HARYANA STATE POLLUTION CONTROL BOARD
C-11, SECTOR 6, PANCHKULA.
E-mail: hspcbestt@gmail.com

No. HSPCB/Estt./2023/3694-3702 **Dated: 09.09.2023**

197th Meeting of HSPCB
Date: 12.09.2023
Time: 11.00 AM

To

1. Sh. P. Raghavendra Rao,
   Chairman, Haryana State Pollution Control Board,
   C-11, Sector-6, Panchkula.
2. The Additional Chief Secretary to Govt. Haryana,
   Environment and Climate Change Department.
3. The Additional Chief Secretary to Govt. Haryana,
   Town & Country Planning and Urban Estates Department.
4. The Additional Chief Secretary to Govt. Haryana,
   Industries and Commerce Department.
5. The Additional Chief Secretary to Govt. Haryana,
   Urban Local Bodies Department.
6. The Principal Secretary to Govt. Haryana,
   Transport Department.
7. The Managing Director,
   Haryana Power Generation Corporation, Panchkula.
8. The Managing Director,
   Haryana Forests Development Corporation, Panchkula.
9. Sh. Pardeep Kumar, IAS,
   Member Secretary, Haryana State Pollution Control Board, Panchkula.

Subject: **197th meeting of the Haryana State Pollution Control Board to be held on 12.09.2023 at 11.00 AM.**

Sir,

Kindly refer to letter No. HSPCB/Estt./2023/3153-3161 dated 22.08.2023 on the subject cited above.

It is for your kind information that **197th meeting** of the Haryana State Pollution Control Board scheduled to be held on 12.09.2023 at 11.00 AM under the Chairmanship of Sh. P. Raghavendra Rao, Chairman, Haryana State Pollution Control Board, in the Conference Room of HSPCB, C-11, Sector-6, Panchkula. The Agenda to be discussed in the meeting is enclosed.

It is further informed that if any member desires to attend the meeting through video conferencing; he will be provided the meeting link accordingly before the commencement of the meeting. Therefore, you are requested to inform whether you will attend the meeting through Video Conferencing or in person.

You are requested to make it convenient to attend the above said meeting.

DA/Agenda Notes

SANDEEP SHARMA

For Member Secretary, HSPCB

Endst. No. HSPCB/Estt./2023/3703 **Dated:09.09.2023**

A copy of the above along with Agenda Notes is forwarded to Sh. Manoj Khatri, HCS, Joint Secretary to Government Haryana, Finance Department for information and necessary action.

DA/Agenda Notes

SANDEEP SHARMA

For Member Secretary, HSPCB

INDEX

HARYANA STATE POLLUTION CONTROL BOARD
C-11, SECTOR 6, PANCHKULA

INDEX

Agenda Items for the 197th meeting of the Board under the Chairmanship of Sh. P. Raghavendra Rao, Chairman, Haryana State Pollution Control Board to be held on 12.09.2023 at 11.00 AM in the Conference Room of HSPCB, C-11, Sector-6, Panchkula are as under:-

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AGENDA ITEM NO. 197.01

CONFIRMATION OF THE MINUTES OF 196TH MEETING OF THE HARYANA STATE POLLUTION CONTROL BOARD

Agenda Item No. 197.01

Confirmation of the Minutes of the 196th meeting of the Haryana State Pollution Control Board.

The minutes of the 196th meeting were circulated to all the Members of the Board vide this office Memo No. HSPCB/Estt./2023/2228-2237 dated 15.06.2023 (copy of the same enclosed).

No observations from any Member have been received. The Board may confirm the Minutes of the 196th Meeting.

Minutes of the 196th meeting of the Haryana State Pollution Control Board, Panchkula, held at 11.00 AM on 13.06.2023 under the Chairmanship of Sh. P. Raghavendra Rao, Chairman, Haryana State Pollution Control Board, Panchkula.

The 196th meeting of the Haryana State Pollution Control Board was convened at 11.00 AM on 13.06.2023 under the Chairmanship of Sh. P. Raghavendra Rao, Chairman, Haryana State Pollution Control Board. The list of participants is at **Annexure-I**.

