BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
Principal Bench, New Delhi

Original Application No. 612/2022

Subhender, Applicant

Versus

State of Haryana Respondent

Index

Regional Officer,
HSPCB, Panipat

Date: 10.04.2023.
Place: Panipat

HARYANA STATE POLLUTION CONTROL BOARD
SCO No.55, SECTOR-25, HUDA, PANIPAT
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No. HSPCB/PR/2023/0012 Dated:10.04.2023

To

The Registrar,
National Green Tribunal,
New Delhi.

Subject: Report of the Joint Committee in the matter of Original Application No. 612/2022: Subhender Applicant Versus State of Haryana Respondent, in compliance of Hon'ble National Green Tribunal Order dated 20.01.2023.

Ref: Hon'ble NGT vide order dated 20.01.2023.

Please find enclosed herewith the Report of the joint Committee in the matter of Original Application No. 612/2022: Subhender Applicant Versus State of Haryana Respondent, in compliance of Hon'ble National Green Tribunal Order dated 20.01.2023 for kind consideration of the Hon'ble Tribunal.

Regional Officer
HSPCB, Panipat

Report in the matter of Original Application No.612/2022: Subhender Applicant Versus State of Haryana Respondent, in compliance of Hon'ble National Green Tribunal Order dated22/09/2022.

1. **Back ground and Directions of Hon'ble NGT:**

The matter in OA No. 612 /2019; Subhender Applicant Versus State of Haryana Respondent, is related to pollution caused in the nearby villages Sutana, Jatal, Khukhrana, Untla, Assan etc., during management of fly ash by Panipat Thermal Power Plant.

In the above matter, Hon'ble NGT vide order dated 22/09/2022 directed as under:

"3. Prima facie, the averments made in the application raise questions relating to environment arising out of the implementation of the enactments specified in Schedule I to the National Green Tribunal Act, 2010.In view of the averments made in the application, we consider it appropriate that a Joint Committee be constituted to verify the factual position. Accordingly, we constitute a Joint Committee comprising of CPCB, State PCB and Deputy Commissioner, Panipat and direct the same to meet within two weeks, undertake visits to the sites, look into the grievances of the applicant, associate the applicant and representatives of the concerned project proponent, verify the factual position and submit its report within one month by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Supported PDF and not in the form of Image PDF. The State PCB will be the nodal agency for coordination and compliance.

List for further consideration on 20.01.2023"

Thereafter during the hearing of the case vide order dated 20.01.2023 (copy attached as **Annexure-1**), following directions were issued by the Hon'ble Tribunal:

1. ***In compliance of order dated 22.09.2022, interim report has been submitted by the Joint Committee vide email dated 16.01.2023.***
2. ***The Joint Committee has sought further time for examination of facts on ground and submission of the final report. Report by the Joint Committee be submitted within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Supported PDF and not in the form of Image PDF.***
3. ***In view of the averments in the application and observations in the interim report of the Joint Committee, we consider it appropriate to have response of (1) State of Haryana through Chief Secretary, Government of Haryana, (2) State PCB, (3) Deputy Commissioner, Panipat and (4) the Project Proponent-M/s Panipat Thermal Power Station, who stand impleaded as respondents No. 1 to 4. The Registry is directed to prepare and attach memo of parties to the application.***
4. ***Respondent no. 2 is already appearing before this Tribunal through counsel. Notices be issued to***
5. ***respondents no. 1, 3 and 4 requiring them to file their reply/response within two months by email at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Supported PDF and not in the form of Image PDF.***
6. ***List the matter for further consideration on 21.04.2023.***

2. **Compliance of the Orders of Hon'ble NGT:**

In compliance of the orders of Hon'ble NGT, a Joint Committee comprising of the following members was constituted:

i) Dr. Suneel Dave, Director, Central Pollution Control Board(CPCB), Regional Directorate, Chandigarh
ii) Er. Kamaljit Singh, EE, Regional Officer, Haryana State Pollution Control Board (HSPCB), Panipat.
iii) Sh. Balwan Singh, Naib Tehsildar, Panipat (Representing District Magistrate Panipat)

It was directed by Hon'ble NGT to undertake visits to the sites, look into the grievances of the applicant, associate the applicant and representatives of the concerned project proponent, verify the factual position and submit its report.

The Joint Committee visited the site on 16.01.2023 and submitted its interim report vide email dated 16.01.2023 and requested for the further time for examination of facts on ground and submission of the final report. On the request of the Joint committee Hon'ble NGT vide order dated 20.01.2023, has granted 3 month time for submission of the final report.

Whereas Panipat Thermal Power Station, HPGCL has undertaken the monitoring of the study area around the ash dykes by engaging ***Shri Ram Institute of Industrial Research, Delhi*** on the direction of HSPCB from 28.12.2022

to 05.01.2023 w.r.t followings:-

- Ambient Air quality monitoring in the area around PTPS from 8 locations, for the parameters relevant to thermal power plant ash to determine the impact on the air quality.
- Ground Water quality monitoring various bore-wells from 5 locations, up-stream and down-stream of the Panipat Thermal Power Plant Ash Dyke. The water quality parameters along with other parameters relevant to thermal power plant ash to be analysed by an approved laboratory.
- Agriculture Soil quality sampling of the area around PTPS from 5 locations to determine the accumulation of contaminants in the soil over a period of time, by irrigation with contaminated water and deposition of ash over a period of time.

2.1 Monitoring of the Ambient Air, Ground Water and Agriculture Soil Quality in the vicinity of PTPS:

2.1.1 Impact on Ambient Air quality:

The parameters relevant to thermal power plant ash were monitored in the ambient air environment of the study area from 29.12.2022-05.01.2023 at 8 no of locations to find out the impact on the ambient air quality. Copy of the analysis report of ambient air quality are attached as **Annexure- 2.** The result of analysis of the samples alongwith details of the monitoring locations is summarized in**Table1.1 - 1.6**:

Table 1.1 :Analysis results of ambient air quality monitoring. (29/12/2022-30/12/2022)

Sr.No.	Parameter	Unit	MoEF & CCNAAQ Standard	GD Goenka School, Jattal (Panipat) at rear lawn	Maharishi Kashyap Govt. Polytechnic, Jattal (Panipat) near Parking Area	Field Hostel PTPS Colony	Govt. Sr. Sec School Sutana (Panipat) at near main gate
1	Sulphur dioxide(SO_2)	ug/m3	Max.80 ug/m^3(24-hr.)	5	8	8	BDL*
2	Nitrogen Oxides (asNO_2)	ug/m3	Max.80 ug/m3 (24-hr.)	57	62	37	71
3	Respirable Particulate Matter (PM10)	ug/m3	Max.100 ug/m3 (24-hr.)	**427**	**395**	**376**	**346**
4	Fine Particulate Matter (PM 2.5)	ug/m3	Max.60 ug/m3 (24-hr.)	**275**	**127**	**141**	**224**
5	Ozone (O3), avg[8hr.]	ug/m3	Max.100 ug/m3 (8-hr.)	39	51	46	39
6	Lead(Pb)	ug/m3	Max.1 ug/m3 (24-hr.)	0.22	0.25	0.18	0.22
7	Carbon Monoxide(CO) avg[8hr.]	mg/m3	Max.2 mg/m3 (8-hr.)	1.8	1.8	1.8	1.7
8	Ammonia(NH3)	ug/m3	Max.400 ug/m^3 (24-hr.)	44	51	35	42
9	Benzene(C_6H_6)	ug/m3	5 ug/m^3 (AnnualAvg.)	0.9	**8.4**	**6.4**	3.2
10	Benzo (a)Pyrene(BaP)	ng/m3	1 ng/m3(Annual Avg.)	1.1	**BDL***	**0.9**	**BDL**
11	Arsenic(As)	ng/m3	6 ng/m3(Annual Avg.)	0.45	0.26	0.6	0.35
12	Nickel(Ni)	ng/m3	20 ng/m3(Annual Avg.)	11	**30**	7.1	**27**

Table 1.2:Analysis results of ambient air quality monitoring. (30/12/2022-31/12/2022)

Sr.No.	Parameter	Unit	MoEF & CCNAAQ Standard	GD Goenka School, Jattal (Panipat) at rear lawn	Maharishi Kashyap Govt. Polytechnic, Jattal (Panipat) near Parking Area	Field Hostel PTPS Colony	Govt. Sr. Sec School Sutana (Panipat) at near main gate
1	Sulphur dioxide(SO_2)	ug/m3	Max.80 ug/m^3(24-hr.)	BDL*	BDL*	BDL*	BDL*
2	Nitrogen Oxides (asNO_2)	ug/m3	Max.80 ug/m3 (24-hr.)	37	44	22	49
3	Respirable Particulate Matter (PM10)	ug/m3	Max.100 ug/m3 (24-hr.)	**319**	**274**	**224**	**252**
4	Fine Particulate Matter(PM 2.5)	ug/m3	Max.60 ug/m3 (24-hr.)	**192**	**108**	**76**	**164**
5	Ozone (O3), avg [8hr.]	ug/m3	Max.100 ug/m3 (8-hr.)	40	48	34	42
6	Lead(Pb)	ug/m3	Max.1 ug/m3 (24-hr.)	0.12	0.12	0.14	0.13
7	Carbon Monoxide(CO)avg[8hr.]	mg/m3	Max.2 mg/m3 (8-hr.)	1.7	1.7	1.6	1.6
8	Ammonia(NH3)	ug/m3	Max.400 ug/m^3 (24-hr.)	29	33	45	45
9	Benzene(C_6H_6)	ug/m3	5 ug/m^3 (AnnualAvg.)	4.1	**6.2**	**7.8**	0.3
10	Benzo (a) Pyrene (BaP)	ng/m3	1 ng/m3 (AnnualAvg.)	**1.1**	0.8	BDL	BDL
11	Arsenic(As)	ng/m3	6 ng/m3 (Annual Avg.)	0.24	0.4	0.41	0.17
12	Nickel(Ni)	ng/m3	20 ng/m3 (AnnualAvg.)	4.1	3.8	13	8.4

Table 1.3:Analysis results of ambient air quality monitoring.(31/12/2022-01/01/2023)

S.No.	Parameter	Unit	MoEF & CCNAAQ Standard	GD Goenka School, Jattal (Panipat) at rear lawn	Maharishi Kashyap Govt. Polytechnic, Jattal (Panipat) near Parking Area	Field Hostel PTPS Colony	Govt. Sr. Sec School Sutana (Panipat) at near main gate
1	Sulphur dioxide(SO_2)	ug/m3	Max.80 ug/m^3(24-hr.)	BDL*	BDL*	BDL*	7
2	Nitrogen Oxides (asNO_2)	ug/m3	Max.80 ug/m3 (24-hr.)	49	40	23	34
3	Respirable Particulate Matter(PM10)	ug/m3	Max.100 ug/m3 (24-hr.)	**164**	**155**	**176**	**174**
4	Fine Particulate Matter(PM 2.5)	ug/m3	Max.60 ug/m3 (24-hr.)	**96**	**66**	**84**	**110**
5	Ozone (O3), avg[8hr.]	ug/m3	Max.100 ug/m3 (8-hr.)	42	59	53	48

6	Lead(Pb)	ug/m3	Max.1 ug/m3 (24-hr.)	0.05	0.04	0.08	0.04
7	Carbon Monoxide(CO)avg[8hr.]	mg/m3	Max.2 mg/m3 (8-hr.)	1.7	1.8	1.7	1.8
8	Ammonia (NH3)	ug/m3	Max.400 ug/m^3 (24-hr.)	39	41	35	55
9	Benzene(C_6H_6)	ug/m3	5 ug/m^3 (Annual Avg.)	1.8	3.9	2.8	4.4
10	Benzo (a) Pyrene (BaP)	ng/m3	1 ng/m3 (Annual Avg.)	BDL	0.7	BDL	BDL
11	Arsenic(As)	ng/m3	6 ng/m3 (Annual Avg.)	0.22	0.25	0.25	0.18
12	Nickel(Ni)	ng/m3	20 ng/m3 (Annual Avg.)	7	22	5	5.4

Table 1. 4: Analysis results of ambient air quality monitoring.(02/01/2023-03/01/2023)

S.No.	Parameter	Unit	MoEF &CCNAAQ Standard	DAV School, PTPS Colony (Panipat)	Bal Vikas School, Jattal, Panipat	Govt. Sr. Sec. School, Jattal (Panipat)	Atal Seva Kendra, Sutana Panipat
1	Sulphur dioxide(SO_2)	ug/m3	Max.80 ug/m^3(24-hr.)	BDL*	7	6	BDL*
2	Nitrogen Oxides (asNO_2)	ug/m3	Max.80 ug/m3 (24-hr.)	24	26	28	29
3	Respirable Particulate Matter(PM10)	ug/m3	Max.100 ug/m3 (24-hr.)	**331**	**383**	**432**	**369**
4	Fine Particulate Matter(PM 2.5)	ug/m3	Max.60 ug/m3 (24-hr.)	**111**	**120**	**237**	**227**
5	Ozone (O3),avg[8hr.]	ug/m3	Max.100 ug/m3 (8-hr.)	49	37	37	48
6	Lead(Pb)	ug/m3	Max.1 ug/m3 (24-hr.)	0.10	0.13	0.14	0.11
7	Carbon Monoxide(CO)avg[8hr.]	mg/m3	Max.2 mg/m3 (8-hr.)	1.9	2	1.9	1.9
8	Ammonia(NH3)	ug/m3	Max.400 ug/m^3 (24-hr.)	36	48	50	32
9	Benzene(C_6H_6)	ug/m3	5 ug/m^3 (AnnualAvg.)	1.4	BDL	BDL	BDL
10	Benzo (a)Pyrene(BaP)	ng/m3	1 ng/m3 (AnnualAvg.)	BDL	BDL	BDL	BDL
11	Arsenic(As)	ng/m3	6 ng/m3 (Annual Avg.)	0.36	0.56	0.4	0.1
12	Nickel(Ni)	ng/m3	20 ng/m3 (AnnualAvg.)	11	4.6	12	6.2

Table 1.5:Analysis results of ambient air quality monitoring.(03/01/2023-04/01/2023)

S.No.	Parameter	Unit	MoEF &CCNAAQ Standard	DAV School, PTPS Colony (Panipat)	Bal Vikas School, Jattal, Panipat	Govt. Sr. Sec. School, Jattal (Panipat)	Atal Seva Kendra, Sutana Panipat
1	Sulphur dioxide(SO_2)	ug/m3	Max.80 ug/m^3(24-hr.)	BDL*	BDL*	BDL*	BDL*
2	Nitrogen Oxides (asNO_2)	ug/m3	Max.80 ug/m3 (24-hr.)	20	31	22	30
3	Respirable Particulate Matter(PM10)	ug/m3	Max.100 ug/m3 (24-hr.)	**233**	**324**	**368**	**321**
4	Fine Particulate Matter(PM 2.5)	ug/m3	Max.60 ug/m3 (24-hr.)	**75**	**109**	**230**	**207**
5	Ozone (O3),avg[8hr.]	ug/m3	Max.100 ug/m3 (8-hr.)	52	35	41	43
6	Lead(Pb)	ug/m3	Max.1 ug/m3 (24-hr.)	0.05	0.08	0.05	0.05
7	Carbon Monoxide(CO)avg[8hr.]	mg/m3	Max.2 mg/m3 (8-hr.)	1.8	1.9	1.9	1.9
8	Ammonia(NH3)	ug/m3	Max.400 ug/m^3 (24-hr.)	46	43	39	33
9	Benzene(C_6H_6)	ug/m3	5 ug/m^3(AnnualAvg.)	BDL	1.2	BDL	BDL
10	Benzo (a)Pyrene(BaP)	ng/m3	1 ng/m3(AnnualAvg.)	BDL	BDL	BDL	BDL
11	Arsenic(As)	ng/m3	6 ng/m3(Annual Avg.)	0.19	0.45	0.22	0.1
12	Nickel(Ni)	ng/m3	20 ng/m3(AnnualAvg.)	1.4	4.5	4.3	2.5

Table 1.6:Analysis results of ambient air quality monitoring.(04/01/2023-05/01/2023):

S.No.	Parameter	Unit	MoEF &CCNAAQ Standard	DAV School, PTPS Colony (Panipat)	Bal Vikas School, Jattal, Panipat	Govt. Sr. Sec. School, Jattal (Panipat)	Atal Seva Kendra, Sutana Panipat
1	Sulphur dioxide(SO_2)	ug/m3	Max.80 ug/m^3(24-hr.)	5	BDL*	BDL*	BDL*
2	Nitrogen Oxides (asNO_2)	ug/m3	Max.80 ug/m3 (24-hr.)	22	38	26	28
3	Respirable Particulate Matter(PM10)	ug/m3	Max.100 ug/m3 (24-hr.)	**276**	**369**	**370**	**343**
4	Fine Particulate Matter(PM 2.5)	ug/m3	Max.60 ug/m3 (24-hr.)	**91**	**116**	**210**	**196**
5	Ozone (O3),avg[8hr.]	ug/m3	Max.100 ug/m3 (8-hr.)	37	37	53	55
6	Lead(Pb)	ug/m3	Max.1 ug/m3 (24-hr.)	0.06	0.07	0.08	0.06

7	Carbon Monoxide(CO)avg[8hr.]	mg/m3	Max.2 mg/m3 (8-hr.)	1.8	1.9	1.9	2
8	Ammonia(NH3)	ug/m3	Max.400 ug/m^3 (24-hr.)	39	48	34	49
9	Benzene(C_6H_6)	ug/m3	5 ug/m^3 (AnnualAvg.)	0.6	2.0	BDL	BDl
10	Benzo (a) Pyrene (BaP)	ng/m3	1 ng/m3 (AnnualAvg.)	BDL*	BDL	BDL	BDL
11	Arsenic(As)	ng/m3	6 ng/m3(Annual Avg.)	0.18	0.21	0.2	0.11
12	Nickel(Ni)	ng/m3	20 ng/m3 (AnnualAvg.)	3.4	5.7	12	6.6

The results of the parameters PM_{10} and $PM_{2.5}$ were found to be exceeding the NAAQ Standards, at all the locations, with **PM_{10} concentration** ranging between **155-432 ug/m^3 (against the standard of 100 ug/m^3)** and **$PM_{2.5}$ concentration** ranging between **66-275 ug/m^3 (against the standards of 60 ug/m3)**. A comparison of PM_{10} conc. in the ambient air at the locations in the vicinity of Panipat Thermal Power Plant monitored by Joint Committee, was also made with the Continuous Ambient Air Quality Monitoring Station located at HSVP Office, Sector 18, Panipat, CAAQM station at Forest Office Jattal Road Panipat and CAAQM station at Police Line , GT Road Panipat. **It was observed that PM10 conc. in the villages located at the vicinity of PTPP is much higher (155-432 ug/m^3 vs. 70-273 ug/m^3, 68-394 ug/m^3 and 20-282 ug/m^3) in comparison to CAQMS data located at Sector 18, Panipat, CAAQM station at Forest Office Jattal Road Panipat and CAAQM station at Police Line , GT Road Panipat . Similarly, PM2.5 conc. was also higher 66-275 ug/m^3 vs. 13-75 ug/m^3) at the locations in the vicinity of PTPP in comparison to CAAQMS located at Sector18, Panipat.** However PM 2.5 is not installed at CAAQM station at Forest Office Jattal Road Panipat and CAAQM station at Police Line , GT Road Panipat therefore comparison was made with only CAAQM station located at Sector-18, Panipat.

Out of 8 locations monitored by the Joint Committee, **Nickel concentration in the ambient air was found to be exceeding at 02 locations ranging between 27-30 ng/m^3 (24 hr) against the standard of annual average 20ng/m^3.**

Benzene concentration in the ambient air was found to be exceeding at 04 no of locations ranging between 6.2-8.7 ug/m^3(24hr) against the standard of annual average 5ug/m^3.

Benzo (a) Pyrene (BaP) concentration in the ambient air, was also **found to be exceeding at 01 locations out of 08 locations** monitored by the Joint Committee with concentration ranging **having conc of 1.1 ng/m^3(24hr) against the standard of annual average 1ng/m3.**

2.1.2 Impact on Ground water quality:

The ground water sampling was conducted at 05 locations from various bore-wells up-stream and down-stream of the Panipat Thermal Power Plant Ash Dyke. Copy of the analysis report of Ground Water quality are attached as **Annexure- 3.** The water quality parameters alongwith other parameters relevant to thermal power plant ash were analyzed and the results are summarized in **Table 2.** The parameters specific to thermal power plant/fly ash were found to be within the prescribed parameters. **However, the microbiological parameters (Total Coliform) were found to be exceeding (40 cfu/100 ml > 20 cfu/100 ml)** in the 1 borewells, out of 7 bore-wells monitored by the Joint Committee.

