt for managing reclamation activities of the ponds and plantation works on the larger scale. On a direct count of interference of NPL, villagers of the villages have seen the materialistic benefits like the quality of water that was enhanced and information from conserving the environment. The village pond is now looked to be the source input key resource for better irrigation facilities which in return do cause better agricultural productivity and balanced ecology. Further, the activities of the plantation that will help the environment as well as for social improvement are largely supported by the community, with 90% of them perceiving it as necessary. This only underlines quite clearly the community feedback that the efforts are working, and really, this underlines that these efforts need to be maintained: another shimmy with the NPL and the Village Panchayat regarding the upkeep of these efforts will only ensure the bettering of the environment for community well-being, which underscores very enduringly the need for partnership and stewardship. These projects have not only upgraded the ecology but also enhanced the attachment of the community toward their environment, fostering a lifestyle that is more sustainable and involved. This way, very crucial environmental issues have been dealt with while an individual and participative way.

Youth & Sports

NPL's dedication to the uplift of the young through sports and physical activity is visible through the CSR that the company has engaged in towards a healthy and active way of living in society.

NPL has addressed the needs of the Village Panchayat and the youth that directly came through a common sports facility, distribution of sports kits, and programs of sports consisting both traditional and modern mode of games.

Respondents have stated that the requirement of such development speech critically in this growing trend of drug addiction among the youth of Punjab. These schemes served to promote both health and community cohesion by bringing people together for the sake of sports and are, therefore, important for the divergence of youth energy to more positive causes. In addition to this, the activities provided recreational opportunities and a culture of staying active for the rural youth. In fact, NPL used to organize such games and conducts so much continuity that will allow the young section of the community to frequently be participating in the games regularly to do some exercise in personal as well as social fitness and well-being.

Moreover, the nature of participation that NPL encourages provides a sense of ownership and belongingness among the community members. In fact, events and sports kit distributions benefit many from the poor background having skills and interest to develop a career in sports. The combined work of innovative sports programs at NPL communicates the intended attempts of the management to fill in community recreational needs and enhance the quality of life for the rural youth. With sustained support and magnification along these lines, NPL will go on to enhance effects and leave a broader smile on the aspect ratio, ensuring holistic health and development for the communities it serves. NPL has been addressing the important healthcare needs of the catchment villages by organizing various health-related programs like blood donation camps, general and specialized health camps, and camps for other critical diseases like cancers. These projects were initiated based on the direct input and requests from the community and village panchayats about making interventions very relevant and effective towards addressing specific cases on health concerns of the villagers of concern.

The respondents in many villages reiterated that through health camps, they could access preventive and curative health services for free. Another major benefit was the

care of early diagnosis of the diseases, especially with the help of cancer detection camps. The overall level of consciousness and involvement in such health activities lead towards the positive acceptance of how many actual advantages such programs have provided considering the concerned areas.

The NPL has also supported the government hospitals in many ways: it has organized medical camps, provided the essential equipment and infrastructure, and supplied medicines.

This has gone a long way in changing the condition and services of government hospitals. The provision of such equipment as air conditioners, fridges, CCTV cameras, besides essentials like beds, tables, desks, medicines, medical equipment, among others, has really changed the condition of govt.

This whole support has led to some positive changes in the quality of services offered to OPD. Many villagers noted that more patients were now using the OPD services, which meant that more patients now had faith in the local health infrastructure, possibly because it had better facilities and services brought about by the interventions of NPL. Besides, the health-related initiatives have helped a lot to increase health consciousness in the village. The increased health awareness induces and results in more people being treated for illness, which eventually becomes an important factor for quality living in life. SKILL DEVELOPMENT NPL's commitment to empowering women in its catchment villages has been through skill development centres.

NPL has provided them, through the set-up of these centers, valuable vocational training made accessible to them – stitching, tailoring, as well as beautician training – which the latter has already charted ways to further their dignity in income opportunities.