Leave of absence was granted to Sh. Anand Mohan Sharan, IAS, Additional Chief Secretary to Government Haryana, Industries & Commerce Department, Sh. Arun Kumar Gupta, IAS, Additional Chief Secretary to Government Haryana, Town and Country Planning Department, Haryana and Sh. Mohammad Shayin, IAS, Managing Director, Haryana Power Generation Corporation Limited, Panchkula.

Member Secretary, HSPCB presented the agenda items before the Board. Detailed discussions were held on the agenda items and the following decisions were taken:

Agenda Item No. 196.01 — **Confirmation of the Minutes of 195th meeting of the Haryana State Pollution Control Board.**

Minutes of 195th meeting were confirmed.

Agenda Item No. 196.02 — **Action taken on the minutes of the 195th meeting of the Haryana State Pollution Control Board held on 14.03.2023.**

Action taken on the decisions taken in the 195th meeting of the Board was noted.

Agenda Item No. 196.03 — **Amendment in Haryana State Pollution Control Board (Group A, B, C and D) Service Regulations, 2021.**

The Agenda Note was approved.

Agenda Item No. 196.04 — **Delegation of powers to Regional Officers of HSPCB to release performance securities upto Rs. 5 Lac.**

After deliberations, the Board decided to delegate the powers for release of performance security upto Rs. 2.00 lacs to the Regional Officers of Haryana State Pollution Control Board.

Agenda Item No. 196.05

To approve/adopt the Audited Balance Sheet and Income & Expenditure Accounts of the HSPCB for the Financial Year 2019-2020.

The proposal contained in Agenda Note was approved. The Members desired that stern action be taken against the errant officials responsible for serious lapses, shortcomings pointed out by the Statutory Auditor, after proper enquiry. Further, systematic improvements be put in place to ensure that such deficiencies do not recur in future. Action taken report for early realization of pending environmental compensation amounts be provided in the next meeting.

The meeting ended with vote of thanks to the Chair and all the participants.

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61/03

ANNEXURE-I

LIST OF PARTICIPANTS

1. Sh. P. Raghavendra Rao
   Chairman, Haryana State Pollution Control Board,
   C-11, Sector-6, Panchkula.

2. Sh. Vineet Garg, IAS — **Through VC**
   Additional Chief Secretary to Govt. Haryana
   Environment & Climate Change and Forest
   Department

3. Sh. Vikas Gupta, IAS, Commissioner & Secretary to
   Government Haryana, Urban Local Bodies Department,
   Haryana

4. Sh. Navdeep Singh, IPS — **Through VC**
   Principal Secretary to Government Haryana,
   Transport Department.

5. Sh. Vineet Garg, IFS,
   Managing Director, Haryana Forest Development Corporation

6. Sh. Pardeep Kumar, IAS,
   Member Secretary,
   Haryana State Pollution Control Board, Panchkula.

Nominee of Finance Department

1. Sh. Manoj Khatri, HCS
   Joint Secretary, Finance, Haryana

AGENDA ITEM NO. 197.02

ACTION TAKEN ON THE MINUTES OF 196TH MEETING OF THE HARYANA STATE POLLUTION CONTROL BOARD HELD ON 13.06.2023.

Agenda Item No. 197.02

Action taken on the Minutes of the 196th meeting of the Haryana State Pollution Control Board held on 13.06.2023.