Table1:Ground water analysis. (02/02/2023)

Ground Water Analysis											
S.No.	Characteristic	Requirement (Acceptable Limit)	Detection Limit	Anand S/o Dhoop Singh	Balwinder S/o Ramdiya (Jattal)	Rambir S/o Shyam Ram (Jattal)	Jagbir S/o Dharmbir (Jattal)	Ravinder Garg S/o Lal Chand	Panchayat Land Tubewell No.16	G.D. Goenka School, Near Gate No.2	Jagminder S/o Shriram Chander (Jattal)
				Dated 02.02.2023					Dated 15.02.2023		Dated 16.02.2023
(1)	(2)	(3)	(4)								
Organoleptic & Physical Parameters											
1	Colour, Hazenunits,*Max*	5	5	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2	Odour	Agreeable	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Turbidity, NTU, *Max*	1 Max (5)	-	2	3	2	1	**21**	**9**	Not Detected	**10**
4	*p*Hvalue	6.5-8.5	-	7.8	7.8	8.5	7.8	7.8	7.9	7.9	8.1
5	Total dissolved solids, mg/l,max	500 Max (2000)	-	502	551	591	702	445	533	460	397
General Parameters Concerning Substances Undesirable in Excessive Amounts											
1	Aluminium (asAl),mg/l, *Max*	0.03	0.02	Not Detected	Not Detected	Not Detected	Not Detected	**0.06**	Not Detected	Not Detected	0.02
2	Ammonia (astotal ammonia-N),mg/l,Max	0.5	0.1	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
3	Anionicdetergents (asMBAS),mg/l, Max	0.2 Max	0.01	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
4	Barium (as Ba),mg/l, *Max*	0.7 Max	-	0.1	0.1	Not Detected	0.08	0.08	0.06	0.1	0.06
5	Boron (as B),mg/l, *Max*	0.5	-	0.1	0.1	0.3	0.3	0.3	0.2	0.1	0.1
6	Calcium (as Ca),mg/l, *Max*	75	-	26	32	8	26	28	14	28	17
7	Chloramines (asCl_2),mg/l, *Max*	4.0	1.0	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Chloride (as Cl),mg/l, *Max*	250	-	15	19	17	17	8	21	38	20

9	Copper (as Cu),mg/l, *Max*	0.05	0.01	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
10	Fluoride (as F)mg/l, *Max*	1.0 Max (1.5)	-	1.1	0.9	**7.2**	**4.5**	**3.5**	**1.8**	1.2	**1.5**
0.1	Iron (as Fe),mg/l, *Max*	1.0	-	0.2	0.3	0.4	0.1	**3.9**	**1.4**	0.05	0.9
12	Magnesium (asMg),mg/l,*Max*	30	-	29	**31**	5	**33**	**39**	20	**35**	14
13	Manganese (asMn),mg/l,*Max*	0.1	-	0.01	0.01	0.01	0.01	0.05	0.03	0.01	0.01
14	Mineral oil, mg/l,Max	1.0	0.5	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
15	Nitrate (as NO3),mg/l, Max	45	-	2	6	3	10	6	9	10	6
16	Phenoliccompounds(as C6H5OH), mg/l,max	0.001	0.001	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
17	Selenium(asSe),mg/l,Max	0.01	0.005	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
18	Silver (as Ag),mg/l, Max	0.1	-	0.01	0.01	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
19	Sulphate (asSO4)mg/l,Max	200	-	48	76	86	90	40	69	58	66
20	Sulphide(asH2S),mg/l,Max	0.05	0.05	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
21	Total alkalinityas calciumcarbonate, mg/l,Max	200 Max (600)	-	357	347	376	461	323	334	255	221
22	Total hardness(as CaCO3),mg/l, Max	200	-	188	**209**	41	**201**	**233**	118	**215**	100
23	Zinc(as Zn),mg/l, Max	5	-	0.01	0.1	0.01	0.01	0.07	0.01	0.1	Not Detected
Parameters Concerning Toxic Substances											
1	Cadmium (asCd),mg/l,*Max*	0.003	0.003	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

2	Cyanide (asCN),mg/l,*Max*	0.05	0.05	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
3	Lead (as Pb),mg/l, *Max*	0.01	0.01	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
4	Mercury (as Hg),mg/l, *Max*	0.001	0.001	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
5	Molybdenum (asMo),mg/l,*Max*	0.07	0.01	Not Detected	Not Detected	Not Detected	0.02	0.03	0.01	0.01	Not Detected
6	Nickel (as Ni),mg/l, *Max*	0.02	0.01	Not Detected	Not Detected	Not Detected	Not Detected	0.01	Not Detected	Not Detected	Not Detected
7	Total arsenic (asAs),mg/l,*Max*	0.01	0.005	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Total chromium(as Cr), mg/l,*Max*	0.05	0.01	Not Detected	Not Detected	Not Detected	Not Detected	0.01	Not Detected	Not Detected	Not Detected
Bacteriological Tests											
1	Total Coliform Bacteria, cfu/100ml	Not Detectable	One or more than one	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	**40 cfu**	Not Detected	Not Detected
2	E.coli, cfu/100ml	Not Detectable	One or more than one	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

2.1.3 Impact on agriculture Soil:

To determine the **accumulation of contaminants in the soil over a period of time**, by irrigation with contaminated water and deposition of ash over a period of time, **soil samples from the five locations of the study area were drawn and analyzed for various parameters including the parameters specific to thermal power plant/fly ash**. The copy of the analysis reports are attached as **Annexure-4.** The results of analysis of soil samples are summarized in**Table3**:

Table 3: Analysis of soil samples

S.No.	Parameters	Results of analysis					
		Soil-1	Soil-2	Soil-3	Soil-4	Soil-5	Target value of Soil, mg/Kg (WHO)
		Panchayat Land Near Tubewell No.16, Jattal Village "Geo-coordinates N29°22'31.9", E 76°54'45.45"	Anand S/o Sh. Dhoop Singh Land, Jattal Village "Geo-coordinates N29°21'56.61", E 76°54'26"	Balwinder S/o Sh. Ramdiya Land, Jattal Village "Geo-coordinates N29°21'56.61", E 76°54'26"	Ranbir S/o Sh. Shyam Ram Land, Jattal Village "Geo-coordinates N29°21'49.01", E 76°53'35.42	Jagbir Singh S/o Sh. Dharambir Singh Land, Jattal Village" Geo-coordinates N29°21'48.75", E 76°53'32.83	
1	pH (30g in 75 ml. water)(on Received basis)	8.5	8.9	8.2	9.0	9.1	
2	Mercury (as Hg),mg/Kg (on received basis)	Below Quantification Limit	Below Quantification Limit	Below Quantification Limit	Below Quantification Limit	Below Quantification Limit	
3	Arsenic (asAs),mg/Kg(on received basis)	0.87	1.01	1.42	0.77	1.14	
4	Cadmium (asCd),mg/Kg (on dry basis)	Below Quantification Limit	Below Quantification Limit	Below Quantification Limit	Below Quantification Limit	Below Quantification Limit	0.8
5	Cobalt (as Co),mg/Kg (on dry basis)	Below Quantification Limit	Below Quantification Limit	Below Quantification Limit	Below Quantification Limit	Below Quantification Limit	
6	Chromiun (as Cr),mg/Kg (on dry basis)	50	73	72	55	67	100
7	Copper (as Cu),mg/Kg (on dry basis)	16	25	35	34	25	36
8	Manganese (as Mn),mg/Kg (on dry basis)	136	166	238	164	179	
9	Nickel (asNi),mg/Kg (on dry basis)	31	**37**	**51**	**35**	**44**	35
10	Lead (asPb),mg/Kg (on dry basis)	10	12	17	14	15	85
11	Zinc(asZn),mg/Kg (on dry basis)	40	**54**	**76**	**56**	**58**	50
12	Phosphate (asP2O5),% by mass (on dry basis)	0.52	0.5	0.81	0.59	0.7	
13	Iron(asFe2O3),%by mass (on dry basis)	2.07	2.62	3.21	2.11	2.53	
14	Potassium(asK2O),% by mass (on dry basis)	0.85	0.6	0.84	0.88	0.9	

15	Nitrogen (as N),mg/Kg (on dry basis)	1	Below Quantification Limit	Below Quantification Limit	Below Quantification Limit	Below Quantification Limit	
16	Cation Exchange Capacity, meq/100g (on dry basis)	11.4	13.4	36.3	8.9	25	

It was observed from the analysis of soil that the concentration of nickel and zinc is on higher side, if compared with the target values of these heavy metals as recommended by WHO. This also indicates the impact on soil due to unscientific disposal and management of ash by PTPS.

2.2 Action Plan for the disposal of entire pond ash stored in Ash dykes:

PTPS has submitted the action plan for the disposal of the entire ash stored in the ash dykes vides Memo No. Ch-72/CMDP-II dated 01/03/2023 attached as **Annexure-5.** The action plan submitted by the PTPS for the disposal of the ash is as under:

1. The present quantity of the Ash stored in the ash dykes of the PTPS is as under :

Sr No.	Ash Dyke	Quantity of Ash stored on 28.02.2023(in Lakh MT)
1	Ash Dyke-A	103
2	Ash Dyke- B	22
3	Ash Dyke- C	12
	Total	137

2. The details of MOUs signed with M/S Shree Cement , NHAI and Sate PWD for lifting of the ash are as below :

Sr. No.	Name of the Project	Quantity of ash Required for the project (in Lakh MT)	Quantity Lifted till 28.02.2023 (in Lakh MT)	Quantity to be Lifted (in Lakh MT)
1	M/S Shree Cement , village -khukrana Panipat	183.5	3.12	180.38
2	NHAI	251.9	58.52	193.38
3	State PWD	46.64	17.36	29.28
	Total	**482.04**	**79**	**403.04**

The demand of the ash is about 403 Lakh MT against the available quantity of 137 Lakh MT in ash dykes. The above estimates suggest that the accumulated and generated ash would be utilized in a span of **three years** as the present rate of lifting is also estimated to be order of 2,0000 MT/Day.

2.3 Compliance status of the conditions of Consent to Operate and Environmental Clearance:

- PTPS has obtained Consent to Operate from HSPCB for the period 01/10/2021 to 30/09/2026 vide no. No. HSPCB/Consent/:313103521PITCTO13349958 Dated:23/08/2021 copy of which is attached as **Annexure -6**
- The copy of the Environmental Clearance obtained by PTPS is attached as **Annexure -7.**
- PTPS has submitted the compliance status of conditions of CTO and EC on dated 07.03.2023 , attached as **Annexure -8.**
- The point wise compliance status of the conditions of CTO and EC as verified by HSPCB on 06.03.2023 is as under:

	Compliance of the Conditions of Consent to Operate	
Sr. No.	**Condition**	**Compliance Status**
1	The applicants shall maintain good housekeeping both within factory and in the premises. All hose pipelines values, storage tanks etc. shall be leak proof. In plant allowable pollutants levels, if specified by State Board should be met strictly	Satisfactory Housekeeping has been maintained in the plant . All hose pipelines values, storage tanks etc are leak proof.
2	The applicant/company shall comply with and carry out directive/orders issued by the Board in this consent order at all subsequent times without negligence of his /its part. The applicant/company shall be liable for such legal action against him as per provision of the law/act in case of violation of any order/directives. Issued at any time and or non compliance of the terms and conditions of his consent order	Noted for compliance by PTPS.
3	The applicant shall make an application for grant of consent at least 90 days before the date of expiry of this consent.	Presently PTPS is having CTO valid up to 30.09.2026. PTPS has noted for apply for grant of consent at least 90 days before the date of expiry
4	Necessary fee as Prescribed for obtaining renewal consent shall be paid by the applicant along with the consent application	Noted for compliance by PTPS.

5	If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above required variation (including the change of any control equipment either in whole or in part) this board shall after giving the applicant an opportunity of being heard vary all or such condition and there upon the applicant shall be bound to comply with the conditions so varied.	MoEF&CC vide notification dated 05.09.2022 has revised timelines for compliance of SOx Norms for Category "A" (PTPS Units) upto 31.12.2024.The case for administrative approval regarding retendering for installation of FGD at HPGCL Plants has been submitted to GoH on 12.12.2022. The decision of GoH is awaited. Work to M/S ISGEC Heavy Engineering Ltd., Noida for installation of low NOx burners at HPGCL Plants has been awarded on 21.01.2023.
6	The industry shall provide adequate arrangement for fighting the accidental leakages, discharge of any pollutants gas/liquids from the vessels, mechanical equipment etc. which are likely to cause environment pollution	PTPS has provided adequate Fire fighting equipments i.e. 4 no of Fire Tender Vehicles, 1694 no of Fire extinguishers,3 no of Foam Tanks having total capacity of 2000Litres etc. PTPS is having dedicated Fire and Safety department with adequate no of staff strength for 24 X 7 monitoring and prompt response in case of any accident. As per record no leakage and fire accident happened in last 5 years.
7	The industry shall comply noise pollution (Regulation and control) Rules, 2000	Noise level is being monitored by MOEF&CC approved laboratory by PTPS regularly. The PPEs i.e ear muffs, ear plugs etc. are being used in high noise areas of plant.
8	The industry shall comply all the direction/Rules/Instructions as may be issued by the MOEF/CPCB/HSPCB from time to time	Being Complied by PTPS.
9	The industry shall ensure that various characteristics of the effluents remain within the tolerance limits as specified in EPA Standard and as amended from time to time and at no time the concentration of any characteristics should exceed these limits for discharge	Complied, PTPS has undertaken the monitoring of MOEF& CC approved laboratory on monthly basis and online monitoring device has also been installed and connected to the servers of HSPCB and CPCB for real time monitoring. As per the reports of the above said laboratory and OMD data , unit is complying with the prescribed standards.
10	The industry would immediately submit the revised application to the Board in the event of any change in the raw material in process, mode of treatment/discharge of effluent. In case of change of process at any stage during the consent period, the industry shall submit fresh consent application along with the consent to operate fee, if found due, which may be on any account and that shall be paid by the industry and the industry would immediately submit the consent application to the Board in the event of any change during the year in the raw material, quantity, quality of the effluent, mode of discharge, treatment facilities etc.	There is no change in the raw material in process, mode of treatment/discharge of effluent
11	The officer/official of the Board shall reserve the right to access for the- inspection of the industry in connection with the various processes and the treatment facilities. The consent to operate is subject to review by the Board at any time.	Being complied
12	Permissible limits for any pollutants mentioned in the consent to operate order should not exceed the concentration permitted in the effluent by the Board	Complied, PTPS has undertaken the monitoring of MOEF& CC approved laboratory on monthly basis and online monitoring device has also been installed and connected to the servers of HSPCB and CPCB for real time monitoring and complying with the Permissible limits for any pollutants mentioned in the consent to operate.
13	The industry shall pay the balance fee, in case. It is found due from the industry at any time later on.	Being Complied by PTPS.
14	If the industry fails to adhere to any of the conditions of this consent to operate order, the consent to operate so granted shall automatically lapse.	Being Complied .
15	If the industry is closed temporarily at its own, they shall inform the Board and obtain permission before restart of the unit.	Being Complied by PTPS.
16	The industry shall comply all Directions/ Rules/Instructions issued from time to time by the Board.	Being Complied by PTPS.

	Specific Conditions	Compliance Status
1	That the unit will not discharge any untreated effluent inside or outside the premises and will comply with the standards prescribed as per Environment (Protection) Rules, 1986 for thermal power plant units	ETP is already installed and the treated water is completely re-used in ash handling system regularly for making ash slurry to dispose the ash to ash dyke area.
2	That the unit will comply with the time bound directions of CPCB regarding installation of FGD.	MoEF&CC vide notification dated 05.09.2022 has revised timelines for compliance of SOx Norms for Category "A" (PTPS Units) upto 31.12.2024.The case for administrative approval regarding retendering for installation of FGD at HPGCL Plants has been submitted to GoH on 12.12.2022. The decision of GoH is awaited. Work to M/S ISGEC Heavy Engineering Ltd., Noida for installation of low NOx burners at HPGCL Plants has been awarded on 21.01.2023.
3	The unit will comply with the directions issued by the Hon'ble NGT/Joint Committee /HSPCB in O.A No. 581/2019 & other legal forms time to time.	Being Complied by PTPS.
4	That the unit will maintain and operate its ETP & APCM regularly and efficiently to keep all applicable parameters within prescribed Industry specific standard E(P) Act 1986	Being maintained regularly by PTPS.
5	That the unit will submit the calibration certificate of the online Continuous Effluent/emission Monitoring System installed in the unit from time to time and ensure the continuous connectively of the OCEMS with CPCB and HSPCB.	Online Continuous Effluent/Emission Monitoring System installed in the PTPS are calibrated on monthly basis. Recent calibration was done on 16.02.2023.
6	The unit will comply with the directions of CPCB/HSPCB from time to time.	PTPS is **not complying with the direction no 42 dated 17.09.2021** of Commission for Air Quality Management in National Capital Region and adjoining areas, regarding the co-firing of biomass based Pellets, Torrefied Pellets/Briquettes (with focus on paddy straw) with Coal (up to 5-10%) in the power plants through a continuous and uninterrupted supply chain and to take all necessary steps to ensure that co-firing of biomass pellets in Thermal Power Plants begins without any delay.
7	That unit will intimate the board before start of operation of the units of PTPS and samples will be collected with 90 days and further validity of the CTO will depend upon the outcome of ARs.	PTPS has informed and Board has already collected the samples of the PTPS on 14.12.2022 and found complying with the emissions/ effluent norms.
8	That the CTO so granted shall become invalid in case of violation of any the above/ any law of the land and action as deemed fit will be initiated against the unit as per legal provisions.	Noted for compliance .

Compliance of the Conditions of Environmental Clearance		
Sr. No.	**Conditions**	**Compliance Status**
1	All the condition stipulated by Haryana Pollution Control Board vide their letter no. HSPCB/Water Consent/2001/4349 dated 28th November, 2001 and No. HSPCB/2001/947 dated 10th October 2001 should be strictly implemented	No record has been provided by PTPS regarding compliance of this condition.
2	Utilization of land should be restricted to 136 ha and acquisition to 51.5 ha (41.5 ha for ash disposal and 10 ha for construction yard).	No record has been provided by PTPS regarding compliance of this condition.
3	A single bi-flue stack of 220 m height should be provided with continuous on-line monitoring equipments and the data collected should be analyzed and submitted regularly	Complied by PTPS.
4	Water for the project to the tune of 18.5 cusses should be drawn from Delhi Parallel Branch of Western Yamuna Canal for the proposed expansion project from the allocation of 106.5 cusecs made for the power station. Trade effluents from the project should be discharged into Untla drain after ensuring its conformity to the standards prescribed for thermal power projects	PTPS is drawning 18.5 cusses of raw water from Delhi Parallel Branch of Western Yamuna Canal for unit no 7 & 8 and drawning 8 cusses of raw water from Delhi Parallel Branch of Western Yamuna Canal for unit no 6.