The organization has studied well the needs of the community for employment generation and has, therefore, implemented these in villages where enough number of women is enthusiasts to take up such training.

The Udyogini Production Centres and Entrepreneurship Development projects go a step further and provide income generation and enterprise support to trained women so they become earners from learners. The success of these centres is predominantly because of the availability of the necessary equipment, including sewing machines, embroidery

machines, and raw materials for their respective trades. Most of the women at the centers are from destitute families, in search of an income, and could not, therefore, afford to procure those materials for themselves. Also, NPL's provision of a conducive environment, together with good lighting, ventilation, and sanitation services, has served to accord the trainees a peaceful atmosphere to develop skills without any distractions.

The structured support, including work-from-home options for those who cannot otherwise access the centres, further underlines NPL's commitment to inclusivity and flexibility in empowering women. Several benefits, for example in skills augmentation and placements into jobs, could be marked as concrete, and some of them found the opportunity to set up their own business ventures. NPL-imparted training has led to the enhancement of women's skills, not only their employability states but also their confidence and self-reliance. The fact that a good number of women have gotten employment or ventured into businesses due to the same programs clearly proves the broad-reaching impact of the NPL's initiative in establishing women's economic power.

The other thing is that NPL also provides a platform for facilitating women with placements and also starting their own businesses, where it equips the women with tools and training. The handholding provision of NPL had made the translation of training received into direct applications gleefully easy, such as utilizing the newly developed skills by the women in their villages for economic gains. The approach made a huge difference in the lives of the participants and is contributing positively to the uplift of the socio-economic status of the society where they belong. In the catchment villages of its area of operation, NPL runs skill development centers that went a long way in transforming the lives of women. It is the conglomeration of full training, support infrastructure, and post-training follow-up that has led these women to be able to achieve such impressive results in becoming financially independent and meaningful contributors to society. Through further change, these projects have the potential to be changers in the empowerment of women to be self-reliant entrepreneurs throughout the region.

Education

NPL has been putting immense efforts into making access and quality of education betterment within its overall catchment villages, which reflects a good spirit towards

developing the communities. Under the aegis of its Integrated School Development Program, many remarkable steps have been taken by NPL to enhance the infrastructure of government schools, like construction of additional classrooms, playgrounds, and facilities essential for every child, such as water filters and libraries. NPL has filled the gap areas in the educational infrastructure.

There are reports by many that the rundown state of the schools in the past has turned to the well-kept and workable conditions of many. It can be directly felt that the provision of new constructions, renovations, and the provision of toilets and drinking water accessibility will indeed affect the arrival of students and the cordial environment in schools. The program has become effectual and highly influential in enhancing impacting the environment of learning. Particularly mentioned major benefits are cleaner drinking water and improved infrastructure that makes the atmosphere friendlier for learning. The Learning Enrichment Programme adds excellently to the dedication that NPL holds in its mission of breeding educational quality at the primary level. Through additional teaching staff, students receive academic support and tailor-made pedagogy. NPL has had considerable impact on students' educational quality. The program's emphasis on the very subjects, such as English and Math, coupled with an attempt to infuse confidence through a change in teaching approach, was well appreciated by the schools concerned. This intervention has to do with the student's shortfall educationally at the primary level, which lays a sound base for a successful life.

This program is intended for the needy students to receive a college education and provides complete sponsorship on the fees, transportation, and even study materials. The success stories from the beneficiary of the scholarship scheme explain the capacity-building faculty of the program in developing the nurtured goals in availing education and the provision of critical inputs, which raises the ability of the beneficiary students in excelling in their respective educational sectors. The education-based effort of NPL has created tremendous positive impacts in the two villages of the catchment areas. The holistic strategy of this includes both infrastructure development and learning enrichment, as well as directly supporting scholarships. The above emerges by way of the feedback of all those involved in this institution. The future of the NPL, with its commitment to education, is bound to create sustainability in all the NPL endeavors with growth and development in its impact further to ensure consequent outcomes reflecting in the lives of the human beings across generations.