5	Regular monitoring of water quality including heavy metals should be undertaken around ash pond and project area to ascertain the change in the water quality, if any, due to leaching of contaminants from ash disposal area	Regular monitoring of water quality is being carried out through MoEF&CC approved Lab on monthly basis by PTPS.
6	Coal should be used @ about 6000 TPD for the expansion scheme having calorific value of 4000 Kcal/kg and sulphur content of 0.35%. As the power station is located beyond 1000 kms from the linked coal mine of North Eastern Coalfields Limited, ash content in the coal should not exceed 34%. Arrangements should be made for sprinkling of water in coal stock yard for fire safety as well as for controlling fine coal particles getting airborne	Blending of imported coal is done to maintain the calorific value of 4000 Kcal/kg and sulphur content of 0.35%. and to reduce the ash content up to 34%. Dust suppression system at wagon tipplers, conveyor belt etc. installed in the existing coal handling plants of PTPS are in working condition. The water sprinkling on the coal stock is also carried out on regular basis.
7	Ash generated to the tune of 7.13 Lakh tonnes per year should be utilized in a phased manner as per the provisions of the Notification on fly Ash Utilization issued by the Ministry in September, 1997. By the end of 9th year i.e. 2014-15 full fly ash utilization should be ensured	PTPS is presently having more than 100% Ash utilization since 2015-16 and complying with the Notification on fly Ash Utilization issued by the MOEF&CC.PTPS has also submitted action plan for the disposal of the entire pond ash stored in ash dykes within 3 years.
8	The existing ash disposal are of 710 area should be used for the existing and proposed units at Panipat Thermal Power Station Additional area of 340 acres, proposed for ash disposal, should be used only if necessary. As the ash dykes of the existing lagoons are showing signs of erosion, a scheme should be drawn for its compacting, turfing and maintenance for avoiding its breach	PTPS has undertaken the raising and compacting of the ash dykes timely and there is no erosion of ash dykes.
9	All the weed growth in the existing lagoons should be immediately removed and report submitted to the Ministry within 3 months. The decanted water from ash pond should be re-circulated and the discharge into nearby drain/nallah should be immediately stopped	All the weed growth in the lagoons was removed and Ash Water Recovery System has been installed for recovery of decanted water from ash dyke to reuse it in ash slurry preparation.
10	Up-gradation and retrofitting of micro-processors for the existing ESPs should be immediately undertaken as per the programme drawn in the regard for ensuring reduction in SPM emission and its conformity to the prescribed standard of 150 mg/m3	Unit no 1 to 4 has been dismantled and unit no 5 has been phase out and not in operation. Presently unit no 6, 7 & 8 are in operation having total power generation capacity of 710 MW. ESPs of unit no 6, 7,& 8 are of updated technology having BAPCON controllers. ESPs are tunned in shut down period regularly for effective working . PTPS is complying with SPM norms. Ammonia flue gas conditioning system has also been installed for further improvement. Further, case for installation of FGD & low NOx burners is in process.
11	As certain pockets in the nearby villages, particularly Khukhrana village, are getting water logged due to various activities in the region and thermal power project, a detailed scheme should be drawn for avoiding increase in water logged areas in consultation with Hydrologists/reputed institutions and submitted to the Ministry within six months. Adequate financial provision should be made for implementation of necessary mitigation measure	Adequate necessary mitigation measure had been made. Presently there is no water logging in nearby area.
12	Following schedule should be strictly followed as committed during the meeting of the Expert Committee held on 24th May, 2002. • De-weeding of ash pond lagoons by June, 2002. • Conceptual framework for greenbelt development by October, 2002. • Up-gradation of ESPs and retrofitting of BAPCON Controllers by December, 2002. • Geo-hydrological studies by December 2002. • Water sprinkler system in crushed/uncrushed coal handling area by March, 2003. • Setting up of Environmental Laboratory by March, 2003. • Garland drain around the ash pond by March, 2003	> De-weeding was carried out before june 2002.. > Conceptual framework for greenbelt development has been done before October, 2002 and presently 97450 no of trees existing in the premises of PTPS till date. > Up-gradation of ESPs and retrofitting of BAPCON Controllers had been done by December, 2002. >Water sprinkler system in crushed/uncrushed coal handling area has been provided by March, 2003 > **Environmental Laboratory has not been set up till date and Environment monitoring is being carried out by MOE&F CC approved lab.** > Garland drain around the ash pond had been provided by March, 2003 This condition is partially complied.

13	Recommendation contained in the risk analysis report should be fully implemented. A programme of mock drills should be prepared and regularly conducted to train the employees to handle effectively eventuaiity Safety alarm devices should be installed at strategic points including main gate, assembly points, first aid centre etc.	Recommendation contained in the risk analysis report is fully implemented. The fire mock drills are being conducted on monthly basis at different locations/sites in plant and employees are regularly imparted training regarding use of fire extinguishers etc. Safety alarm device shave been installed at strategic points including main gate, assembly points, first aid centre etc
14	Noise level should be limited to 75 dB and regular maintenance of equipment is undertaken. For people working in the area of generator halls and other high noise areas, earplug should be provided	Noise level is being monitored by MOEF&CC approved laboratory by PTPS regularly. The PPEs i.e ear muffs, ear plugs etc. are being used in high noise areas of plant.
15	For controlling fugitive dust, regular sprinkling of water in vulnerable areas of the plant should be ensured	Regular sprinkling is being done in the plant area through tankers for controlling fugitive dust.
16	Greenbelt covering an area of 44 ha should be developed around construction yard, plant boundary, ash disposal area etc. ensuring a tree density of 1500-2000 trees per ha. Trees plantation should be completed during 10th Five Year Plan. Necessary financial provision should be made in the budget for the purpose. A greenbelt should also be created around coal yard for reducing fugitive dust. A detailed plan should be drawn by October, 2002 for the purpose through specialist's inputs.	Greenbelt covering an area of 44 ha having 97450 no of trees have been provided till date as per report submitted by PTPS. The tree density is 2214 trees per ha.
17	Regular monitoring for SPM, SO2 and NOx around the power plant should be carried out by installing at least on permanent monitoring station which could serve as base line data. Records should be properly analyzed and maintained	Regular monitoring for SPM, SO2 and NOx around the power plant is being done two times in a week through NABL accredited Laboratory by PTPS.
18	The project proponent should advertise, at least in two local newspapers widely circulated in the region around the project , one of which shall be in the vernacular language of the locality concerned , informing that the project has been accorded environmental clearance and copies of clearances letter are available with the State Pollution Control Board/ Committee and may also be seen at website of the Ministry of Environment & Forests at http://www.envfor.nic.in	No record has been provided by PTPS as proof of publication in newspapers.
19	A monitoring committee should be constituted for reviewing the compliance of various safeguard measures by involving recognized local NGOs, Pollution Control Board, Institution, Experts etc.	No record has been provided by PTPS regarding constitution of monitoring committee
20	The project authorities should inform the Regional Officer as well as the Ministry the date of financial closer and final approval of the project by concerned authorities and the date of start of land development work.	No record has been provided by PTPS regarding compliance of this condition.
21	The full cooperation should be extended to the Scientists/Officer from the Regional Office of the Ministry at Chandigarh/ the CPCB/the SPCB who would be monitoring the compliance of environmental status. Complete set of impact assessment report and the management plans should be forwarded to the Regional Office for their use during monitoring	Complied by PTPS

However PTPS is also **not complying with the direction no 42 dated 17.09.2021** of Commission for Air Quality Management in National Capital Region and adjoining areas, regarding the co-firing of biomass based Pellets, Torrefied Pellets/Briquettes (with focus on paddy straw) with Coal (up to 5-10%) in the power plants through a continuous and uninterrupted supply chain and to take all necessary steps to ensure that co-firing of biomass pellets in Thermal Power Plants begins without any delay.

2.4 Status of Road accidents in the nearby area of PTPS ash dykes:

1) The data regarding road accidents as alleged by the applicants, were sought from Police who has provided the following:

Year	No. of accident occurred
2021	05
2022	03
2023 till 03.03.2023	00

2.5 Measures adapted to control fly ash:

1) The transportation of the Ash, more than 700 heavy earth movers (carrying capacity ranging 20 tonnes to 35 tonnes) are plying within the ash dyke area and its connected roads are found to have covered to avoid the ash spillages and becoming air borne. Photographs attached as **Annexure-9)**
2) The water sprinkling tankers are deployed on the road that consumes about 65,000 liters of water recovered from ash dyke per day, to mitigate dust re-suspension due the earth movers.(Photographs attached as **Annexure-10)**

The site was again inspected by the joint committee on 06.03.2023 and complainant Sh. Shubender was also contacted for the site visit but he is still on in the position to accompany the Joint committee therefore he authorize his nephew Sh. Sunit S/o Rishipal, to attend the site visit . The comments of the representative of the complaint are attached as **Annexure -11.**

3.0. Recommendations:

1. It is pertinent to mentioned that same matter has already been undertaken before the Hon'ble NGT New Delhi in OA No. 581 /2019; Residents of Gram Panchayat Jatal, District Panipat Applicant Versus State of Haryana Respondent, is related to pollution caused in the nearby villages, during management of fly ash by Panipat Thermal Power Plant and a Joint Committee of CPCB and HSPCB is assessing the damage caused to the Environment and Public Health in the area. Joint committee in OA no. 581/2019 is conducting the detailed monitoring to collect the extensive data required for quantification of the affected area and the quantitative damage caused to the environment and Public health by involving subject experts, so as to prepare the remediation plan.
2. PTPS shall provide tyre washing facility of the ash carrying earth movers/ vehicles before reaching on the Panipat Assandh Road, city roads and other village road so that ash shall not come on the road and to avoid dust re-suspension
3. PTPS shall make an extensive water sprinkling plan in the ash dykes area and also along the transportation path within the Ash dykes area to prevent the maximum possible ash emissions and submit the copy of the same to CPCB and HSPCB.
4. PTPS shall install Online Cameras on all the exits of Ash dykes so that continuous surveillance of the Ash carrying vehicles can be done and any uncovered vehicle shall not ply on the roads.
5. PTPS shall comply with the action plan submitted for lifting of the entire ash from the dykes and also submit fortnightly report to HSPCB regarding the lifting of the ash as per action plan.

(CPCB Member is on leave and Approved the report vide Email dated 10.04.2023)

Kamaljit Singh
HSPCB, RO, Panipat

Balwan Singh
Naib Tehsildar,Panipat

Suneel Dave
Director , CPCB, RD,
Chandigarh

Dated: April 10, 2023

Item No.07 (Court No. 2)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI.

(Through Physical Hearing with Hybrid VC Option)
Original Application No. 612/2022

Subhender ...Applicant

Versus

State of Haryana & others ...Respondents

Date of hearing: 20.01.2023

CORAM: HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

Applicant: None.

Respondent: Mr. Rahul Khurana, Advocate for HSPCB.
Mr. Pradeep, AEE, HSPCB, Panipat (through VC).

Application is registered based on a Letter Petition received by email.

ORDER

1. In compliance of order dated 22.09.2022, interim report has been submitted by the Joint Committee vide email dated 16.01.2023.

2. The Joint Committee has sought further time for examination of facts on ground and submission of the final report. Report by the Joint Committee be submitted within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Supported PDF and not in the form of Image PDF.

3. In view of the averments in the application and observations in the interim report of the Joint Committee, we consider it appropriate to have response of (1) State of Haryana through Chief Secretary, Government of Haryana, (2) State PCB, (3) Deputy Commissioner, Panipat and (4) the Project Proponent-M/s Panipath Thermal Power Station, who stand impleaded as

respondents No. 1 to 4. The Registry is directed to prepare and attach memo of parties to the application.

4. Respondent no. 2 is already appearing before this Tribunal through counsel. Notices be issued to respondents no. 1, 3 and 4 requiring them to file their reply/response within two months by email at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Supported PDF and not in the form of Image PDF.

5. List the matter for further consideration on 21.04.2023.

Arun Kumar Tyagi, JM

Dr. Afroz Ahmad, EM

January 20 2023.
AG

SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

(A unit of Shriram Scientific and Industrial Research Foundation)

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ULR NO: TC544423000001109F **TEST REPORT** **NO : C1/0000315471**

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date : 04-02-2023
Job No : 2211-1-421-1430
Booking No : RG2223/1/7353
Booking Date : 14-11-2022
Customer Ref No. : W.O.NO. 20/2022-23/ CMDP-II/963/VOL-II
Customer Ref Dt. : 10-11-2022

ilac-MRA TC-5444

Sample Particulars: (2211-1-421-1430) Sample No. 1

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	: M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	: Power Generation
	b) Production Capacity	: 710 MW
2.	Site Representative	: Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	: Field Hostel, PTPS Colony (Panipat)
4.	Date of Sampling	: 29.12.2022 to 30.12.2022
5.	Sampling started at (Hrs.)	: 11:40 on 29.12.2022
6.	Sampling completed at (Hrs.)	: 11:40 on 30.12.2022
7.	Actual duration of sampling (minutes)	: 1369

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6095 **)**

Note: The results relate only to the items tested / calibrated above.
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ULR NO: TC544423000001109F **TEST REPORT** **NO : C1/0000315471**

TC-5444

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	8	Max. 80 $\mu g/m^3$ (24-hr.)	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	37	Max. 80 $\mu g/m^3$ (24-hr.)	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	376	Max. 100 $\mu g/m^3$ (24-hr.)	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	141	Max. 60 $\mu g/m^3$ (24-hr.)	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	46	Max. 100 $\mu g/m^3$ (8-hr.)	ASTM: D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.18	Max. 1 $\mu g/m^3$ (24-hr.)	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.8	Max. 2 mg/m^3 (8-hr.)	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	35	Max. 400 $\mu g/m^3$ (24-hr.)	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	6.4	5 $\mu g/m^3$, (Annual Avg.)	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	0.9	1 ng/m^3, (Annual Avg.)	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.6	6 ng/m^3, (Annual Avg.)	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	7.1	20 ng/m^3, (Annual Avg.)	IS: 5182 (Pt-22) 2004 (RA 2014)

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

RK Mahmud

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ULR NO: TC544423000001109F **TEST REPORT** **NO : C1/0000315471**

Sample Particulars: (2211-1-421-1430) Sample No. 2

TC-5444

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Field Hostel, PTPS Colony (Panipat)
4.	Date of Sampling	:	30.12.2022 to 31.12.2022
5.	Sampling started at (Hrs.)	:	11:45 on 30.12.2022
6.	Sampling completed at (Hrs.)	:	11:45 on 31.12.2022
7.	Actual duration of sampling (minutes)	:	1440

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	22	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	224	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	76	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	34	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.14	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.6	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	45	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	7.8	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.41	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	13	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

RK Sharma

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ULR NO: TC544423000001109F **TEST REPORT** **NO : C1/0000315471**

Sample Particulars: (2211-1-421-1430) Sample No. 3

TC-5444

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Field Hostel, PTPS Colony
4.	Date of Sampling	:	31.12.2022 to 01.01.2023
5.	Sampling started at (Hrs.)	:	11:50 on 31.12.2022
6.	Sampling completed at (Hrs.)	:	11:55 on 01.01.2023
7.	Actual duration of sampling (minutes)	:	1424

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	23	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	176	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	84	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	53	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.08	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.7	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	35	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	2.8	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.25	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	5	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

RK Thakur

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ULR NO: TC544423000001110F **TEST REPORT** **NO : C1/0000315472**

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date : 04-02-2023
Job No : 2211-1-421-1431
Booking No : RG2223/1/7353
Booking Date : 14-11-2022
Customer Ref No. : W.O.NO. 20/2022-23/ CMDP-II/963/VOL-II
Customer Ref Dt. : 10-11-2022

TC-5444

Sample Particulars: (2211-1-421-1431) Sample No. 1

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	: M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	: Power Generation
	b) Production Capacity	: 710 MW
2.	Site Representative	: Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	: Maharishi Kashyap Polytechnic, Jattal (Panipat)
4.	Date of sampling	: 29.12.2022 to 30.12.2022
5.	Sampling started at (Hrs.)	: 12:00 on 29.12.2022
6.	Sampling completed at (Hrs.)	: 12:05 on 30.12.2022
7.	Actual duration of sampling (minutes)	: 1283

RK Sharma

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ULR NO: TC544423000001110F **TEST REPORT** **NO : C1/0000315472**

TC-5444

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	8	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	62	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	395	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	127	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	51	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM: D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.25	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.8	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	51	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	8.4	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL*	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.26	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	30	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

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ULR NO: TC544423000001110F **TEST REPORT** **NO : C1/0000315472**

Sample Particulars: (2211-1-421-1431) Sample No. 2
Ambient air sampling was carried out by our representatives as per details given below.

TC-5444

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Maharishi Kashyap Polytechnic, Jattal (Panipat)
4.	Date of Sampling	:	30.12.2022 to 31.12.2022
5.	Sampling started at (Hrs.)	:	12:30 on 30.12.2022
6.	Sampling completed at (Hrs.)	:	13:10 on 31.12.2022
7.	Actual duration of sampling (minutes)	:	1477

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	44	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	274	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	108	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No. SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	48	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM: D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.12	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.7	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	33	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	6.2	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	0.8	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.4	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	3.8	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

RK Thakur

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ULR NO: TC544423000001110F **TEST REPORT** **NO : C1/0000315472**

TC-5444

Sample Particulars: (2211-1-421-1431) Sample No. 3
Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Maharishi Kashyap Polytechnic, Jattal (Panipat)
4.	Date of Sampling	:	31.12.2022 to 01.01.2023
5.	Sampling started at (Hrs.)	:	13:15 on 31.12.2022
6.	Sampling completed at (Hrs.)	:	13:20 on 01.01.2023
7.	Actual duration of sampling (minutes)	:	1323

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	40	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	155	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	66	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	59	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.04	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.8	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	41	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	3.9	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	0.7	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.25	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	22	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

RK Sharma

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ULR NO: TC544423000001111F **TEST REPORT** **NO : C1/0000315473**

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date : 04-02-2023
Job No : 2211-1-421-1432
Booking No : RG2223/1/7353
Booking Date : 14-11-2022
Customer Ref No. : W.O.NO. 20/2022-23/ CMDP-II/963/VOL-II
Customer Ref Dt. : 10-11-2022

TC-5444

Sample Particulars: (2211-1-421-1432) Sample No. 1

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	: M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	: Power Generation
	b) Production Capacity	: 710 MW
2.	Site Representative	: Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	: GD Goenka School, Jattal (Panipat)
4.	Date of sampling	: 29.12.2022 to 30.12.2022
5.	Sampling started at (Hrs.)	: 12:38 on 29.12.2022
6.	Sampling completed at (Hrs.)	: 12:40 on 30.12.2022
7.	Actual duration of sampling (minutes)	: 1371

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EMPLOYEE CODE:(6098)

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ULR NO: TC544423000001111F **TEST REPORT** **NO : C1/0000315473**

TC-5444

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	5	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	57	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	427	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	275	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	39	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.22	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.8	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	44	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	0.9	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	1.1	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.45	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	11	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6095 **)**

GC-01(Rev-05)

Note: The results relate only to the items tested / calibrated above.
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ULR NO: TC544423000001111F **TEST REPORT** **NO : C1/0000315473**

Sample Particulars: (2211-1-421-1431) Sample No. 2

TC-5444

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	GD Goenka School, Jattal (Panipat)
4.	Date of sampling	:	30.12.2022 to 31.12.2022
5.	Sampling started at (Hrs.)	:	12:45 on 30.12.2022
6.	Sampling completed at (Hrs.)	:	13:35 on 31.12.2022
7.	Actual duration of sampling (minutes)	:	1477

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	37	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	319	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	192	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	40	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.12	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.7	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	29	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	4.1	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	1.1	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.24	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	4.1	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

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EMPLOYEE CODE:(6095)

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ULR NO: TC544423000001111F **TEST REPORT** **NO : C1/0000315473**

TC-5444

Sample Particulars: (2211-1-421-1432) Sample No. 3

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	: M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	: Power Generation
	b) Production Capacity	: 710 MW
2.	Site Representative	: Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	: GD Goenka School, Jattal (Panipat)
4.	Date of sampling	: 31.12.2022 to 01.01.2023
5.	Sampling started at (Hrs.)	: 13:45 on 31.12.2022
6.	Sampling completed at (Hrs.)	: 13:50 on 01.01.2023
7.	Actual duration of sampling (minutes)	: 1309

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	49	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	164	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	96	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	42	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.05	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.7	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	39	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	1.8	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.22	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	7	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

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ULR NO: TC544423000001148F **TEST REPORT** **NO : C1/0000315563**

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date : 04-02-2023
Job No : 2211-1-421-1434
Booking No : RG2223/1/7353
Booking Date : 14-11-2022
Customer Ref No. : W.O.NO. 20/2022-23/ CMDP-II/963/VOL-II
Customer Ref Dt. : 10-11-2022

TC-5444

Sample Particulars: (2211-1-421-1434) Sample No. 1

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	: M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	: Power Generation
	b) Production Capacity	: 710 MW
2.	Site Representative	: Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	: DAV School, PTPS Colony (Panipat)
4.	Date of sampling	: 02.01.2023 to 03.01.2023
5.	Sampling started at (Hrs.)	: 12:40 on 02.01.2023
6.	Sampling completed at (Hrs.)	: 12:40 on 03.01.2023
7.	Actual duration of sampling (minutes)	: 1437

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ULR NO: TC544423000001148F **TEST REPORT** **NO : C1/0000315563**

TC-5444

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	24	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	331	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	111	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	49	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.10	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.9	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	36	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	1.4	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.36	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	11	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
DOC: 31.01.2023

RK Sharma

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ULR NO: TC544423000001148F **TEST REPORT** **NO : C1/0000315563**

TC-5444

Sample Particulars: (2211-1-421-1434) Sample No. 2

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	DAV School, PTPS Colony (Panipat)
4.	Date of Sampling	:	03.01.2023 to 04.01.2023
5.	Sampling started at (Hrs.)	:	12:50 on 03.01.2023
6.	Sampling completed at (Hrs.)	:	12:50 on 04.01.2023
7.	Actual duration of sampling (minutes)	:	1392

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	20	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	233	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	75	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	52	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.05	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.8	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	46	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	BDL	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.19	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	1.4	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$, C_6H_6 = 0.3 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
DOC: 31.01.2023

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ULR NO: TC544423000001148F **TEST REPORT** **NO : C1/0000315563**

Sample Particulars: (2211-1-421-1434) Sample No. 3

TC-5444

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	DAV School, PTPS Colony (Panipat)
4.	Date of sampling	:	04.01.2023 to 05.01.2023
5.	Sampling started at (Hrs.)	:	12:55 on 04.01.2023
6.	Sampling completed at (Hrs.)	:	12:55 on 05.01.2023
7.	Actual duration of sampling (minutes)	:	1430

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	5	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	22	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	276	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	91	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	37	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.06	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.8	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	39	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	0.6	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL*	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.18	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	3.4	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
DOC: 31.01.2023

RK Sharma

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ULR NO: TC544423000001112F **TEST REPORT** **NO : C1/0000315475**

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date : 04-02-2023
Job No : 2211-1-421-1433
Booking No : RG2223/1/7353
Booking Date : 14-11-2022
Customer Ref No. : W.O.NO. 20/2022-23/ CMDP-II/963/VOL-II
Customer Ref Dt. : 10-11-2022

ilac-MRA TC-5444

Sample Particulars: (2211-1-421-1433) Sample No. 1

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	: M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	: Power Generation
	b) Production Capacity	: 710 MW
2.	Site Representative	: Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	: Govt. Sr. Sec. School, Sutana (Panipat)
4.	Date of sampling	: 29.12.2022 to 30.12.2022
5.	Sampling started at (Hrs.)	: 13:00 on 29.12.2022
6.	Sampling completed at (Hrs.)	: 13:10 on 30.12.2022
7.	Actual duration of sampling (minutes)	: 1382

RK Thakur

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EMPLOYEE CODE:(6095)

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ULR NO: TC544423000001112F **TEST REPORT** **NO : C1/0000315475**

TC-5444

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	71	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	346	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	224	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	39	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM: D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.22	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.7	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	42	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	3.2	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.35	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	27	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

RK Khanna

AUTHORISED SIGNATORY
EMPLOYEE CODE:(695)

GC-01(Rev-05)

Note: The results relate only to the items tested / calibrated above.
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SRI-C1 (Rev. 05)

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qad@shriraminstitute.org

ULR NO: TC544423000001112F **TEST REPORT** **NO : C1/0000315475**

TC-5444

Sample Particulars: (2211-1-421-1433) Sample No. 2

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Govt. Sr. Sec. School, Sutana (Panipat)
4.	Date of Sampling	:	30.12.2022 to 31.12.2022
5.	Sampling started at (Hrs.)	:	13:15 on 30.12.2022
6.	Sampling completed at (Hrs.)	:	14:30 on 31.12.2022
7.	Actual duration of sampling (minutes)	:	1507

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	49	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	252	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	164	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No. SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	42	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.13	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.6	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	45	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	0.3	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.17	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	8.4	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

RK Thakur

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6095 **)**

GC-01(Rev-05)

Note: The results relate only to the items tested / calibrated above.
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ULR NO: TC544423000001112F **TEST REPORT** **NO : C1/0000315475**

TC-5444

Sample Particulars: (2211-1-421-1433) Sample No. 3

Ambient air sampling was carried out by our representatives as per details given below.

1. Name & address of the Industry : M/s. Panipat Thermal Power Station Panipat (Hr.)
   a) Product Manufactured : Power Generation
   b) Production Capacity : 710 MW
2. Site Representative : Mr. Ajay Ahlawat, AEE (HSPCB)
3. Sampling Site : Govt. Sr. Sec. School, Sutana (Panipat)
4. Date of sampling : 31.12.2022 to 01.01.2023
5. Sampling started at (Hrs.) : 14:35 on 31.12.2022
6. Sampling completed at (Hrs.) : 14:40 on 01.01.2023
7. Actual duration of sampling (minutes) : 1354

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	7	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	34	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	174	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	110	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No. SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	48	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.04	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.8	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	55	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	4.4	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.18	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	5.4	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 02.01.2023
DOS: 02.01.2023
DOC: 30.01.2023

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EMPLOYEE CODE:(6595)

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ULR NO: TC544423000001149F **TEST REPORT** **NO : C1/0000315564**

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date	: 04-02-2023
Job No	: 2211-1-421-1435
Booking No	: RG2223/1/7353
Booking Date	: 14-11-2022
Customer Ref No.	: W.O.NO. 20/2022-23/ CMDP-II/963/VOL-II
Customer Ref Dt.	: 10-11-2022

TC-5444

Sample Particulars: (2211-1-421-1435) Sample No. 1

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	: M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	: Power Generation
	b) Production Capacity	: 710 MW
2.	Site Representative	: Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	: Bal Vikas School, Jattal (Panipat)
4.	Date of sampling	: 02.01.2023 to 03.01.2023
5.	Sampling started at (Hrs.)	: 13:10 on 02.01.2023
6.	Sampling completed at (Hrs.)	: 13:10 on 03.01.2023
7.	Actual duration of sampling (minutes)	: 1435

RK Sharma

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ULR NO: TC544423000001149F **TEST REPORT** **NO : C1/0000315564**

TC-5444

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	7	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	26	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	383	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	120	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	37	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.13	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	2.0	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	48	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	BDL	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.56	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	4.6	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of C_6H_6 = 0.3 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
DOC: 31.01.2023

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ULR NO: TC544423000001149F **TEST REPORT** **NO : C1/0000315564**

TC-5444

Sample Particulars: (2211-1-421-1435) Sample No. 2

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Bal Vikas School, Jattal (Panipat)
4.	Date of sampling	:	03.01.2023 to 04.01.2023
5.	Sampling started at (Hrs.)	:	13:15 on 03.01.2023
6.	Sampling completed at (Hrs.)	:	13:15 on 04.01.2023
7.	Actual duration of sampling (minutes)	:	1376

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	µg/m³	BDL*	**Max. 80 µg/m³ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	µg/m³	31	**Max. 80 µg/m³ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	µg/m³	324	**Max. 100 µg/m³ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	µg/m³	109	**Max. 60 µg/m³ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	µg/m³	35	**Max. 100 µg/m³ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	µg/m³	0.08	**Max. 1 µg/m³ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m³	1.9	**Max. 2 mg/m³ (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	µg/m³	43	**Max. 400 µg/m³ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	µg/m³	1.2	**5 µg/m³, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m³	BDL	**1 ng/m³, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m³	0.45	**6 ng/m³, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m³	4.5	**20 ng/m³, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 µg/m³ & Benzo (a) Pyrene (BaP) = 0.1 ng/m³

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
DOC: 31.01.2023

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ULR NO: TC544423000001149F **TEST REPORT** **NO : C1/0000315564**

TC-5444

Sample Particulars: (2211-1-421-1435) Sample No. 3

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Bal Vikas School, Jattal (Panipat)
4.	Date of samping	:	04.01.2023 to 05.01.2023
5.	Sampling started at (Hrs.)	:	13:20 on 04.01.2023
6.	Sampling completed at (Hrs.)	:	13:20 on 05.01.2023
7.	Actual duration of sampling (minutes)	:	1435

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	38	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	369	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	116	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No. SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	37	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.07	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.9	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	48	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	2.0	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.21	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	5.7	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL - Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
DOC: 31.01.2023

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ULR NO: TC544423000001154F **TEST REPORT** **NO : C1/0000315573**

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date	: 04-02-2023
Job No	: 2211-1-421-1437
Booking No	: RG2223/1/7353
Booking Date	: 14-11-2022
Customer Ref No.	: W.O.NO. 20/2022-23/ CMDP-II/963/VOL-II
Customer Ref Dt.	: 10-11-2022

ilac-MRA TC-5444

Sample Particulars: (2211-1-421-1437) Sample No. 1

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	: M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	: Power Generation
	b) Production Capacity	: 710 MW
2.	Site Representative	: Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	: Atal Seva Kendra, Sutana (Panipat)
4.	Date of sampling	: 02.01.2023 to 03.01.2023
5.	Sampling started at (Hrs.)	: 14:15 on 02.01.2023
6.	Sampling completed at (Hrs.)	: 14:30 on 03.01.2023
7.	Actual duration of sampling (minutes)	: 1450

RK Sharma

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ULR NO: TC544423000001154F **TEST REPORT** **NO : C1/0000315573**

TC-544

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	29	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	369	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	227	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	48	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.11	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.9	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	32	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	BDL	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.1	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	6.2	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$, C_6H_6 = 0.3 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
DOC: 31.01.2023

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ULR NO: TC544423000001154F **TEST REPORT** **NO : C1/0000315573**

TC-5444

Sample Particulars: (2211-1-421-1437) Sample No. 2

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Atal Seva Kendra, Sutana (Panipat)
4.	Date of Monitoring	:	03.01.2023 to 04.01.2023
5.	Sampling started at (Hrs.)	:	14:35 on 03.01.2023
6.	Sampling completed at (Hrs.)	:	14:35 on 04.01.2023
7.	Actual duration of sampling (minutes)	:	1311

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	30	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	321	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	207	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	43	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.05	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.9	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	33	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	BDL	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.1	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	2.5	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$, C_6H_6 = 0.3 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
DOC: 31.01.2023

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ULR NO: TC544423000001154F **TEST REPORT** **NO : C1/0000315573**

Sample Particulars: (2211-1-421-1437) Sample No. 3

TC-5444

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Atal Seva Kendra, Sutana (Panipat)
4.	Date of Monitoring	:	04.01.2023 to 05.01.2023
5.	Sampling started at (Hrs.)	:	14:40 on 04.01.2023
6.	Sampling completed at (Hrs.)	:	14:40 on 05.01.2023
7.	Actual duration of sampling (minutes)	:	1147

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	28	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	343	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	196	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	55	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.06	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	2.0	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	49	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	BDL	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.11	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	6.6	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$, C_6H_6 = 0.3 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
DOC: 31.01.2023

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ULR NO: TC544423000001153F **TEST REPORT** **NO : C1/0000315570**

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date : 04-02-2023
Job No : 2211-1-421-1436
Booking No : RG2223/1/7353
Booking Date : 14-11-2022
Customer Ref No. : W.O.NO. 20/2022-23/ CMDP-II/963/VOL-II
Customer Ref Dt. : 10-11-2022

TC-5444

Sample Particulars: (2211-1-421-1436) Sample No. 1

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Govt. Sr. Sec. School, Jattal (Panipat)
4.	Date of sampling	:	02.01.2023 to 03.01.2023
5.	Sampling started at (Hrs.)	:	13:40 on 02.01.2023
6.	Sampling completed at (Hrs.)	:	13:55 on 03.01.2023
7.	Actual duration of sampling (minutes)	:	1456

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EMPLOYEE CODE:(6095)

Note: The results relate only to the items tested / calibrated above.
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ULR NO: TC544423000001153F **TEST REPORT** **NO : C1/0000315570**

TC-5444

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	6	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	28	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	432	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	237	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	37	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.14	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.9	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	50	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	BDL	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.4	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	12	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of C_6H_6 = 0.3 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
DOC: 31.01.2023

RK Khanna

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ULR NO: TC544423000001153F **TEST REPORT** **NO : C1/0000315570**

Sample Particulars: (2211-1-421-1436) Sample No. 2

TC-5444

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Govt. Sr. Sec. School, Jattal (Panipat)
4.	Date of Sampling	:	03.01.2023 to 04.01.2023
5.	Sampling started at (Hrs.)	:	14:00 on 03.01.2023
6.	Sampling completed at (Hrs.)	:	14:00 on 04.01.2023
7.	Actual duration of sampling (minutes)	:	1364

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	22	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	368	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	230	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No. SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	41	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM: D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.05	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.9	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	39	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	BDL	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.22	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	4.3	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$, C_6H_6 = 0.3 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
DOC: 31.01.2023

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ULR NO: TC544423000001153F **TEST REPORT** **NO : C1/0000315570**

TC-5444

Sample Particulars: (2211-1-421-1436) Sample No. 3

Ambient air sampling was carried out by our representatives as per details given below.

1.	Name & address of the Industry	:	M/s. Panipat Thermal Power Station Panipat (Hr.)
	a) Product Manufactured	:	Power Generation
	b) Production Capacity	:	710 MW
2.	Site Representative	:	Mr. Ajay Ahlawat, AEE (HSPCB)
3.	Sampling Site	:	Govt. Sr. Sec. School, Jattal (Panipat)
4.	Date of sampling	:	04.01.2023 to 05.01.2023
5.	Sampling started at (Hrs.)	:	14:05 on 04.01.2023
6.	Sampling completed at (Hrs.)	:	14:10 on 05.01.2023
7.	Actual duration of sampling (minutes)	:	1399

Results Table

S. No.	Parameter	Unit	Test Value	MoEF's NAAQ Standards	Protocol / Method
1.	Sulphur dioxide (SO_2)	$\mu g/m^3$	BDL*	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-2) 2001 (RA 2017)
2.	Nitrogen oxides (as NO_2)	$\mu g/m^3$	26	**Max. 80 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-6) 2006 (RA 2017)
3.	Respirable particulate matter (PM_{10})	$\mu g/m^3$	370	**Max. 100 $\mu g/m^3$ (24-hr.)**	5182 (Pt-23) 2006 (RA 2009)
4.	Fine particulate matter ($PM_{2.5}$)	$\mu g/m^3$	210	**Max. 60 $\mu g/m^3$ (24-hr.)**	SOP No.SRI/EPD-Air Lab/01
5.	Ozone (O_3), avg. [8 hr.]	$\mu g/m^3$	53	**Max. 100 $\mu g/m^3$ (8-hr.)**	ASTM:D5156-2008
6.	Lead (Pb)	$\mu g/m^3$	0.08	**Max. 1 $\mu g/m^3$ (24-hr.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
7.	Carbon monoxide (CO) avg. [8 hr.]	mg/m^3	1.9	**Max. 2 mg/m^3 (8-hr.)**	IS: 5182 (Pt-10) 1999 (RA 2014)
8.	Ammonia (NH_3)	$\mu g/m^3$	34	**Max. 400 $\mu g/m^3$ (24-hr.)**	ISC Method -401
9.	Benzene (C_6H_6)	$\mu g/m^3$	BDL	**5 $\mu g/m^3$, (Annual Avg.)**	IS: 5182 (Pt-11) 2006 (RA 2017)
10.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL	**1 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-12) 2004 (RA 2014)
11.	Arsenic (As)	ng/m^3	0.2	**6 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)
12.	Nickel (Ni)	ng/m^3	12	**20 ng/m^3, (Annual Avg.)**	IS: 5182 (Pt-22) 2004 (RA 2014)

*BDL- Below Detection Limit, Detection Limit of SO_2 = 5 $\mu g/m^3$, C_6H_6 = 0.3 $\mu g/m^3$ & Benzo (a) Pyrene (BaP) = 0.1 ng/m^3

-End of report-

DOR: 06.01.2023
DOS: 06.01.2023
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ULR NO. : TC544423000001192F

TEST REPORT

NO : C1/0000315701

TC-5444

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn. ER JIT SINGH,XEN CMDP- II

Date : 02-02-2023
Job No : 2211-1-401-1423
Booking No : RG2223/1/7352
Booking Date : 14-11-2022
Customer Ref No. : W.O.NO. 20/2022-23/CMDP-II/963/VOL.-II
Customer Ref Dt. : 10-11-2022

Sample Description: **Job Order no:-2211-1-401-1423**

ONE TAPE SEALED SAMPLE OF GROUND WATER FROM BOREWELL DRAWN BY OUR REPRESENTATIVE ON 29.12.2022, FROM BOREWELL WATER, PANIPAT THERMAL POWER STATION, PANIPAT, HARYANA, MEMO NO. 340/CMDP-II/963/VOL-II, DATED 10.11.2022; SUBJECT:- ANALYSIS OF GROUND WATER, SOIL, CROP AND SEEDS IN COMPLIANCE OF NGT DIRECTIONS ISSUED IN O.A. NO. 581/2019, TITLED AS RESIDENTS OF GRAM PANCHAYAT, JATTAL DISTRICT PANIPAT VERSUS STATE OF HARYANA BEFORE HON'BLE NGT, NEW DELHI, MARKED AS "ANAND S/O DHOOP SINGH (JATTAL)" WAS RECEIVED.

AS PER IS:10500:2012, RA 2018

S.No.	Tests	Results	Requirements/Acceptable Limits	Conformity	Detection Limit	Protocol
A. Organoleptic & Physical Parameter						
1	Colour, Hazen Unit	Not Detected	5 Max	Yes	5	IS: 3025 Pt-4-2021
2	Odour	Agreeable	Agreeable	Yes	-	IS: 3025 Pt-5-2018
3	Turbidity, NTU	2	1 Max (5)	Yes	-	IS: 3025 Pt-10-1984, RA 2017
4	pH	7.8	6.5 to 8.5	Yes	-	IS:3025 Pt-11-2022
5	Total Dissolved Solids, mg/l	502	500 Max (2000)	Yes	-	IS:3025 Pt-16-1984, RA 2017
B. General Parameters, mg/l						
1	Aluminium (as Al)	Not Detected	0.03 Max	Yes	0.02	IS: 3025 Pt-2-2019
2	Ammonia (as Total Ammonia-N)	Not Detected	0.5 Max	Yes	0.1	IS: 3025 Pt-34-1988, RA 2019

AUTHORISED SIGNATORY
EMPLOYEE CODE:(405)

Note: The results relate only to the items tested / calibrated above.
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ULR NO. : TC544423000001192F

TEST REPORT

NO : C1/0000315701

TC-5444

3	Anionic Detergents (as MBAS)	Not Detected	0.2 Max	Yes	0.01	Annex K of IS: 13428-2005
4	Barium (as Ba)	0.1	0.7 Max	Yes	-	IS: 3025 Pt-2-2019
5	Boron (as B)	0.1	0.5 Max	Yes	-	IS: 3025 Pt-57-2005, RA 2017
6	Calcium (as Ca)	26	75 Max	Yes	-	IS: 3025 Pt-40-1981, RA 2019
7	Chloramines (as Cl_2)	Not Detected	4.0 Max	Yes	1.0	IS: 3025 Pt-26-1983, RA 2019
8	Chloride (as Cl)	15	250 Max	Yes	-	IS: 3025 Pt-32-1988, RA 2019
9	Copper (as Cu)	Not Detected	0.05 Max	Yes	0.01	IS: 3025 Pt-2-2019
10	Fluoride (as F)	1.1	1.0 Max (1.5)	Yes	-	APHA 23rd Ed.4500F
11	Iron (as Fe)	0.2	1.0 Max	Yes	-	IS: 3025 Pt-2-2019
12	Magnesium (as Mg)	29	30 Max	Yes	-	IS: 3025 Pt-46-1984, RA 2019
13	Manganese (as Mn)	0.01	0.1 Max	Yes	-	IS: 3025 Pt-2-2019
14	Mineral Oil	Not Detected	1.0 Max	Yes	0.5	IS: 3025 Pt-39-2021
15	Nitrate (as NO3)	2	45 Max	Yes	-	IS: 3025 Pt-34-1988, RA 2019
16	Phenolic Compounds (as C6H5OH)	Not Detected	0.001 Max	Yes	0.001	IS: 3025 Pt-43-1992, RA 2019
17	Selenium (as Se)	Not Detected	0.01 Max	Yes	0.005	IS: 3025Pt-56-2003, RA 2019
18	Silver (as Ag)	0.01	0.1 Max	Yes	-	IS: 3025 Pt-2-2019
19	Sulphate (as SO4)	48	200 Max	Yes	-	IS: 3025 Pt-24-1983, RA 2019

AUTHORISED SIGNATORY
EMPLOYEE CODE:(4105)

Note: The results relate only to the items tested / calibrated above.
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ULR NO. : TC544423000001192F

TEST REPORT

NO : C1/0000315701

TC-5444

20	Sulphide (as H_2S)	Not Detected	0.05 Max	Yes	0.05	IS: 3025 Pt-29-1986, RA 2019
21	Total Alkalinity (as $CaCO_3$)	357	200 Max (600)	Yes	-	IS: 3025 Pt-23-1986, RA 2019
22	Total Hardness (as $CaCO_3$)	188	200 Max	Yes	-	IS: 3025 Pt-21-2009, RA 2019
23	Zinc (as Zn)	0.01	5 Max	Yes	-	IS: 3025 Pt-2-2019
C. Toxic Parameters, mg/l						
1	Cadmium (as Cd)	Not Detected	0.003 Max	Yes	0.003	IS: 3025 Pt-2-2019
2	Cyanide (as CN)	Not Detected	0.05 Max	Yes	0.05	IS: 3025 Pt-27-1986, RA 2019
3	Lead (as Pb)	Not Detected	0.01 Max	Yes	0.01	IS: 3025 Pt-2-2019
4	Mercury (as Hg)	Not Detected	0.001 Max	Yes	0.001	APHA 23rd Ed.3112
5	Molybdenum (as Mo)	Not Detected	0.07 Max	Yes	0.01	IS: 3025 Pt-2-2019
6	Nickel (as Ni)	Not Detected	0.02 Max	Yes	0.01	IS: 3025 Pt-2-2019
7	Total Arsenic (as As)	Not Detected	0.01 Max	Yes	0.005	IS: 3025 Pt-37-1988, RA 2019
8	Total Chromium (as Cr)	Not Detected	0.05 Max	Yes	0.01	IS: 3025 Pt-2-2019
D. Bacteriological Tests, cfu per 100 ml						
1	Total Coliform Bacteria	Not Detected	Not Detectable	Yes	One or more than one	IS: 15185 -2016, RA 2021
2	E. coli	Not Detected	Not Detectable	Yes	One or more than one	IS: 15185-2016, RA 2021

Note: Values given in the brackets are permissible limits in the absence of alternate sources.