CONCLUSION

The impact assessment of the CSR initiatives of Nabha Power Limited (NPL) comes out with the finding that these programs indeed made a significant positive difference in the lives of the communities they serve. Through well-focused interventions in infrastructure development, housing, environmental conservation, youth and sports, healthcare, skill development, and education, NPL has really been able to address the critical needs of its catchment villages.

The infrastructural works listed in the report have improved community connectivity, safety, and engagement by way of road repairs, formation of common spaces, construction of necessary buildings, etc. In addition, the EWS Housing Scheme has provided safe and dignified accommodation to the underprivileged families, hence promoting social stability and economic progress. The environment-related activities have revived the local water resources and created an environmental awareness; the youth and sports-related activities have encouraged physical fitness and community spirit.

The health initiatives of NPL have improved access to preventive and curative services, which in turn has resulted in better health outcomes within the community. Further, the skill development centers of this organization have empowered women to have better economic independence through vocational skills. The educational programs by NPL transform the school environment, enrich learning experiences, and support the higher education pursuits of students.

While these initiatives, on the whole, have been quite successful in meeting their objectives of addressing the needs of the community, the assessment also brings out a much-needed focus on sustainability and the fact that NPL will remain engaged with local stakeholders, such as the Village Panchayat, over the long term. Only in this manner can such linkages sustain themselves over the long term for the eventual success of the projects and maximization of their positive impacts.

To sum it up, NPL's CSR efforts have improved the lives of many and helped to foster a closer relationship between itself and key communities. Further strengthening these successes and improving on these highlighted weaknesses will propel NPL's social responsibility commitment to even higher levels of contribution to the well-being and development of the larger community.

RECOMMENDATIONS

Health Programme

- NPL has made commendable strides in providing essential health services through various health camps, such as eye care and general body check-ups. However, as the health needs of the communities continue to evolve, there is a growing demand for more specialized health camps, particularly those focused on cancer and cardiovascular diseases. Addressing these demands would not only enhance the impact of NPL's health initiatives but also provide much-needed support in areas that are currently underserved.

- Additionally, it is worth noting that some villages lack dedicated health center spaces, with services being provided in makeshift locations such as village gurudwaras and other communal buildings. Exploring opportunities to establish or improve permanent health center facilities in these areas could significantly benefit the local population, offering them a stable and accessible environment for healthcare.

Educational Programme

- NPL has made significant contributions to education, particularly through the provision of teachers to various schools. However, in certain areas like English & Science subjects, there remains a shortage of teaching staff, which impacts the quality of education. By addressing this gap, NPL can ensure that all schools have the necessary resources to deliver a high standard of education.

- Furthermore, while the initial infrastructure setup in schools has been commendable, there is a growing need for ongoing maintenance and renovation work. Regular upkeep and timely renovations will help sustain the learning environment, ensuring that the facilities remain conducive to education. Focusing on these areas will allow NPL to build on its successes and continue making a meaningful impact in the field of education.

EWS Housing

- The construction of houses for the economically weaker sections (EWS) by NPL is a significant and impactful initiative. However, there have been some concerns regarding the quality of workmanship, with reports of dissatisfaction

related to the construction and labor work. To address these concerns, increased supervision and quality control measures by NPL staff would be beneficial. This proactive approach will help ensure that the housing provided meets the expected standards and truly serves the needs of the beneficiaries.

Skill Development and Production Centre

- The Skill Development and Production Centre has been instrumental in enhancing the skills of local women, empowering them with valuable capabilities. However, a common challenge expressed by the participants is the difficulty in securing employment after completing their training. To maximize the impact of this project, there could be a stronger focus on job placement and creating pathways to employment for these skilled women.
- Moreover, expanding the production center to engage more women in the production process could provide additional opportunities for income generation and community development. By scaling up these efforts, NPL can further empower women and contribute to sustainable economic growth in the region.