D.O.R: 30.12.2022
D.O.S: 30.12.2022
D.O.C: 31.01.2023

—End of Report —

AUTHORISED SIGNATORY
EMPLOYEE CODE:(4105)

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ULR NO. : TC544423000001193F

TEST REPORT

NO : C1/0000315703

TC-5444

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER JIT SINGH,XEN CMDP- II

Date : 02-02-2023
Job No : 2211-1-401-1424
Booking No : RG2223/1/7352
Booking Date : 14-11-2022
Customer Ref No. : W.O.NO. 20/2022-23/CMDP-II/963/VOL.-II
Customer Ref Dt. : 10-11-2022

Sample Description: **Job Order no:-2211-1-401-1424**

ONE TAPE SEALED SAMPLE OF GROUND WATER FROM BOREWELL DRAWN BY OUR REPRESENTATIVE ON 29.12.2022, FROM BOREWELL WATER, PANIPAT THERMAL POWER STATION, PANIPAT, HARYANA, MEMO NO. 340/CMDP-II/963/VOL-II, DATED 10.11.2022; SUBJECT:- ANALYSIS OF GROUND WATER, SOIL, CROP AND SEEDS IN COMPLIANCE OF NGT DIRECTIONS ISSUED IN O.A. NO. 581/2019, TITLED AS RESIDENTS OF GRAM PANCHAYAT, JATTAL DISTRICT PANIPAT VERSUS STATE OF HARYANA BEFORE HON'BLE NGT, NEW DELHI, MARKED AS "BALWINDER S/O RAMDIYA (JATTAL)" WAS RECEIVED.

AS PER IS:10500:2012, RA 2018

S.No.	Tests	Results	Requirements/Acceptable Limits	Conformity	Detection Limit	Protocol
A. Organoleptic & Physical Parameter						
1	Colour, Hazen Unit	Not Detected	5 Max	Yes	5	IS: 3025 Pt-4-2021
2	Odour	Agreeable	Agreeable	Yes	-	IS: 3025 Pt-5-2018
3	Turbidity, NTU	3	1 Max (5)	Yes	-	IS: 3025 Pt-10-1984, RA 2017
4	pH	7.8	6.5 to 8.5	Yes	-	IS:3025 Pt-11-2022
5	Total Dissolved Solids, mg/l	551	500 Max (2000)	Yes	-	IS:3025 Pt-16-1984, RA 2017
B. General Parameters, mg/l						
1	Aluminium (as Al)	Not Detected	0.03 Max	Yes	0.02	IS: 3025 Pt-2-2019
2	Ammonia (as Total Ammonia-N)	Not Detected	0.5 Max	Yes	0.1	IS: 3025 Pt-34-1988, RA 2019

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ULR NO. : TC544423000001193F

TEST REPORT

NO : C1/0000315703

TC-5444

3	Anionic Detergents (as MBAS)	Not Detected	0.2 Max	Yes	0.01	Annex K of IS: 13428-2005
4	Barium (as Ba)	0.1	0.7 Max	Yes	-	IS: 3025 Pt-2-2019
5	Boron (as B)	0.1	0.5 Max	Yes	-	IS: 3025 Pt-57-2005, RA 2017
6	Calcium (as Ca)	32	75 Max	Yes	-	IS: 3025 Pt-40-1981, RA 2019
7	Chloramines (as Cl_2)	Not Detected	4.0 Max	Yes	1.0	IS: 3025 Pt-26-1983, RA 2019
8	Chloride (as Cl)	19	250 Max	Yes	-	IS: 3025 Pt-32-1988, RA 2019
9	Copper (as Cu)	Not Detected	0.05 Max	Yes	0.01	IS: 3025 Pt-2-2019
10	Fluoride (as F)	0.9	1.0 Max	Yes	-	APHA 23rd Ed.4500F
11	Iron (as Fe)	0.3	1.0 Max	Yes	-	IS: 3025 Pt-2-2019
12	Magnesium (as Mg)	31	30 Max (100)	Yes	-	IS: 3025 Pt-46-1984, RA 2019
13	Manganese (as Mn)	0.01	0.1 Max	Yes	-	IS: 3025 Pt-2-2019
14	Mineral Oil	Not Detected	1.0 Max	Yes	0.5	IS: 3025 Pt-39-2021
15	Nitrate (as NO3)	6	45 Max	Yes	-	IS: 3025 Pt-34-1988, RA 2019
16	Phenolic Compounds (as C6H5OH)	Not Detected	0.001 Max	Yes	0.001	IS: 3025 Pt-43-1992, RA 2019
17	Selenium (as Se)	Not Detected	0.01 Max	Yes	0.005	IS: 3025Pt-56-2003, RA 2019
18	Silver (as Ag)	0.01	0.1 Max	Yes	-	IS: 3025 Pt-2-2019
19	Sulphate (as SO4)	76	200 Max	Yes	-	IS: 3025 Pt-24-1983, RA 2019
20	Sulphide (as H_2S)	Not Detected	0.05 Max	Yes	0.05	IS: 3025 Pt-29-1986, RA 2019
21	Total Alkalinity (as $CaCO_3$)	347	200 Max (600)	Yes	-	IS: 3025 Pt-23-1986, RA 2019

AUTHORISED SIGNATORY
EMPLOYEE CODE:(4105)

Note: The results relate only to the items tested / calibrated above.
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ULR NO. : TC544423000001193F

TEST REPORT

NO : C1/0000315703

TC-5444

22	Total Hardness (as $CaCO_3$)	209	200 Max (600)	Yes	-	IS: 3025 Pt-21-2009, RA 2019
23	Zinc (as Zn)	0.1	5 Max	Yes	-	IS: 3025 Pt-2-2019
C. Toxic Parameters, mg/l						
1	Cadmium (as Cd)	Not Detected	0.003 Max	Yes	0.003	IS: 3025 Pt-2-2019
2	Cyanide (as CN)	Not Detected	0.05 Max	Yes	0.05	IS: 3025 Pt-27-1986, RA 2019
3	Lead (as Pb)	Not Detected	0.01 Max	Yes	0.01	IS: 3025 Pt-2-2019
4	Mercury (as Hg)	Not Detected	0.001 Max	Yes	0.001	APHA 23rd Ed.3112
5	Molybdenum (as Mo)	Not Detected	0.07 Max	Yes	0.01	IS: 3025 Pt-2-2019
6	Nickel (as Ni)	Not Detected	0.02 Max	Yes	0.01	IS: 3025 Pt-2-2019
7	Total Arsenic (as As)	Not Detected	0.01 Max	Yes	0.005	IS: 3025 Pt-37-1988, RA 2019
8	Total Chromium (as Cr)	Not Detected	0.05 Max	Yes	0.01	IS: 3025 Pt-2-2019
D. Bacteriological Tests, cfu per 100 ml						
1	Total Coliform Bacteria	Not Detected	Not Detectable	Yes	One or more than one	IS: 15185 -2016, RA 2021
2	E. coli	Not Detected	Not Detectable	Yes	One or more than one	IS: 15185-2016, RA 2021

Note: Values given in the brackets are permissible limits in the absence of alternate sources.

D.O.R: 30.12.2022
D.O.S: 30.12.2022
D.O.C: 31.01.2023

—End of Report —

AUTHORISED SIGNATORY
EMPLOYEE CODE:(4105)

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ULR NO. : TC544423000001194F

TEST REPORT

NO : C1/0000315704

TC-5444

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date : 02-02-2023
Job No : 2211-1-401-1425
Booking No : RG2223/I/7352
Booking Date : 14-11-2022
Customer Ref No. : W.O.NO. 20/2022-23/CMDP-II/963/VOL.-II
Customer Ref Dt. : 10-11-2022

Sample Description: **Job Order no:-2211-1-401-1425**

ONE TAPE SEALED SAMPLE OF GROUND WATER FROM BOREWELL DRAWN BY OUR REPRESENTATIVE ON 31.12.2022, FROM BOREWELL WATER, PANIPAT THERMAL POWER STATION, PANIPAT, HARYANA, MEMO NO. 340/CMDP-II/963/VOL-II, DATED 10.11.2022; SUBJECT:- ANALYSIS OF GROUND WATER, SOIL, CROP AND SEEDS IN COMPLIANCE OF NGT DIRECTIONS ISSUED IN O.A. NO. 581/2019, TITLED AS RESIDENTS OF GRAM PANCHAYAT, JATTAL DISTRICT PANIPAT VERSUS STATE OF HARYANA BEFORE HON'BLE NGT, NEW DELHI, MARKED AS "RAMBIR S/O SHYAM RAM (JATTAL)" WAS RECEIVED.

AS PER IS:10500:2012, RA 2018

S.No.	Tests	Results	Requirements/Acceptable Limits	Conformity	Detection Limit	Protocol
A. Organoleptic & Physical Parameter						
1	Colour, Hazen Unit	Not Detected	5 Max	Yes	5	IS: 3025 Pt-4-2021
2	Odour	Agreeable	Agreeable	Yes	-	IS: 3025 Pt-5-2018
3	Turbidity, NTU	2	I Max (5)	Yes	-	IS: 3025 Pt-10-1984, RA 2017
4	pH	8.5	6.5 to 8.5	Yes	-	IS:3025 Pt-11-2022
5	Total Dissolved Solids, mg/l	591	500 Max (2000)	Yes	-	IS:3025 Pt-16-1984, RA 2017
B. General Parameters, mg/l						
1	Aluminium (as Al)	Not Detected	0.03 Max	Yes	0.02	IS: 3025 Pt-2-2019
2	Ammonia (as Total Ammonia-N)	Not Detected	0.5 Max	Yes	0.1	IS: 3025 Pt-34-1988, RA 2019

AUTHORISED SIGNATORY
EMPLOYEE CODE:(4105)

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qad@shriraminstitute.org

ULR NO. : TC544423000001194F

TEST REPORT

NO : C1/0000315704

TC-5444

3	Anionic Detergents (as MBAS)	Not Detected	0.2 Max	Yes	0.01	Annex K of IS: 13428-2005
4	Barium (as Ba)	Not Detected	0.7 Max	Yes	0.05	IS: 3025 Pt-2-2019
5	Boron (as B)	0.3	0.5 Max	Yes	-	IS: 3025 Pt-57-2005, RA 2017
6	Calcium (as Ca)	8	75 Max	Yes	-	IS: 3025 Pt-40-1981, RA 2019
7	Chloramines (as Cl_2)	Not Detected	4.0 Max	Yes	1.0	IS: 3025 Pt-26-1983, RA 2019
8	Chloride (as Cl)	17	250 Max	Yes	-	IS: 3025 Pt-32-1988, RA 2019
9	Copper (as Cu)	Not Detected	0.05 Max	Yes	0.01	IS: 3025 Pt-2-2019
10	Fluoride (as F)	7.2	1.0 Max (1.5)	No	-	APHA 23rd Ed.4500F
11	Iron (as Fe)	0.4	1.0 Max	Yes	-	IS: 3025 Pt-2-2019
12	Magnesium (as Mg)	5	30 Max	Yes	-	IS: 3025 Pt-46-1984, RA 2019
13	Manganese (as Mn)	0.01	0.1 Max	Yes	-	IS: 3025 Pt-2-2019
14	Mineral Oil	Not Detected	1.0 Max	Yes	0.5	IS: 3025 Pt-39-2021
15	Nitrate (as NO3)	3	45 Max	Yes	-	IS: 3025 Pt-34-1988, RA 2019
16	Phenolic Compounds (as C6H5OH)	Not Detected	0.001 Max	Yes	0.001	IS: 3025 Pt-43-1992, RA 2019
17	Selenium (as Se)	Not Detected	0.01 Max	Yes	0.005	IS: 3025Pt-56-2003, RA 2019
18	Silver (as Ag)	Not Detected	0.1 Max	Yes	0.01	IS: 3025 Pt-2-2019
19	Sulphate (as SO4)	86	200 Max	Yes	-	IS: 3025 Pt-24-1983, RA 2019
20	Sulphide (as H_2S)	Not Detected	0.05 Max	Yes	0.05	IS: 3025 Pt-29-1986, RA 2019

AUTHORISED SIGNATORY
EMPLOYEE CODE:(405)

Note: The results relate only to the items tested / calibrated above.
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qad@shriraminstitute.org

ULR NO. : TC544423000001194F

TEST REPORT

NO : C1/0000315704

TC-5444

21	Total Alkalinity (as $CaCO_3$)	376	200 Max (600)	Yes	-	IS: 3025 Pt-23-1986, RA 2019
22	Total Hardness (as $CaCO_3$)	41	200 Max	Yes	-	IS: 3025 Pt-21-2009, RA 2019
23	Zinc (as Zn)	0.01	5 Max	Yes	-	IS: 3025 Pt-2-2019
C. Toxic Parameters, mg/l						
1	Cadmium (as Cd)	Not Detected	0.003 Max	Yes	0.003	IS: 3025 Pt-2-2019
2	Cyanide (as CN)	Not Detected	0.05 Max	Yes	0.05	IS: 3025 Pt-27-1986, RA 2019
3	Lead (as Pb)	Not Detected	0.01 Max	Yes	0.01	IS: 3025 Pt-2-2019
4	Mercury (as Hg)	Not Detected	0.001 Max	Yes	0.001	APHA 23rd Ed.3112
5	Molybdenum (as Mo)	Not Detected	0.07 Max	Yes	0.01	IS: 3025 Pt-2-2019
6	Nickel (as Ni)	Not Detected	0.02 Max	Yes	0.01	IS: 3025 Pt-2-2019
7	Total Arsenic (as As)	Not Detected	0.01 Max	Yes	0.005	IS: 3025 Pt-37-1988, RA 2019
8	Total Chromium (as Cr)	Not Detected	0.05 Max	Yes	0.01	IS: 3025 Pt-2-2019
D. Bacteriological Tests, cfu per 100 ml						
1	Total Coliform Bacteria	Not Detected	Not Detectable	Yes	One or more than one	IS: 15185 -2016, RA 2021
2	E. coli	Not Detected	Not Detectable	Yes	One or more than one	IS: 15185-2016, RA 2021

Remarks :-With respect to Fluoride test, water does not conform to IS:10500:2012, RA 2018 and can not be considered fit for drinking purpose.

Note: Values given in the brackets are permissible limits in the absence of alternate sources.

D.O.R: 02.01.2023
D.O.S: 02.01.2023
D.O.C: 31.01.2023

—End of Report —

AUTHORISED SIGNATORY
EMPLOYEE CODE:(4105)

Phone : 91-11-27000100, 27667267, 27667860 Fax : 91-11-27667207

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105

ULR NO. : TC544423000001195F

TEST REPORT

NO : C1/0000315705

ilac-MRA TC-5444

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date : 02-02-2023
Job No : 2211-1-401-1426
Booking No : RG2223/1/7352
Booking Date : 14-11-2022
Customer Ref No. : W.O.NO. 20/2022-23/CMDP-II/963/VOL.-II
Customer Ref Dt. : 10-11-2022

Sample Description: **Job Order no:-2211-1-401-1426**

ONE TAPE SEALED SAMPLE OF GROUND WATER FROM BOREWELL DRAWN BY OUR REPRESENTATIVE ON 31.12.2022, FROM BOREWELL WATER, PANIPAT THERMAL POWER STATION, PANIPAT, HARYANA, MEMO NO. 340/CMDP-II/963/VOL-II, DATED 10.11.2022; SUBJECT:- ANALYSIS OF GROUND WATER, SOIL, CROP AND SEEDS IN COMPLIANCE OF NGT DIRECTIONS ISSUED IN O.A. NO. 581/2019, TITLED AS RESIDENTS OF GRAM PANCHAYAT, JATTAL DISTRICT PANIPAT VERSUS STATE OF HARYANA BEFORE HON'BLE NGT, NEW DELHI, MARKED AS "JAGBIR S/O DHARAMBIR (JATTAL)" WAS RECEIVED.

AS PER IS:10500:2012, RA 2018

S.No.	Tests	Results	Requirements/Acceptable Limits	Conformity	Detection Limit	Protocol
A. Organoleptic & Physical Parameter						
1	Colour, Hazen Unit	Not Detected	5 Max	Yes	5	IS: 3025 Pt-4-2021
2	Odour	Agreeable	Agreeable	Yes	-	IS: 3025 Pt-5-2018
3	Turbidity, NTU	1	1 Max	Yes	-	IS: 3025 Pt-10-1984, RA 2017
4	pH	7.8	6.5 to 8.5	Yes	-	IS:3025 Pt-11-2022
5	Total Dissolved Solids, mg/l	702	500 Max (2000)	Yes	-	IS:3025 Pt-16-1984, RA 2017
B. General Parameters, mg/l						
1	Aluminium (as Al)	Not Detected	0.03 Max	Yes	0.02	IS: 3025 Pt-2-2019
2	Ammonia (as Total Ammonia-N)	Not Detected	0.5 Max	Yes	0.1	IS: 3025 Pt-34-1988, RA 2019

AUTHORISED SIGNATORY
EMPLOYEE CODE:(4105)

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E-mail id : customercare@shriraminstitute.org
qad@shriraminstitute.org

ULR NO. : TC544423000001195F

TEST REPORT

NO : C1/0000315705

TC-5444

3	Anionic Detergents (as MBAS)	Not Detected	0.2 Max	Yes	0.01	Annex K of IS: 13428-2005
4	Barium (as Ba)	0.08	0.7 Max	Yes	-	IS: 3025 Pt-2-2019
5	Boron (as B)	0.3	0.5 Max	Yes	-	IS: 3025 Pt-57-2005, RA 2017
6	Calcium (as Ca)	26	75 Max	Yes	-	IS: 3025 Pt-40-1981, RA 2019
7	Chloramines (as Cl_2)	Not Detected	4.0 Max	Yes	1.0	IS: 3025 Pt-26-1983, RA 2019
8	Chloride (as Cl)	17	250 Max	Yes	-	IS: 3025 Pt-32-1988, RA 2019
9	Copper (as Cu)	Not Detected	0.05 Max	Yes	0.01	IS: 3025 Pt-2-2019
10	Fluoride (as F)	4.5	1.0 Max (1.5)	No	-	APHA 23rd Ed.4500F
11	Iron (as Fe)	0.1	1.0 Max	Yes	-	IS: 3025 Pt-2-2019
12	Magnesium (as Mg)	33	30 Max (100)	Yes	-	IS: 3025 Pt-46-1984, RA 2019
13	Manganese (as Mn)	0.01	0.1 Max	Yes	-	IS: 3025 Pt-2-2019
14	Mineral Oil	Not Detected	1.0 Max	Yes	0.5	IS: 3025 Pt-39-2021
15	Nitrate (as NO3)	10	45 Max	Yes	-	IS: 3025 Pt-34-1988, RA 2019
16	Phenolic Compounds (as C6H5OH)	Not Detected	0.001 Max	Yes	0.001	IS: 3025 Pt-43-1992, RA 2019
17	Selenium (as Se)	Not Detected	0.01 Max	Yes	0.005	IS: 3025Pt-56-2003, RA 2019
18	Silver (as Ag)	Not Detected	0.1 Max	Yes	0.01	IS: 3025 Pt-2-2019
19	Sulphate (as SO4)	90	200 Max	Yes	-	IS: 3025 Pt-24-1983, RA 2019
20	Sulphide (as H_2S)	Not Detected	0.05 Max	Yes	0.05	IS: 3025 Pt-29-1986, RA 2019

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ULR NO. : TC544423000001195F

TEST REPORT

NO : C1/0000315705

TC-5444

21	Total Alkalinity (as $CaCO_3$)	461	200 Max (600)	Yes	-	IS: 3025 Pt-23-1986, RA 2019
22	Total Hardness (as $CaCO_3$)	201	200 Max (600)	Yes	-	IS: 3025 Pt-21-2009, RA 2019
23	Zinc (as Zn)	0.01	5 Max	Yes	-	IS: 3025 Pt-2-2019
C. Toxic Parameters, mg/l						
1	Cadmium (as Cd)	Not Detected	0.003 Max	Yes	0.003	IS: 3025 Pt-2-2019
2	Cyanide (as CN)	Not Detected	0.05 Max	Yes	0.05	IS: 3025 Pt-27-1986, RA 2019
3	Lead (as Pb)	Not Detected	0.01 Max	Yes	0.01	IS: 3025 Pt-2-2019
4	Mercury (as Hg)	Not Detected	0.001 Max	Yes	0.001	APHA 23rd Ed.3112
5	Molybdenum (as Mo)	0.02	0.07 Max	Yes	-	IS: 3025 Pt-2-2019
6	Nickel (as Ni)	Not Detected	0.02 Max	Yes	0.01	IS: 3025 Pt-2-2019
7	Total Arsenic (as As)	Not Detected	0.01 Max	Yes	0.005	IS: 3025 Pt-37-1988, RA 2019
8	Total Chromium (as Cr)	Not Detected	0.05 Max	Yes	0.01	IS: 3025 Pt-2-2019
D. Bacteriological Tests, cfu per 100 ml						
1	Total Coliform Bacteria	Not Detected	Not Detectable	Yes	One or more than one	IS: 15185 -2016, RA 2021
2	E. coli	Not Detected	Not Detectable	Yes	One or more than one	IS: 15185-2016, RA 2021

Remarks :-With respect to Fluoride test, water does not conform to IS:10500:2012, RA 2018 and can not be considered fit for drinking purpose.

Note. Values given in the brackets are permissible limits in the absence of alternate sources.

D.O.R: 02.01.2023
D.O.S: 02.01.2023
D.O.C: 31.01.2023

—End of Report —

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ULR NO. : TC544423000001196F **TEST REPORT** **NO : C1/0000315706**

TC-5444

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER JIT SINGH XEN CMDP-II

Date : 02-02-2023
Job No : 2211-1-401-1427
Booking No : RG2223/1/7352
Booking Date : 14-11-2022
Customer Ref No. : W.O.NO. 20/2022-23/CMDP-II/963/VOL.-II
Customer Ref Dt. : 10-11-2022

Sample Description: **Job Order no:-2211-1-401-1427**

ONE TAPE SEALED SAMPLE OF GROUND WATER FROM BOREWELL DRAWN BY OUR REPRESENTATIVE ON 31.12.2022, FROM BOREWELL WATER, PANIPAT THERMAL POWER STATION, PANIPAT, HARYANA, MEMO NO. 340/CMDP-II/963/VOL-II, DATED 10.11.2022; SUBJECT:- ANALYSIS OF GROUND WATER, SOIL, CROP AND SEEDS IN COMPLIANCE OF NGT DIRECTIONS ISSUED IN O.A. NO. 581/2019, TITLED AS RESIDENTS OF GRAM PANCHAYAT, JATTAL DISTRICT PANIPAT VERSUS STATE OF HARYANA BEFORE HON'BLE NGT, NEW DELHI, MARKED AS "RAVINDER GARG (PANIPAT) S/O LALCHAND" WAS RECEIVED.

AS PER IS:10500:2012, RA 2018

S.No.	Tests	Results	Requirements/Acceptable Limits	Conformity	Detection Limit	Protocol
A. Organoleptic & Physical Parameter						
1	True Colour, Hazen Unit	Not Detected	5 Max	Yes	5	IS: 3025 Pt-4-2021
2	Odour	Agreeable	Agreeable	Yes	-	IS: 3025 Pt-5-2018
3	Turbidity, NTU	21	1 Max (5)	No	-	IS: 3025 Pt-10-1984, RA 2017
4	pH	7.8	6.5 to 8.5	Yes	-	IS:3025 Pt-11-2022
5	Total Dissolved Solids, mg/l	445	500 Max	Yes	-	IS:3025 Pt-16-1984, RA 2017
B. General Parameters, mg/l						
1	Aluminium (as Al)	0.06	0.03 Max (0.2)	Yes	-	IS: 3025 Pt-2-2019
2	Ammonia (as Total Ammonia-N)	Not Detected	0.5 Max	Yes	0.1	IS: 3025 Pt-34-1988, RA 2019

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ULR NO. : TC544423000001196F

TEST REPORT

NO : C1/0000315706

TC-5444

3	Anionic Detergents (as MBAS)	Not Detected	0.2 Max	Yes	0.01	Annex K of IS: 13428-2005
4	Barium (as Ba)	0.08	0.7 Max	Yes	-	IS: 3025 Pt-2-2019
5	Boron (as B)	0.3	0.5 Max	Yes	-	IS: 3025 Pt-57-2005, RA 2017
6	Calcium (as Ca)	28	75 Max	Yes	-	IS: 3025 Pt-40-1981, RA 2019
7	Chloramines (as Cl_2)	Not Detected	4.0 Max	Yes	1.0	IS: 3025 Pt-26-1983, RA 2019
8	Chloride (as Cl)	8	250 Max	Yes	-	IS: 3025 Pt-32-1988, RA 2019
9	Copper (as Cu)	Not Detected	0.05 Max	Yes	0.01	IS: 3025 Pt-2-2019
10	Fluoride (as F)	3.5	1.0 Max (1.5)	No	-	APHA 23rd Ed.4500F
11	Iron (as Fe)	3.9	1.0 Max	No	-	IS: 3025 Pt-2-2019
12	Magnesium (as Mg)	39	30 Max (100)	Yes	-	IS: 3025 Pt-46-1984, RA 2019
13	Manganese (as Mn)	0.05	0.1 Max	Yes	-	IS: 3025 Pt-2-2019
14	Mineral Oil	Not Detected	1.0 Max	Yes	0.5	IS: 3025 Pt-39-2021
15	Nitrate (as NO3)	6	45 Max	Yes	-	IS: 3025 Pt-34-1988, RA 2019
16	Phenolic Compounds (as C6H5OH)	Not Detected	0.001 Max	Yes	0.001	IS: 3025 Pt-43-1992, RA 2019
17	Selenium (as Se)	Not Detected	0.01 Max	Yes	0.005	IS: 3025Pt-56-2003, RA 2019
18	Silver (as Ag)	Not Detected	0.1 Max	Yes	0.01	IS: 3025 Pt-2-2019
19	Sulphate (as SO4)	40	200 Max	Yes	-	IS: 3025 Pt-24-1983, RA 2019
20	Sulphide (as H_2S)	Not Detected	0.05 Max	Yes	0.05	IS: 3025 Pt-29-1986, RA 2019
21	Total Alkalinity (as $CaCO_3$)	323	200 Max (600)	Yes	-	IS: 3025 Pt-23-1986, RA 2019

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ULR NO. : TC544423000001196F

TEST REPORT

NO : C1/0000315706

TC-5444

22	Total Hardness (as $CaCO_3$)	233	200 Max (600)	Yes	-	IS: 3025 Pt-21-2009, RA 2019
23	Zinc (as Zn)	0.07	5 Max	Yes	-	IS: 3025 Pt-2-2019
C. Toxic Parameters, mg/l						
1	Cadmium (as Cd)	Not Detected	0.003 Max	Yes	0.003	IS: 3025 Pt-2-2019
2	Cyanide (as CN)	Not Detected	0.05 Max	Yes	0.05	IS: 3025 Pt-27-1986, RA 2019
3	Lead (as Pb)	Not Detected	0.01 Max	Yes	0.01	IS: 3025 Pt-2-2019
4	Mercury (as Hg)	Not Detected	0.001 Max	Yes	0.001	APHA 23rd Ed.3112
5	Molybdenum (as Mo)	0.03	0.07 Max	Yes	-	IS: 3025 Pt-2-2019
6	Nickel (as Ni)	0.01	0.02 Max	Yes	-	IS: 3025 Pt-2-2019
7	Total Arsenic (as As)	Not Detected	0.01 Max	Yes	0.005	IS: 3025 Pt-37-1988, RA 2019
8	Total Chromium (as Cr)	0.01	0.05 Max	Yes	-	IS: 3025 Pt-2-2019
D. Bacteriological Tests, cfu per 100 ml						
1	Total Coliform Bacteria	Not Detected	Not Detectable	Yes	One or more than one	IS: 15185 -2016, RA 2021
2	E. coli	Not Detected	Not Detectable	Yes	One or more than one	IS: 15185-2016, RA 2021

Remarks :-With respect to Turbidity, Iron and Fluoride tests, water does not conform to IS:10500:2012, RA 2018 and can not be considered fit for drinking purpose.

Note: 1. Values given in the brackets are permissible limits in the absence of alternate sources.
2. The visual colour of sample is whitish, However colour test has been carried out after filteration of the sample.

D.O.R: 02.01.2023
D.O.S: 02.01.2023
D.O.C: 31.01.2023

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TEST REPORT

NO : C1/0000315480

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date	: 31-01-2023
Job No	: 2212-1-421-1644
Booking No	: RG2223/1/8345
Booking Date	: 22-12-2022
Customer Ref No.	: W.O.NO. 22/2022-23/ CMDP-II/1004
Customer Ref Dt.	: 21-12-2022

Sample Particulars:
One sample of "Soil-1 from Panchayat Land near tube well No.16, Jattal Village" Geo-coordinates N 29°22'31.9", E 76°54'45.46" drawn by our representative on 29.12.2022, Site: Panipat Thermal Power Station, Panipat Haryana Memo No. 411/CMDP-II/1004 Dated 21.12.2022, Subject-work order for Analysis of Soil, Crop and Seeds in compliance of order passed by Hon'ble NGT in O.A No. 581/2019 Titled as Residents of Gram Panchayat, Jattal District Panipat versus State of Haryana before Hon'ble NGT, New Delhi was received.

Results Table

S. No.	Test Parameters	Results	Protocol/Test Method
1.	pH (30 gm in 75 ml water) (on received basis)	8.5	IS: 2720 (Part-26)-1987 RA 2016
2.	Mercury (as Hg), mg/kg (on received basis)	Below Quantification Limit	APHA 23rd ED. 3112
3.	Arsenic (as As), mg/kg (on dry basis)	0.87	APHA 23rd ED. 3111
4.	Cadmium (as Cd), mg/kg (on dry basis)	Below Quantification Limit	Method No. 3050 B of EPA SW-846
5.	Cobalt (as Co), mg/kg (on dry basis)	Below Quantification Limit	Method No. 3050 B of EPA SW-846
6.	Chromium (as Cr), mg/kg (on dry basis)	50	Method No. 3050 B of EPA SW-846
7.	Copper (as Cu), mg/kg (on dry basis)	16	Method No. 3050 B of EPA SW-846
8.	Manganese (as Mn), mg/kg (on dry basis)	136	Method No. 3050 B of EPA SW-846

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QC-01(Rev-05)

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TEST REPORT **NO : C1/0000315480**

9.	Nickel (as Ni), mg/kg (on dry basis)	31	Method No. 3050 B of EPA SW-846
10.	Lead (as Pb), mg/kg (on dry basis)	10	Method No. 3050 B of EPA SW-846
11.	Zinc (as Zn), mg/kg (on dry basis)	40	Method No. 3050 B of EPA SW-846
12.	Phosphate (as P_2O_5), % by mass (on dry basis)	0.52	Method No. 3050 B of EPA SW-846
13.	Iron (as Fe_2O_3), % by mass (on dry basis)	2.07	Method No. 3050 B of EPA SW-846
14.	Potassium (as K_2O), % by mass (on dry basis)	0.85	Method No. 3050 B of EPA SW-846
15.	Nitrogen (as N), mg/kg (on dry basis)	1	IS:10158-1982, RA 2019
16.	Cation Exchange Capacity, meq/100 gm (on dry basis)	11.4	IS: 2720 (Part-14)-1976 RA 2020

*Quantification Limit of Cd, Co = 10 mg/kg, Hg=0.02 mg/kg.

-End of the report-

D.O.R.: 02.01.2023
D.O.S.: 02.01.2023
D.O.C.: 27.01.2023

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TEST REPORT **NO : C1/0000315481**

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date : 31-01-2023
Job No : 2212-1-421-1645
Booking No : RG2223/1/8345
Booking Date : 22-12-2022
Customer Ref No. : W.O.NO. 22/2022-23/ CMDP-II/1004
Customer Ref Dt. : 21-12-2022

Sample Particulars:
One sample of "Soil-2 from Mr. Anand S/o Mr. Dhoop Singh Land, Jattal Village" Geo-coordinates N 29°21'56.61", E 76°54'26" drawn by our representative on 29.12.2022, Site: Panipat Thermal Power Station, Panipat Haryana Memo No. 411/CMDP-II/1004 Dated 21.12.2022, Subject-work order for Analysis of Soil, Crop and Seeds in compliance of order passed by Hon'ble NGT in O.A No. 581/2019 Titled as Residents of Gram Panchayat, Jattal District Panipat versus State of Haryana before Hon'ble NGT, New Delhi was received.

Results Table

S. No.	Test Parameters	Results	Protocol/Test Method
1.	pH (30 gm in 75 ml water) (on received basis)	8.9	IS: 2720 (Part-26)-1987 RA 2016
2.	Mercury (as Hg), mg/kg (on received basis)	Below Quantification Limit	APHA 23rd ED. 3112
3.	Arsenic (as As), mg/kg (on dry basis)	1.01	APHA 23rd ED. 3111
4.	Cadmium (as Cd), mg/kg (on dry basis)	Below Quantification Limit	Method No. 3050 B of EPA SW-846
5.	Cobalt (as Co), mg/kg (on dry basis)	Below Quantification Limit	Method No. 3050 B of EPA SW-846
6.	Chromium (as Cr), mg/kg (on dry basis)	73	Method No. 3050 B of EPA SW-846
7.	Copper (as Cu), mg/kg (on dry basis)	25	Method No. 3050 B of EPA SW-846
8.	Manganese (as Mn), mg/kg (on dry basis)	166	Method No. 3050 B of EPA SW-846

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6095)

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TEST REPORT **NO : C1/0000315481**

9.	Nickel (as Ni), mg/kg (on dry basis)	37	Method No. 3050 B of EPA SW-846
10.	Lead (as Pb), mg/kg (on dry basis)	12	Method No. 3050 B of EPA SW-846
11.	Zinc (as Zn), mg/kg (on dry basis)	54	Method No. 3050 B of EPA SW-846
12.	Phosphate (as P_2O_5), % by mass (on dry basis)	0.5	Method No. 3050 B of EPA SW-846
13.	Iron (as Fe_2O_3), % by mass (on dry basis)	2.62	Method No. 3050 B of EPA SW-846
14.	Potassium (as K_2O), % by mass (on dry basis)	0.6	Method No. 3050 B of EPA SW-846
15.	Nitrogen (as N), mg/kg (on dry basis)	Below Quantification Limit	IS:10158-1982, RA 2019
16.	Cation Exchange Capacity, meq/100 gm (on dry basis)	13.4	IS: 2720 (Part-14)-1976 RA 2020

*Quantification Limit of Cd, Co = 10 mg/kg, Hg=0.02 mg/kg & N=1 mg/kg.

-End of the report-

D.O.R.: 02.01.2023
D.O.S.: 02.01.2023
D.O.C.: 27.01.2023

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6093)

GC-01(Rev-05)

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TEST REPORT NO : C1/0000315482

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date : 31-01-2023
Job No : 2212-1-421-1646
Booking No : RG2223/1/8345
Booking Date : 22-12-2022
Customer Ref No. : W.O.NO. 22/2022-23/ CMDP-II/1004
Customer Ref Dt. : 21-12-2022

Sample Particulars:
One sample of "Soil-3 from Mr. Balwinder S/o Mr. Ramdiya Land, Jattal Village" Geo-coordinates N 29°21'56.61", E 76°54'26" drawn by our representative on 29.12.2022, Site: Panipat Thermal Power Station, Panipat Haryana Memo No. 411/CMDP-II/1004 Dated 21.12.2022, Subject-work order for Analysis of Soil, Crop and Seeds in compliance of order passed by Hon'ble NGT in O.A No. 581/2019 Titled as Residents of Gram Panchayat, Jattal District Panipat versus State of Haryana before Hon'ble NGT, New Delhi was received.

Results Table

S. No.	Test Parameters	Results	Protocol/Test Method
1.	pH (30 gm in 75 ml water) (on received basis)	8.2	IS: 2720 (Part-26)-1987 RA 2016
2.	Mercury (as Hg), mg/kg (on received basis)	Below Quantification Limit	APHA 23rd ED. 3112
3.	Arsenic (as As), mg/kg (on dry basis)	1.42	APHA 23rd ED. 3111
4.	Cadmium (as Cd), mg/kg (on dry basis)	Below Quantification Limit	Method No. 3050 B of EPA SW-846
5.	Cobalt (as Co), mg/kg (on dry basis)	Below Quantification Limit	Method No. 3050 B of EPA SW-846
6.	Chromium (as Cr), mg/kg (on dry basis)	72	Method No. 3050 B of EPA SW-846
7.	Copper (as Cu), mg/kg (on dry basis)	35	Method No. 3050 B of EPA SW-846
8.	Manganese (as Mn), mg/kg (on dry basis)	238	Method No. 3050 B of EPA SW-846

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6095)

Note: The results relate only to the items tested / calibrated above.
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Phone : 91-11-27000100, 27667267, 27667860 Fax : 91-11-27667207

See overleaf for terms & conditions

SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

(A unit of Shriram Scientific and Industrial Research Foundation)

19, University Road, Delhi – 110007 (India)
An ISO - 9001, 14001 & 45001 Certified Institute

Website : www.shriraminstitute.org
E-mail id : customercare@shriraminstitute.org
qad@shriraminstitute.org

TEST REPORT **NO : C1/0000315482**

9.	Nickel (as Ni), mg/kg (on dry basis)	51	Method No. 3050 B of EPA SW-846
10.	Lead (as Pb), mg/kg (on dry basis)	17	Method No. 3050 B of EPA SW-846
11.	Zinc (as Zn), mg/kg (on dry basis)	76	Method No. 3050 B of EPA SW-846
12.	Phosphate (as P_2O_5), % by mass (on dry basis)	0.81	Method No. 3050 B of EPA SW-846
13.	Iron (as Fe_2O_3), % by mass (on dry basis)	3.21	Method No. 3050 B of EPA SW-846
14.	Potassium (as K_2O), % by mass (on dry basis)	0.84	Method No. 3050 B of EPA SW-846
15.	Nitrogen (as N), mg/kg (on dry basis)	Below Quantification Limit	IS:10158-1982, RA 2019
16.	Cation Exchange Capacity, meq/100 gm (on dry basis)	36.3	IS: 2720 (Part-14)-1976 RA 2020

*Quantification Limit of Cd, Co = 10 mg/kg, Hg=0.02 mg/kg & N=1 mg/kg.

-End of the report-

D.O.R.: 02.01.2023
D.O.S.: 02.01.2023
D.O.C.: 27.01.2023

RK Sharma

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6095)

GC-01(Rev-05)

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TEST REPORT

NO : CI/0000315484

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date	: 31-01-2023
Job No	: 2212-1-421-1647
Booking No	: RG2223/1/8345
Booking Date	: 22-12-2022
Customer Ref No.	: W.O.NO. 22/2022-23/ CMDP-II/1004
Customer Ref Dt.	: 21-12-2022

Sample Particulars:
One sample of "Soil-4 from Mr. Ranbir S/o Mr. Shyam Ram Land, Jattal Village" Geo-coordinates N 29°21'49.01", E 76°53'35.42" drawn by our representative on 31.12.2022, Site: Panipat Thermal Power Station, Panipat Haryana Memo No. 411/CMDP-II/1004 Dated 21.12.2022, Subject-work order for Analysis of Soil, Crop and Seeds in compliance of order passed by Hon'ble NGT in O.A No. 581/2019 Titled as Residents of Gram Panchayat, Jattal District Panipat versus State of Haryana before Hon'ble NGT, New Delhi was received.