Water and Environment

- Environmental sustainability is a critical area where NPL can make a lasting impact. Feedback from some villages suggests a need for increased emphasis on tree plantation projects. By prioritizing these initiatives, NPL can contribute to the long-term environmental health of the communities it serves, promoting biodiversity and improving the quality of life for residents.
- In addition to tree planting, exploring other environmental projects, such as water conservation and waste management, could further enhance NPL's contributions to creating a sustainable and eco-friendly environment.

Project: Youth and Sports

- Youth engagement in sports activities has been positively received, with many young people expressing satisfaction with the programs organized by NPL and their village panchayat members. However, there is potential to further expand these initiatives, engaging youth from a greater number of CSR villages. By broadening the reach of these sports programs, NPL can foster a more inclusive and active community.

- Additionally, there is a recognized need for improved sports infrastructure, such as the development of sports grounds, installation of proper lighting, and levelling of playing fields. Investing in these areas will not only enhance the quality of the sports programs but also provide a safe and supportive environment for youth to develop their talents and stay active.

Infrastructure Development

- NPL's infrastructure projects, including the development of roads, community sheds, and sports grounds, have been instrumental in improving the quality of life in many communities. However, the maintenance of these projects is crucial to ensure their longevity and continued benefit to the residents. Regular maintenance work, especially for projects launched some time ago, will help preserve these valuable community assets.
- By committing to the upkeep and enhancement of existing infrastructure, NPL can ensure that these projects continue to serve the needs of the communities effectively, contributing to long-term social and economic development.

GLIMPSE OF CSR ACTIVITIES


NPL
THE TRUTH ABOUT
DRUGS
drugfreeworld.org

MEDIA COVERAGE

Socio-economic life in villages around Nabha power plant has seen a positive change over the years, writes **Harpreet Bajwa**

GIVING 'POWER', in more ways than one

PUNJAB

MORE than a decade ago, villagers living around the 1400 MW power plant in Punjab's Nabha had protested against the acquisition of 1,0?? acres of land by the state government, demanding higher compensation and livelihood opportunities. Nabha Power Ltd promised to hire more local people and enable them to stand on their feet.

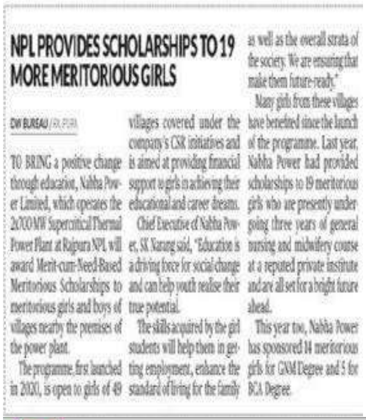
Today, the lives of people in many villages in Patiala and Fatehgarh Sahib districts around the thermal power plant near Rajpura have changed for the better. Improvements in education, skill development and infrastructure have made them financially independent.

"We are running various skill development centres that have enabled the local youth to learn vocational skills. Besides enhancing the youths' ...

"The renovation of our village pond has facilitated irrigation. The gram panchayat also earns money from the fish farming," says Jeet Singh of Ugani Sahib village.

"Our village did not have a community centre. The community shed erected has come as a big help for not just the residents of the Jomni but it is also used by people living in ...

The Nabha Power Plant Ltd is running various programmes to better the lives of villages living in the vicinity.



NPL PROVIDES SCHOLARSHIPS TO 19 MORE MERITORIOUS GIRLS

DW BUREAU / RAJPURA

TO BRING a positive change through education, Nabha Power Limited, which operates the 2x700 MW Supercritical Thermal Power Plant at Rajpura NPL will award Merit-cum-Need-Based Meritorious Scholarships to meritorious girls and boys of villages nearby the premises of the power plant.

The programme, first launched in 2020, is open to girls of 49 villages covered under the company's CSR initiatives and is aimed at providing financial support to girls in achieving their educational and career dreams.

Chief Executive of Nabha Power, SK Narang said, "Education is a driving force for social change and can help youth realise their true potential.