Results Table

S. No.	Test Parameters	Results	Protocol/Test Method
1.	pH (30 gm in 75 ml water) (on received basis)	9.0	IS: 2720 (Part-26)-1987 RA 2016
2.	Mercury (as Hg), mg/kg (on received basis)	Below Quantification Limit	APHA 23rd ED. 3112
3.	Arsenic (as As), mg/kg (on dry basis)	0.77	APHA 23rd ED. 3111
4.	Cadmium (as Cd), mg/kg (on dry basis)	Below Quantification Limit	Method No. 3050 B of EPA SW-846
5.	Cobalt (as Co), mg/kg (on dry basis)	Below Quantification Limit	Method No. 3050 B of EPA SW-846
6.	Chromium (as Cr), mg/kg (on dry basis)	55	Method No. 3050 B of EPA SW-846
7.	Copper (as Cu), mg/kg (on dry basis)	34	Method No. 3050 B of EPA SW-846
8.	Manganese (as Mn), mg/kg (on dry basis)	164	Method No. 3050 B of EPA SW-846

RK Sharma

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EMPLOYEE CODE:(6095)

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qad@shriraminstitute.org

TEST REPORT **NO : C1/0000315484**

9.	Nickel (as Ni), mg/kg (on dry basis)	35	Method No. 3050 B of EPA SW-846
10.	Lead (as Pb), mg/kg (on dry basis)	14	Method No. 3050 B of EPA SW-846
11.	Zinc (as Zn), mg/kg (on dry basis)	56	Method No. 3050 B of EPA SW-846
12.	Phosphate (as P_2O_5), % by mass (on dry basis)	0.59	Method No. 3050 B of EPA SW-846
13.	Iron (as Fe_2O_3), % by mass (on dry basis)	2.11	Method No. 3050 B of EPA SW-846
14.	Potassium (as K_2O), % by mass (on dry basis)	0.88	Method No. 3050 B of EPA SW-846
15.	Nitrogen (as N), mg/kg (on dry basis)	Below Quantification Limit	IS:10158-1982, RA 2019
16.	Cation Exchange Capacity, meq/100 gm (on dry basis)	8.9	IS: 2720 (Part-14)-1976 RA 2020

*Quantification Limit of Cd, Co = 10 mg/kg, Hg=0.02 mg/kg & N=1 mg/kg.

-End of the report-

D.O.R.: 02.01.2023
D.O.S.: 02.01.2023
D.O.C.: 27.01.2023

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6095)

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TEST REPORT NO : C1/0000315486

Issued To :
Client Code : (PANI01P2022)
PANIPAT THERMAL POWER STATION
HPGCL
PANIPAT
HARYANA-132105
Kind Attn: ER. JIT SINGH,XEN CMDP- II

Date : 31-01-2023
Job No : 2212-1-421-1648
Booking No : RG2223/1/8345
Booking Date : 22-12-2022
Customer Ref No. : W.O.NO. 22/2022-23/ CMDP-II/1004
Customer Ref Dt. : 21-12-2022

Sample Particulars:
One sample of "Soil-5 from Mr. Jagbir Singh S/o Mr. Dharambir Singh Land, Jattal Village" Geo-coordinates N 29°21'48.75", E 76°53'32.83" drawn by our representative on 31.12.2022, Site: Panipat Thermal Power Station, Panipat Haryana Memo No. 411/CMDP-II/1004 Dated 21.12.2022, Subject-work order for Analysis of Soil, Crop and Seeds in compliance of order passed by Hon'ble NGT in O.A No. 581/2019 Titled as Residents of Gram Panchayat, Jattal District Panipat versus State of Haryana before Hon'ble NGT, New Delhi was received.

Results Table

S. No.	Test Parameters	Results	Protocol/Test Method
1.	pH (30 gm in 75 ml water) (on received basis)	9.1	IS: 2720 (Part-26)-1987 RA 2016
2.	Mercury (as Hg), mg/kg (on received basis)	Below Quantification Limit	APHA 23rd ED. 3112
3.	Arsenic (as As), mg/kg (on dry basis)	1.14	APHA 23rd ED. 3111
4.	Cadmium (as Cd), mg/kg (on dry basis)	Below Quantification Limit	Method No. 3050 B of EPA SW-846
5.	Cobalt (as Co), mg/kg (on dry basis)	Below Quantification Limit	Method No. 3050 B of EPA SW-846
6.	Chromium (as Cr), mg/kg (on dry basis)	67	Method No. 3050 B of EPA SW-846
7.	Copper (as Cu), mg/kg (on dry basis)	25	Method No. 3050 B of EPA SW-846
8.	Manganese (as Mn), mg/kg (on dry basis)	179	Method No. 3050 B of EPA SW-846

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6875)

Phone : 91-11-27000100, 27667267, 27667860 Fax : 91-11-27667207

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E-mail id : customercare@shriraminstitute.org
qad@shriraminstitute.org

TEST REPORT **NO : C1/0000315486**

9.	Nickel (as Ni), mg/kg (on dry basis)	44	Method No. 3050 B of EPA SW-846
10.	Lead (as Pb), mg/kg (on dry basis)	15	Method No. 3050 B of EPA SW-846
11.	Zinc (as Zn), mg/kg (on dry basis)	58	Method No. 3050 B of EPA SW-846
12.	Phosphate (as P_2O_5), % by mass (on dry basis)	0.7	Method No. 3050 B of EPA SW-846
13.	Iron (as Fe_2O_3), % by mass (on dry basis)	2.53	Method No. 3050 B of EPA SW-846
14.	Potassium (as K_2O), % by mass (on dry basis)	0.9	Method No. 3050 B of EPA SW-846
15.	Nitrogen (as N), mg/kg (on dry basis)	Below Quantification Limit	IS:10158-1982, RA 2019
16.	Cation Exchange Capacity, meq/100 gm (on dry basis)	25	IS: 2720 (Part-14)-1976 RA 2020

*Quantification Limit of Cd, Co = 10 mg/kg, Hg=0.02 mg/kg & N=1 mg/kg.

-End of the report-

D.O.R.: 02.01.2023
D.O.S.: 02.01.2023
D.O.C.: 27.01.2023

RK Sharma

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6095)

GC-01(Rev-05)

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Annexure -5

HPGCL

PANIPAT THERMAL POWER STATION PANIPAT
(A unit of Haryana Power Generation Corporation Ltd.)
(Regd. Office: Urja Bhawan, Sector-6, Panchkula)

From:

Chief Engineer,
Panipat Thermal Power Station,
HPGCL, Panipat.

To

Regional Officer,
HSPCB, Panipat.

FR
R/O
AEE1 AEE2 AEE3
JEE Asstt. Clerk
17-3-23

Memo no. Ch-72/CMDP-II Dated: 01/03/2023

Subject: **Regarding action plan for the disposal of the Fly ash stored in Ash Dykes of Panipat Thermal Power Station required in O.A. no. 612/2022: Subhender vs. State of Haryana.**

Please refer to your letter no. HSPCB/PR/2023/1417 dated 19.01.2023 through which it has been asked by your office to submit time bound action plan for lifting of the complete ash from Ash dykes of PTPS:

The action plan for entire disposal of pond ash stored in ash dykes by the PTPS is as below:

1. The present quantity of the Ash stored in the ash dykes of the PTPS is as under :

Sr. No.	Ash Dyke	Quantity of Ash stored on 28.02.2023 (in Lakh MT)
1	Ash Dyke-A	103
2	Ash Dyke- B	22
3	Ash Dyke- C	12
	Total	137

2. The details of MOUs signed with M/s Shree Cement and NHAI for lifting of the ash are as below :

Sr. No.	Name of the Project	Quantity Allocated (in Lakh MT)	Quantity Lifted till 28.02.2023 (in Lakh MT)	Quantity to be Lifted (in Lakh MT)
1	Shree Cement	183.5	3.12	180.38
2	DAK Pkg-1	66	17.34	48.66
3	DAK Pkg-2	38.5	6.82	31.68
4	DAK Pkg-3	55	3.97	51.03
5	DAK Pkg-4	66	30.39	35.61
6	Gohana Sonepat Road	26.84	15.30	11.54
7.	Barwasni Road	19.8	2.06	17.74
8	NH-44 widening	26.4	0	26.4
	Total	482.04	79	403.04

3. Presently, 20000 MT/ day of ash is being lifted from the ash dykes by above mentioned projects proponents since Aug 2022.
4. From the above data it is submitted that the entire pond ash stored in the ash dykes will be utilized completely within 3 years tentatively because the demand of the ash is about 403 Lakh MT against the available quantity of 137 Lakh MT in ash dykes.

Chief Engineer,
PTPS, Panipat

HARYANA STATE POLLUTION CONTROL BOARD
SCO-55, Sec.25, HUDA, Panipat Ph. 0180-2672037
Email:- hspcbropr@gmail.com
E-mail: hspcb@hry.nic.in

No. HSPCB/Consent/ : 313103521PITCTO13349958 **Dated:23/08/2021**

To.

M/s :PANIPAT THERMAL POWER STATION, PANIPAT
PANIPAT THERMAL POWER STATION, ASSAN, PANIPAT

Subject: Grant of consent to operate to M/s PANIPAT THERMAL POWER STATION, PANIPAT.

Please refer to your application no. 13349958 received on dated 2021-06-26 in regional office Panipat.With reference to your above application for consent to operate,M/s PANIPAT THERMAL POWER STATION, PANIPAT is here by granted consent as per following specification/Terms and conditions.

Consent Under	BOTH
Period of consent	01/10/2021 - 30/09/2026
Industry Type	Thermal Power Plants
Category	RED
Investment(In Lakh)	374481.56
Total Land Area(Sq. meter)	9675000.0
Total Builtup Area(Sq. meter)	180000.0
Quantity of effluent	
1. Trade	7547.0 KL/Day
2. Domestic	8.0 KL/Day
Number of outlets	1.0
Mode of discharge	
1. Domestic	Reuse in horticulture
2. Trade	Drain
Domestic Effluent Parameters	
1. pH	5.59.0
2. BOD	30 mg/l
3. COD	250 mg/l
4. TSS	100 mg/l
5. O&G	10 mg/l
Trade Effluent Parameters	
1. BOD	30 mg/l
2. COD	250 mg/l
3. TSS	100 mg/l

4. Other industry specific standards applicable on Thermal Power Plants	
Number of stacks	3
Height of stack	
1. Stack of Boiler unit no.6	220 m
2. Stack of boiler unit no. 7	220 m
3. Stack of Boiler unit no. 8	220 m
Emission parameters	
1. SPM	100 mg/m3
2. SOX	600 mg/m3
3. NOX	600 mg/m3
4. Hg	0.3 mg/Nm3
5. other emission standards as applicable as per notification dated 07.12.2015.	
Product Details	
1. Electricity	710 Megawatt
Capacity of boiler	
1. Boiler unit no. 6	680 Ton/hr
2. Boiler unit no. 7	810 Ton/hr
3. Boiler unit no. 8	810 Ton/hr
Type of Furnace	
1. NA	
Type of Fuel	
1. Coal	4353 Ton/day
Raw Material Details	
Raw water	30461 Kilo Liters/Day

Regional Officer, Panipat
Haryana State Pollution Control Board.

Terms and conditions

1. The applicants shall maintain good house keeping both within factory and in the premises. All hose pipelines values, storage tanks etc. shall be leak proof. In plant allowable pollutants levels, if specified by State Board should be met strictly.
2. The applicant/company shall comply with and carry out directive/orders issued by the Board in this consent order at all subsequent times without negligence of his /its part. The applicant/company shall be liable for such legal action against him as per provision of the law/act in case of violation of any order/directives. Issued at any time and or non compliance of the terms and conditions of his consent order.

3. The applicant shall make an application for grant of consent at least 90 days before the date of expiry of this consent.
4. Necessary fee as prescribed for obtaining renewal consent shall be paid by the applicant alongwith the consent application.
5. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above required variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard vary all or such condition and there upon the applicant shall be bound to comply with the conditions so varied.
6. The industry shall provide adequate arrangement for fighting the accidental leakages, discharge of any pollutants gas/liquids from the vessels, mechanical equipment etc. which are likely to cause environment pollution.
7. The industry shall comply noise pollution (Regulation and control) Rules, 2000.
8. The industry shall comply all the direction/Rules/Instructions as may be issued by the MOEF/CPCB/HSPCB from time to time.
9. The industry shall ensure that various characteristics of the effluents remain within the tolerance limits as specified in EPA Standard and as amended from time to time and at no time the concentration of any characteristics should exceed these limits for discharge.
10. The industry would immediately submit the revised application to the Board in the event of any change in the raw material in process, mode of treatment/discharge of effluent. In case of change of process at any stage during the consent period, the industry shall submit fresh consent application alongwith the consent to operate fee, if found due, which may be on any account and that shall be paid by the industry and the industry would immediately submit the consent application to the Board in the event of any change during the year in the raw material, quantity, quality of the effluent, mode of discharge, treatment facilities etc.
11. The officer/official of the Board shall reserve the right to access for the inspection of the industry in connection with the various process and the treatment facilities. The consent to operate is subject to review by the Board at any time.
12. Permissible limits for any pollutants mentioned in the consent to operate order should not exceed the concentration permitted in the effluent by the Board.
13. The industry shall pay the balance fee, in case it is found due from the industry at any time later on.
14. If the industry fails to adhere to any of the conditions of this consent to operate order, the consent to operate so granted shall automatically lapse.
15. If the industry is closed temporarily at its own, they shall inform the Board and obtain permission before restart of the unit.
16. The industry shall comply all the Directions/ Rules/Instructions issued from time to time by the Board.

Specific Conditions :

1. That the unit will not discharge any untreated effluent inside or outside the premises and will comply with the standards prescribed as per Environment (Protection) Rules, 1986 for thermal power plant units. 2. That the unit will comply with the time bound directions of CPCB regarding installation of FGD . 3. The unit will comply with the directions issued by the Hon'ble NGT/Joint Committee/HSPCB in OA 581/2019 & other legal forms time to time. 4. That the unit will maintain and operate its ETP & APCM regularly and efficiently to keep all

the applicable parameters within prescribed industry specific standards under E(P) Act 1986. 5. That the unit will submit the calibration certificate of the online Continuous Effluent/emission Monitoring Systems installed in the unit from time to time and ensure the continuous connectivity of the OCEMS with CPCB and HSPCB. 6.The unit will comply with the directions of CPCB/HSPCB from time to time . 7.That unit will intimate the board before start of operation of the units of PTPS and samples will be collected with in 90 days and further validity of the CTO will depend upon the outcome of ARs. 8. That the CTO so granted shall become invalid in case of violation of any of the above / any law of the land and action as deemed fit will be initiated against the unit as per legal provisions.

Regional Officer, Panipat
Haryana State Pollution Control Board.

No.J-13011/2/2002-IA.II (T)
Government of India/Bharat Sarkar
Ministry of Environment and Forests
(Paryavaran Aur Van Mantralaya)

Paryavaran Bhavan,
CGO Complex, Lodi Road,
New Delhi- 110003.
August 23, 2002

To

Chief Engineer (Thermal Design),
Haryana Power Generation Corporation Limited,
SCO.No.21, Sector-11, P.B. No.12,
Panchkula.

Subject: 2x250 MW additional units 7&8 at existing Tau Devilal Thermal Power Station, Panipat, Haryana, of M/s Haryana Power Generation Corporation Limited - Environmental clearance reg.

Sir,

The undersigned is directed to refer to your letter No.1519/Ch-31/CE/TD/C-7/Env. dated 16th December, 2001, No.CH-11/CE/TD/C-7/Env dated 5th February, 2002, dated 18th April, 2002 and 11th June, 2002 regarding environmental clearance for the above mentioned project.

2. The proposal is regarding augmentation of Tau Devilal Thermal Power Station at Panipat by installation of two units of 250 MW capacity each in the premises of existing station. The infrastructure facilities such as water storage reservoir, coal handling facilities, township etc. are expected to be utilised for the expansion project. A scheme has been drawn for upgradation of pollution control equipments such as ESP, water recirculation from ash dyke etc. The project is expected to be commissioned by 2006-2007 with an estimated cost of Rs.1891.34 crores.

3. On the basis of the information submitted by the project authorities from time to time and after its consideration by the Expert Committee for Thermal Power Projects, environmental clearance is hereby accorded subject to implementation of following terms and conditions –

i) All the conditions stipulated by Haryana Pollution Control Board vide their letter No. HSPCB/Water Consent/2001/4349 dated 28th November, 2001 and No.HSPCB/2001/947 dated 10th October, 2001 should be strictly implemented.

ii) Utilization of land should be restricted to 136 ha and acquisition to 51.5 ha (41.5 ha for ash disposal and 10 ha for construction yard)

iii) A single bi-flue stack of 220 m height should be provided with continuous on-line monitoring equipments and the data collected should be analyzed and submitted regularly.

iv) Water for the project to the tune of 18.5 cusecs should be drawn from Delhi Parallel Branch of Western Yamuna Canal for the proposed expansion project from the allocation of 106.5 cusecs made for the power station. Trade effluents from the project should be discharged into Utla drain after ensuring its conformity to the standards prescribed for thermal power projects.

v) Regular monitoring of water quality including heavy metals should be undertaken around ash pond and project area to ascertain the change in the water quality, if any, due to leaching of contaminants from ash disposal area.

vi) Coal should be used @ about 6000 TPD for the expansion scheme having calorific value of 4000 K.Cal/kg and sulphur content of 0.35%. As the power station is located beyond 1000 kms from the linked coal mine of North Eastern Coalfields Limited, ash content in the coal should not exceed 34%. Arrangements should be made for sprinkling of water in coal stock yard for fire safety as well as for controlling fine coal particles getting airborne.

vii) Ash generated to the tune of 7.43 lakh tonnes per year should be utilized in a phased manner as per the provisions of the Notification on Fly Ash Utilization issued by the Ministry in September, 1997. By the end of 9th year i.e. 2014-15 full fly ash utilization should be ensured.

viii) The existing ash disposal area of 710 acres should be used for the existing and proposed units at Panipat Thermal Power Station. Additional area of 340 acres, proposed for ash disposal, should be used only if necessary. As the ash dykes of the existing lagoons are showing signs of erosion, a scheme should be drawn for its compacting, turfing and maintenance for avoiding its breech.

ix) All the weed growth in the existing lagoons should be immediately removed and report submitted to the Ministry within 3 months. The decanted water from ash pond should be recirculated and its discharge into nearby drain/nullah should be immediately stopped.

x) Upgradation and retrofitting of micro-processors for the existing ESPs should be immediately undertaken as per the programme drawn in the regard for ensuring reduction in SPM emissions and its conformity to the prescribed standard of 150 mg/m^3.

xi) As certain pockets in the nearby villages, particularly Khakhrana village, are getting water logged due to various activities in the region and thermal power project, a detailed scheme should be drawn for avoiding increase in water logged areas in consultation with Hydrologists/reputed institutions and submitted to the Ministry within six months. Adequate financial provision should be made for implementation of necessary mitigation measures.

xii) Following schedule should be strictly followed as committed during the meeting of the Expert Committee held on 24th May, 2002.

- Deweeding of ash pond lagoons by June, 2002
- Conceptual framework for greenbelt development by October, 2002
- Upgradation of ESPs and retrofitting of BAPCON Controllers by December, 2002
- Geo-hydrological studies by December, 2002
- Water sprinkler system in crushed/uncrushed coal handling area by March, 2003.
- Setting up of Environmental Laboratory by March, 2003
- Garland drain around the ash pond by March, 2003.

xiii) Recommendations contained in the risk analysis report should be fully implemented. A programme of mock drills should be prepared and regularly conducted to train the employees to handle effectively eventuality. Safety alarm devices should be installed at strategic points including main gate, assembly points, first aid centre etc.

xiv) Noise level should be limited to 75 dB(A) and regular maintenance of equipment is undertaken. For people working in the area generator halls and other high noise areas, earplug should be provided.

xv) For controlling fugitive dust, regular sprinkling of water in vulnerable areas of the plant should be ensured.

xvi) Greenbelt covering an area of 44 ha should be developed around construction yard, plant boundary, ash disposal area etc. ensuring a tree density of 1500-2000 trees per ha. Tree plantation should be completed during 10th Five Year Plan. Necessary financial provision should be made in the budget for the purpose. A greenbelt should also be created around coal yard for reducing fugitive dust. A detailed plan should be drawn by October, 2002 for the purpose through specialist's inputs.

xvii) Regular monitoring for SPM, SO_2 and NO_x around the power plant should be carried out by installing atleast one permanent monitoring station which could serve as base line data. Records should be properly analysed and maintained.

xviii) The project proponent should advertise, at least in two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearance letters 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://www.envfor.nic.in.

xix) A monitoring Committee should be constituted for reviewing the compliance of various safeguard measures by involving recognised local NGOs, Pollution Control Board, Institutions, Experts etc.

xx) The Project Authorities should inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.

xxi) Full cooperation should be extended to the Scientists/Officers from the Regional Office of the Ministry at Chandigarh/the CPCB/the SPCB who would be monitoring the compliance of environmental

status. Complete set of impact assessment report and the Management Plans should be forwarded to the Regional Office for their use during monitoring.