The skills acquired by the girl students will help them in getting employment, enhance the standard of living for the family as well as the overall strata of the society. We are ensuring that make them future-ready."

Many girls from these villages have benefited since the launch of the programme. Last year, Nabha Power had provided scholarships to 19 meritorious girls who are presently undergoing three years of general nursing and midwifery course at a reputed private institute and are all set for a bright future ahead.

This year too, Nabha Power has sponsored 14 meritorious girls for GNM Degree and 5 for BCA Degree.

सरकारी औद्योगिक सिखलाई संस्था में पास बच्चों को दिए सर्टिफिकेट

Nabha Power organizes Go Green Cycle Marathon

PATIALA, SEPT 6

To promote environmental consciousness and a healthier lifestyle, Nabha Power Limited (NPL), which operates the 2x700MW supercritical thermal power plant at Rajpura, organized a Go Green Cycle Marathon in six villages of the Rajpura block in which more than 70 cycle enthusiasts participated.

The cycle enthusiasts crisscrossed through the six villages covering a total distance of 11km, amidst loud cheers from the residents, who had gathered in great numbers to witness the Cycle Marathon. They raised encouraging slogans all along the route, holding colourful flags in their hands. Commenting on the initiative, SK Narang, the Chief Executive of Nabha Power said, "To raise awareness about the current environmental issues and to promote the message of healthier and greener lifestyles, events like this should be conducted more often." He said, "Besides cycling, Nabha Power was encouraging sports in the villages around the plant by organizing sports tournaments and engaging trained coaches to help the local youth realise their sporting dreams."

In the end, the registered participants were awarded medals and mementoes in appreciation of their zeal to promote environmental causes. Senior management of Nabha Power later thanked the district civil as well as police administrations for providing the needed support to make the event impactful and successful.

THU, 16 MARCH 2023
EDITION: PATIALA KESARI, PAGE NO. 1

नाभा पावर ने जी.एस.एस. भप्पल को सौंपा पिलर लेस मल्टी-यूटिलिटी हॉल

पटियाला, 15 मार्च (राजेश पंजौला, मनदीप जोसन, स.ह.) : नाभा पावर लिमिटेड , जो की 2&700 राजपुरा थर्मल पावर प्लांट का संचालन करती है, ने भप्पल में सरकारी सीनियर सैकेंडरी स्कूल को बिना पिलर वाला एक बड़ा मल्टी-यूटिलिटी हॉल सौंप दिया है।

हॉल विभिन्न उद्देश्यों की पूर्ति करेगा, जिसमें लाइव वीडियो स्ट्रीमिंग सत्र, बोर्ड परीक्षा आयोजित करना, ऑनलाइन शिक्षण और सांस्कृतिक कार्यक्रम शामिल हैं। इससे आसपास के 7 गांवों के लगभग 250 छात्रों के लाभ होगा। जी.एस.एस. भप्पल के प्राचार्य ने क्षेत्र में शिक्षा को बढ़ावा देने के लिए नाभा पावर का आभार व्यक्त किया।

इस अवसर पर नाभा पावर के मुख्य कार्यकारी, एस.के. नारंग ने कहा कि ग्रामीण क्षेत्रों में औपचारिक शिक्षा को बढ़ावा देना कंपनी की सी.एस.आर. पहल के तहत प्राथमिक उद्देश्यों में से एक है। कंपनी ने उच्च अध्ययन करने ... को छात्रवृत्ति प्रदान की है, 400 से अधिक छात्रों की शैक्षणिक प्रगति का समर्थन करने के लिए विभिन्न सरकारी स्कूलों में विशेष शिक्षकों को नियुक्त किया है, जिससे सरकारी स्कूलों में नामांकन और प्रतिधारण में वृद्धि हुई है।

उन्होंने कहा कि नाभा पावर ने 40 से अधिक सरकारी स्कूलों में प्रमुख नवीनीकरण परियोजनाएं भी पूरी की हैं और लगभग 25 स्कूलों में फर्नीचर प्रदान किया है। पुस्तकालयों के लिए पुस्तकें प्रदान की हैं। कंपनी ने विज्ञान में छात्रों की रुचि विकसित करने के लिए विज्ञान किट वितरित किए और अब अगले शैक्षणिक सत्र में बड़ी ... की बोतलें और पैंसिल बॉक्स प्रदान करने की योजना भी है। इंस्टीच्यूट फॉर डिवैल्पमैंट एंड कम्युनिकेशन, चंडीगढ़ द्वारा किए गए एक सोशल ऑडिट के अनुसार, नाभा पावर की शिक्षा को बढ़ावा देने की पहल के परिणामस्वरूप संयंत्र के आसपास के विभिन्न गांवों में शिक्षा के स्तर में महत्वपूर्ण सुधार हुआ है।

ऑडिट रिपोर्ट में विशेष रूप से उल्लेख किया गया है कि बेहतर बुनियादी ढांचे और शिक्षकों की नियुक्ति कर नाभा पावर ने सरकारी स्कूलों छात्रों के प्रदर्शन को बेहतर करने में सहयोग दिया है जिससे की सरकारी स्कूलों में ...

नजर आ रहे पावरकॉम के अधिकारी। (छाया)

समावेशी शिक्षा को बढ़ावा देने के लिए नाभा पावर ने ग्रामीण छात्रों को स्कूल किट बांटे

समावेशी शिक्षा को बढ़ावा देने के लिए नाभा पावर ने ग्रामीण छात्रों को स्कूल किट बांटे

एनपीएल के सहयोग से स्विफ्ट ने दी छात्रवृत्ति

संस, राजपुरा (पटियाला) : लार्सन एंड टर्बो की एलएंडटी की इकाई नाभा पावर प्लांट व स्विफ्ट ग्रुप आफ कालेजिस द्वारा वर्ष 2020 में हुई एक शुरुआत के तहत दोनों संस्थाओं के प्रबंधकों ने जरूरतमंद परिवार की लड़कियों की शिक्षा और प्रशिक्षण की जिम्मेदारी उठाई।

हर वर्ष नजदीकी क्षेत्रों व गांवों से लगभग 15 चुने हुए बच्चे स्विफ्ट इंस्टीट्यूट आफ नर्सिंग में जीएनएम कोर्स में दाखिला लेते हैं। सभी छात्रों को वजीफा दिया जाता है जिसके तहत उनकी फीस माफ होती है। इस स्कीम को बढ़ाते हुए इस बार बीसीए कोर्स में भी छात्रवृत्ति दी गई है। यह समारोह एनपीएल में रखा गया था जिसमें स्विफ्ट कालेजेस के प्रबंधक डा. गोपाल मुंजाल, सहायक निदेशक डा. मनिंदर अपनी टीम के साथ पहुंचे। एनपीएल की ओर से उनके चीफ एक्जीक्यूटिव सुरेश नारंग, एचआर हेड देवदत्त शर्मा, सीएसआर हेड राजेश अपनी पूरी टीम सहित मौजूद रहे।

कार्यक्रम में स्विफ्ट कालेज के प्रबंधक डा. मुंजाल ने सभी छात्रों की सराहना करते हुए उनके उज्जवल भविष्य की कामना की। एनपीएल के चीफ एक्जीक्यूटिव सुरेश नारंग ने बताया कि आने वाले समय में इस स्कीम को और बढ़ाएंगे जिसमें नए कोर्स शामिल किए जाएंगे जिससे गरीब छात्राएं आगे बढ़कर अपने पैरों पर खड़ी हो सकें। उन्होंने इसके लिए स्विफ्ट का भी धन्यवाद किया।

छात्रवृत्ति के लिए चुनी छात्राओं को सम्मानित करते एनपीएल व स्विफ्ट प्रबंधक • सौ. एनपीएल