4. The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.

5. In case of any deviation or alteration in the project proposed from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the conditions imposed and to add additional environmental protection measures required, if any.

6. The above stipulations would be enforced among others under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 1989, the Public Liability Insurance Act, 1991, the Impact Assessment Notification of January, 1994 and its amendments.

(Nalini Bhat)
Director

Copy to :-

1. The Secretary, Ministry of Power, Shram Shakti Bhavan, Rafi Marg, New Delhi.
2. The Secretary (Environment), Government of Haryana, Chandigarh.
3. The Chairman, Central Electricity Authority, Sewa Bhavan, R.K. Puram, New Delhi.
4. The Chairman, Haryana Pollution Control Board, SCO No.11A-12, Sector 7, Chandigarh with the request to display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's Office/Tehsildar's office for 30 days.
5. The Chairman, Central Pollution Control Board, East Arjun Nagar, Delhi-10032.
6. Chief Conservator of Forests, Northern Regional Office, Chandigarh.
7. Guard file.

(Nalini Bhat)
Director

FR
RO
AEE1 AEE2 AEE3
JEE Asstt. Clerk
22-3-2023

HPGCL

PANIPAT THERMAL POWER STATION PANIPAT
(A unit of Haryana Power Generation Corporation Ltd.)
(Regd. Office: Urja Bhawan, Sector-6, Panchkula)

From:

Chief Engineer, PTPS
HPGCL, Panipat

To

Regional Officer,
HSPCB, Panipat.

Memo no. Ch-73/CMDP-II Dated: 07-03-2023

Subject: **Compliance status of CTO dated 23.08.2021 and Environmental Clearance dated 23.08.2002 required in O.A. no. 612/2022: Subhender vs. State of Haryana.**

Please refer to your PTPS visit dated 06.03.2023, as desired please find attached herewith the compliance status of CTO dated 23.08.2021 and Environmental Clearance dated 23.08.2002 required in O.A. no. 612/2022 titled as Subhender vs. State of Haryana.

7/3/23

XEN/CMDP-II, PTPS
For Chief Engineer
HPGCL, Panipat

Cc:-

1. PA to CE/PTPS for kind information of CE/PTPS please.
2. SE/Civil, PTPS for kind information please.

	Compliance of the Conditions of Consent to Operate	
Sr. No.	Condition	Compliance Status
1	The applicants shall maintain good housekeeping both within factory and in the premises. All hose pipelines, storage tanks etc. shall be leak proof. In plant allowable pollutants levels, if specified by State Board should be met strictly.	Complied, Good Housekeeping has been maintained. All hose pipelines values, storage tanks etc are leak proof.
2	The applicant/company shall comply with and carry out directive/orders issued by the Board in this consent order at all subsequent times without negligence of his /its part. The applicant/company shall be liable for such legal action against him as per provision of the law/act in case of violation of any order/directives. Issued at any time and or non compliance of the terms and conditions of his consent order.	Being complied by PTPS.
3	The applicant shall make an application for grant of consent at least 90 days before the date of expiry of this consent.	Presently, PTPS is having CTO valid up to 30.09.2026. PTPS will apply for grant of consent at least 90 days before the date of expiry.
4	Necessary fee as Prescribed for obtaining renewal consent shall be paid by the applicant along with the consent application.	Being complied by PTPS.
5	If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above required variation (including the change of any control equipment either in whole or in part) this board shall after giving the applicant an opportunity of being heard vary all or such condition and there upon the applicant shall be bound to comply with the conditions so varied.	MoEF&CC vide notification dated 05.09.2022 has revised timelines for compliance of SOx Norms for Category "A" (PTPS Units) upto 31.12.2024.The case for administrative approval regarding retendering for installation of FGD at HPGCL Plants has been submitted to GoH on 12.12.2022. The decision of GoH is awaited. Work to M/S ISGEC Heavy Engineering Ltd., Noida for installation of low NOx burners at HPGCL Plants has been awarded on 21.01.2023.
6	The industry shall provide adequate arrangement for fighting the accidental leakages, discharge of any pollutants gas/liquids from the vessels, mechanical equipment etc. which are likely to cause environment pollution	PTPS has provided adequate Fire fighting euipments i.e. 4 no of Fire Tender Vehicles, 1694 no of Fire extinguishers,3 no of Foam Tanks having total capacity of 2000Litres etc. PTPS is having dedicated Fire and Safety department with adequate no of staff strength for 24 X 7 monitoring and prompt response in case of any accident. As per recod no leakage and fire accident hapeened in last 5 years.
7	The industry shall comply noise pollution (Regulation and control) Rules, 2000	Being complied by PTPS.
8	The industry shall comply all the direction/Rules/Instructions as may be issued by the MOEF/CPCB/HSPCB from time to time	Being complied by PTPS.
9	The industry shall ensure that various characteristics of the effluents remain within the tolerance limits as specified in EPA Standard and as amended from time to time and at no time the concentration of any characteristics should exceed these limits for discharge	Complied , PTPS has undetaken the monitoring of MOEF& CC approved laboratory on monthly basis and online monitoring device has also been installed and connected to the servers of HSPCB and CPCB for real time monitoring .

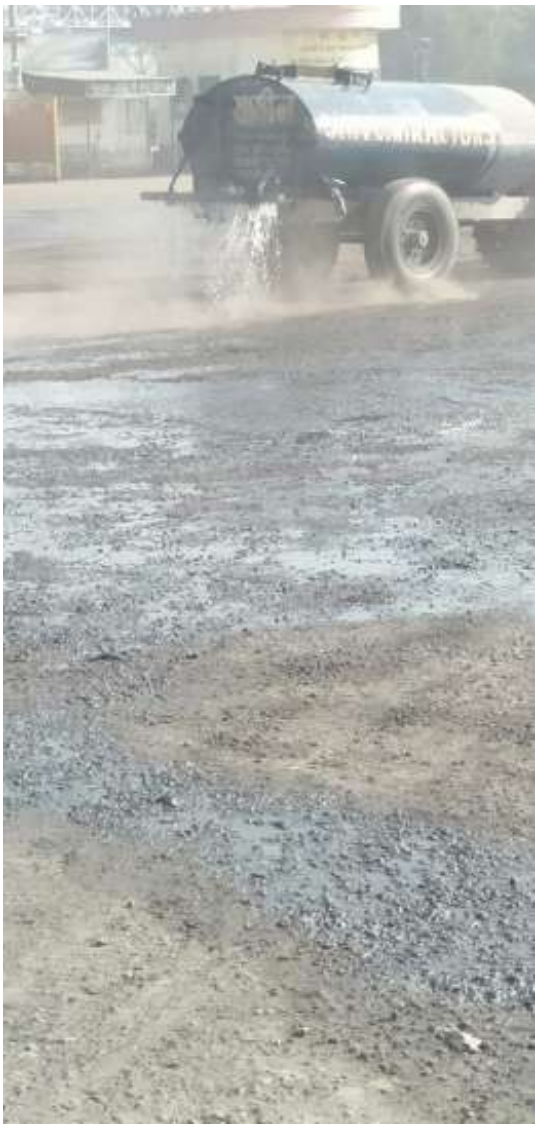
10	The industry would immediately submit the revised application to the Board in the event of any change in the raw material in process, mode of treatment/discharge of effluent. In case of change of process at any stage during the consent period, the industry shall submit fresh consent application along with the consent to operate fee, if found due, which may be on any account and that shall be paid by the industry and the industry would immediately submit the consent application to the Board in the event of any change during the year in the raw material, quantity, quality of the effluent, mode of discharge, treatment facilities etc.	Being complied by PTPS.
11	The officer/official of the Board shall reserve the right to access for the- inspection of the industry in connection with the various processes and the treatment facilities. The consent to operate is subject to review by the Board at any time.	Being complied by PTPS.
12	Permissible limits for any pollutants mentioned in the consent to operate order should not exceed the concentration permitted in the effluent by the Board	Complied , PTPS has undetaken the monitoring of MOEF& CC approved laboratory on monthly basis and online monitoring device has also been installed and connected to the servers of HSPCB and CPCB for real time monitoring .
13	The industry shall pay the balance fee, in case. It is found due from the industry at any time later on.	Being complied by PTPS.
14	If the industry fails to adhere to any of the conditions of this consent to operate order, the consent to operate so granted shall automatically lapse.	Being complied by PTPS.
15	If the industry is closed temporarily at its own, they shall inform the Board and obtain permission before restart of the unit.	Being complied by PTPS.
16	The industry shall comply all Directions/ Rules/Instructions issued from time to time by the Board.	Being complied by PTPS.
	Specific Conditions	**Compliance Status**
1	That the unit will not discharge any untreated effluent inside or outside the premises and will comply with the standards prescribed as per Environment (Protection) Rules, 1986 for thermal power plant units	ETP is already installed and the treated water is completely re-used in ash handling system regularly for making ash slurry to dispose the ash to ash dyke area.
2	That the unit will comply with the time bound directions of CPCB regarding installation of FGD.	MoEF&CC vide notification dated 05.09.2022 has revised timelines for compliance of SOx Norms for Category "A" (PTPS Units) upto 31.12.2024.The case for administrative approval regarding retendering for installation of FGD at HPGCL Plants has been submitted to GoH on 12.12.2022. The decision of GoH is awaited. Work to M/S ISGEC Heavy Engineering Ltd., Noida for installation of low NOx burners at HPGCL Plants has been awarded on 21.01.2023.
3	The unit will comply with the directions issued by the Hon'ble NGT/Joint Committee /HSPCB in O.A No. 581/2019 & other legal forms time to time.	Being complied by PTPS.
4	That the unit will maintain and operate its ETP & APCM regularly and efficiently to keep all applicable parameters within prescribed Industry specific standard E(P) Act 1986	Being maintained regularly by PTPS.

5	That the unit will submit the calibration certificate of the online Continuous Effluent/emission Monitoring System installed in the unit from time to time and ensure the continuous connectively of the OCEMS with CPCB and HSPCB.	Online Continuous Effluent/Emission Monitoring System installed in the PTPS are calibrated on monthly basis. Recent calibration was done on 16.02.2023.
6	The unit will comply with the directions of CPCB/HSPCB from time to time.	Being complied by PTPS.
7	That unit will intimate the board before start of operation of the units of PTPS and samples will be collected with 90 days and further validity of the CTO will depend upon the outcome of ARs.	Board has already collected the samples of the PTPSon 14.12.2022 and found complying with the emissions/ effluent norms.
8	That the CTO so granted shall become invalid in case of violation of any the above/ any law of the land and action as deemed fit will be initiated against the unit as per legal provisions.	Being complied by PTPS.

Compliance of the Conditions of Environmental Clearance		
Sr. No.	**Conditions**	**Compliance Status**
1	All the condition stipulated by Haryana Pollution Control Board vide their letter no. HSPCB/Water Consent/2001/4349 dated 28th November, 2001 and No. HSPCB/2001/947 dated 10th October 2001 should be strictly implemented	Complied by PTPS.
2	Utilization of land should be restricted to 136 ha and acquisition to 51.5 ha (41.5 ha for ash disposal and 10 ha for construction yard).	Complied by PTPS.
3	A single bi-flue stack of 220 m height should be provided with continuous on-line monitoring equipments and the data collected should be analyzed and submitted regularly	Complied by PTPS.
4	Water for the project to the tune of 18.5 cusses should be drawn from Delhi Parallel Branch of Western Yamuna Canal for the proposed expansion project from the allocation of 106.5 cusecs made for the power station. Trade effluents from the project should be discharged into Untla drain after ensuring its conformity to the standards prescribed for thermal power projects	PTPS is drawning 18.5 cusecs of raw water from Delhi Parallel Branch of Western Yamuna Canal for unit no 7 & 8 and drawning 8 cusecs of raw water from Delhi Parallel Branch of Western Yamuna Canal for unit no 6.
5	Regular monitoring of water quality including heavy metals should be undertaken around ash pond and project area to ascertain the change in the water quality, if any, due to leaching of contaminants from ash disposal area	Regular monitoring of water quality is being carried out through MoEF&CC approved Lab on monthly basis.
6	Coal should be used @ about 6000 TPD for the expansion scheme having calorific value of 4000 Kcal/kg and sulphur content of 0.35%. As the power station is located beyond 1000 kms from the linked coal mine of North Eastern Coalfields Limited, ash content in the coal should not exceed 34%. Arrangements should be made for sprinkling of water in coal stock yard for fire safety as well as for controlling fine coal particles getting airborne	Blending of imported coal is done to maintain the calorific value and to reduce the ash content. Dust suppression system at wagon tipplers, conveyor belt etc. installed in the existing coal handling plants of PTPS are in working condition. The water sprinkling on the coal stock is also carried out on regular basis.
7	Ash generated to the tune of 7.13 Lakh tonnes per year should be utilized in a phased manner as per the provisions of the Notification on fly Ash Utilization issued by the Ministry in September, 1997. By the end of 9th year i.e. 2014-15 full fly ash utilization should be ensured	PTPS is presently having more than 100% Ash utilization since 2015-16 and complying with the Notification on fly Ash Utilization issued by the MOEF&CC.PTPS has also submitted action plan for the disposal of the entire pond ash stored in ash dykes within 3 years.
8	The existing ash disposal are of 710 area should be used for the existing and proposed units at Panipat Thermal Power Station Additional area of 340 acres, proposed for ash disposal, should be used only if necessary. As the ash dykes of the existing lagoons are showing signs of erosion, a scheme should be drawn for its compacting, turfing and maintenance for avoiding its breach	PTPS has undertaken the raising and compacting of the ash dykes timely and there is no eorsion of ash dykes.

9	All the weed growth in the existing lagoons should be immediately removed and report submitted to the Ministry within 3 months. The decanted water from ash pond should be re-circulated and the discharge into nearby drain/nallah should be immediately stopped	All the weed growth in the lagoons was removed and Ash Water Recovery System has been installed for recovery of decanted water from ash dyke to reuse it in ash slurry preparation.
10	Up-gradation and retrofitting of micro-processors for the existing ESPs should be immediately undertaken as per the programme drawn in the regard for ensuring reduction in SPM emission and its conformity to the prescribed standard of 150 mg/m3	Presently unit no 6, 7 & 8 are in operation. ESPs of unit no 6, 7, & 8 are of updated technology having BAPCON controllers. ESPs are tunned in shut down period regularly for effective working. PTPS is complying with SPM norms. Ammonia flue gas conditioning system has also been installed for further improvement. Further, case for installation of FGD & low NOx burners is in process.
11	As certain pockets in the nearby villages, particularly Khukhrana village, are getting water logged due to various activities in the region and thermal power project, a detailed scheme should be drawn for avoiding increase in water logged areas in consultation with Hydrologists/reputed institutions and submitted to the Ministry within six months. Adequate financial provision should be made for implementation of necessary mitigation measure	Adequate necessary mitigation measure had been made. Presently, there is no water logging in near by area.
12	Following schedule should be strictly followed as committed during the meeting of the Expert Committee held on 24th May, 2002. • De-weeding of ash pond lagoons by June, 2002. • Conceptual framework for greenbelt development by October, 2002. • Up-gradation of ESPs and retrofitting of BAPCON Controllers by December, 2002. • Geo-hydrological studies by December 2002. • Water sprinkler system in crushed/uncrushed coal handling area by March, 2003. • Setting up of Environmental Laboratory by March, 2003. • Garland drain around the ash pond by March, 2003	> Deweeding was carried out before June 2002. > Conceptual framework for greenbelt development has been done beore October, 2002 and presently 97450 no of trees existing in the premises of PTPS till date. > Up-gradation of ESPs and retrofitting of BAPCON Controllers had been done by December, 2002. >Water sprinkler system in crushed/uncrushed coal handling area has been provided by March, 2003 >Environment monitoring is being carried out by MOE&F CC approved lab. > Garland drain around the ash pond had been provided by March, 2003
13	Recommendation contained in the risk analysis report should be fully implemented. A programme of mock drills should be prepared and regularly conducted to train the employees to handle effectively eventuality Safety alarm devices should be installed at strategic points including main gate, assembly points, first aid centre etc.	Recommendation contained in the risk analysis report are fully implemented.The fire mock drills are being conducted on monthly basis at different locations/sites in plant and employees are regularly imparted training regarding use of fire extinguishers etc. Safety alarm devices have been installed at strategic points including main gate, assembly points, first aid centre etc
14	Noise level should be limited to 75 dB and regular maintenance of equipment is undertaken. For people working in the area of generator halls and other high noise areas, earplug should be provided	Noise level is monitored regularly. The PPEs i.e ear muffs, ear plugs etc. are being used in high noise areas of plant.
15	For controlling fugitive dust, regular sprinkling of water in vulnerable areas of the plant should be ensured	Regular sprinkling is done in the plant area for controlling fugitive dust.

16	Greenbelt covering an area of 44 ha should be developed around construction yard, plant boundary, ash disposal area etc. ensuring a tree density of 1500-2000 trees per ha. Trees plantation should be completed during 10th Five Year Plan. Necessary financial provision should be made in the budget for the purpose. A greenbelt should also be created around coal yard for reducing fugitive dust. A detailed plan should be drawn by October, 2002 for the purpose through specialist's inputs.	Greenbelt covering an area of 44 ha having 97450 numbers of trees have been provided till date. The tree density is 2214 trees per ha.
17	Regular monitoring for SPM, SO2 and NOx around the power plant should be carried out by installing at least on permanent monitoring station which could serve as base line data. Records should be properly analyzed and maintained	Regular monitoring for SPM, SO2 and NOx around the power plant is being done two times in a week.
18	The project proponent should advertise, at least in two local newspapers widely circulated in the region around the project , one of which shall be in the vernacular language of the locality concerned , informing that the project has been accorded environmental clearance and copies of clearances letter are available with the State Pollution Control Board/ Committee and may also be seen at website of the Ministry of Environment & Forests at http://www.envfor.nic.in	Complied by PTPS
19	A monitoring committee should be constituted for reviewing the compliance of various safeguard measures by involving recognized local NGOs, Pollution Control Board, Institution, Experts etc.	Complied by PTPS
20	The project authorities should inform the Regional Officer as well as the Ministry the date of financial closer and final approval of the project by concerned authorities and the date of start of land development work.	Complied by PTPS
21	The full cooperation should be extended to the Scientists/Officer from the Regional Office of the Ministry at Chandigarh/ the CPCB/the SPCB who would be monitoring the compliance of environmental status. Complete set of impact assessment report and the management plans should be forwarded to the Regional Office for their use during monitoring	Complied by PTPS



मौका मुआइना रिपोर्ट

आज दिनांक 06/03/2023 को OA No 612 of 2022 में मौका मुआयना किया गया। मौके पर शिकायतकर्ता की तरफ से सुनील S/o रिपिपाल (Mob 8936002000) मौके पे आए व बताया कि उनकी सुरक्षा शिकायत खिड़की के उड़ने की है। खिड़की उनके खेत व घरों में आती है जिससे परेशानी है।

Sumit
6-3-2023

draft Report on actual facts in the matter of Original Application No.612/2022: Subhender Applicant Versus State of Haryana Respondent, in compliance of Hon'ble National Green Tribunal Order dated22/09/2022.

Suneel Dave <sdave.cpcb@gmail.com> Mon, Apr 10, 2023 at 11:20 AM
To: Panipat Region Hspcb <hspcbropr@gmail.com>

Okay. We may file the report before Hon'ble NGT
Thanks.

Suneel Dave.

On Mon, 10 Apr 2023 at 8:55 AM, Panipat Region Hspcb <hspcbropr@gmail.com> wrote:

> ---------- Forwarded message ---------
> From: **Panipat Region Hspcb** <hspcbropr@gmail.com>
> Date: Fri, 7 Apr 2023, 16:47
> Subject: Re: draft Report on actual facts in the matter of Original Application No.612/2022: Subhender Applicant Versus State of Haryana Respondent, in compliance of Hon'ble National Green Tribunal Order dated22/09/2022.
> To: Suneel Dave <sdave.cpcb@gmail.com>
>
> Please find enclosed herewith the final draft report along with all annexures after incorporating the changes suggested herein and discussed over phone, for approval please.
> From:
>
> Regional Officer,
> HSPCB, Panipat
>
> On Fri, Apr 7, 2023 at 1:10 PM Panipat Region Hspcb <hspcbropr@gmail.com> wrote:
>> Please find enclosed herewith the final draft report after incorporating the changes suggested herein and discussed over phone, for approval please.