Agenda Item No. 196.01		
Confirmation of the Minutes of the 195th meeting of the Haryana State Pollution Control Board.		Minutes of 195th meeting were confirmed.
Agenda Item No. 196.02		
Action taken on the Minutes of 195th meeting of the Haryana State Pollution Control Board held on 14.03.2023.		Board members were apprised of the action taken regarding the decisions of the 195th meeting and the same were noted.
Agenda Item No. 196.03		
Amendment in Haryana State Pollution Control Board (Group A, B, C and D) Service Regulations, 2021		The proposal regarding amendment in the Service Regulations of the post of Laboratory Attendant has been sent to the Government vide letter No. HSPCB/ Estt./2023/2322 dated 23.06.2023.
Agenda Item No. 196.04		
Delegation of powers to Regional Officers of HSPCB to release performance securities upto Rs. 5 Lac.		The orders regarding delegation of powers have been issued vide Endst. No. HSPCB/Plg./I/167587/2023 dated 28.06.2023.
Agenda Item No. 196.05		
To approve/adopt the Audited Balance Sheet and Income & Expenditure Accounts of the HSPCB for the Financial Year 2019-2020.		Audited balance sheet of HSPCB for the financial Year 2019-2020 has been sent to the Government vide Letter No. HSPCB/Acctts/2023-24/135 dated 05.07.2023. Senior Officers have been assigned the duties to address the issues/ deficiencies pointed out by the CA in the Audit Balance Sheet vide order Endst. No. 3200-3205 dated 23.08.2023 Disciplinary action under Haryana Civil Services (Punishment and Appeal) Rules, 2016 is initiated against Smt. Rakhi Sharma, Superintendent, the then Cashier.

AGENDA ITEM NO. 197.03

FIXING THE STANDARDS FOR DISCHARGE OF TREATED GREY WATER THROUGH NATURAL TREATMENT SYSTEM (WASTE STABILIZATION POND, CONSTRUCTED WETLAND ETC.) FOR IRRIGATION AND OTHER NON-POTABLE USAGES AND STANDARDS FOR DISCHARGE OF TREATED WASTEWATER OF STPS FOR VARIOUS USAGE (IRRIGATION, INDUSTRIAL PROCESSES, CONSTRUCTION ACTIVITIES, OTHER NON-POTABLE USAGES AND GROUNDWATER RECHARGE THROUGH LAKES, PONDS, WATER STORAGE AREA, NATURAL OR ARTIFICIAL DEPRESSION).

03/01

Agenda Item No. : 197.03

Fixing the standards for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetland etc.) for irrigation and other non-potable usages and standards for discharge of treated wastewater of STPs for various usage (irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression)

As per the provisions of section 17 of the Water Act, 1974, one of the functions of the State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs), constituted under Water Act, 1974, is to plan a comprehensive programme for prevention, control or abatement of pollution of streams and well in the State and to secure the execution thereof. Other functions of the Board as mentioned under section 17 {sub section (f) to (m)} of the said Act are reproduced as under:

(f) To inspect sewage or trade effluents, works and plants for the treatment of sewage and trade effluents and to review plans, specifications or other data relating to plants set up for the treatment of water, works for the purification thereof and the system for the disposal of sewage or trade effluents or in connection with the grant of any consent as required by this Act;

(g) Lay down, modify or annul effluent standards for the sewage and trade effluents and for the quality of receiving waters (not being water in an inter State stream) resulting from the discharge of effluents and to classify waters of the State;

(h) To evolve economical and reliable methods of treatment of sewage and trade effluents, having regard to the peculiar conditions of soils, climate and water resources of different regions and more especially the prevailing flow characteristics of water in streams and wells which render it impossible to attain even the minimum degree of dilution;

(i) To evolve methods of utilization of sewage and suitable trade effluents in agriculture;

(j) To evolve efficient methods of disposal of sewage and trade effluents on land, as are necessary on account of the predominant conditions of scant stream flows that do not provide for major part of the year the minimum degree of dilution;

(k) To lay down standards of treatment of sewage and trade effluents to be discharged into any particular stream taking into account the minimum fair weather dilution available in that stream and the tolerance limits of pollution permissible in the water of the stream, after the discharge of such effluents;

(l) To make, vary or revoke any order --

03/02

(i) For the prevention, control or abatement of discharge of waste into streams or wells;

(ii) Requiring any person concerned to construct new systems for the disposal of sewage and trade effluents or to modify, alter or extend any such existing system or to adopt such remedial measures as are necessary to prevent control or abate water pollution;

(m) To lay down effluent standards to be complied with by persons while causing discharge of sewage or sullage or both and to lay down, modify or annul effluent standards for the sewage and trade effluents;

Further, as per the provisions of sub rule 2 of rule 3 of Environment (Protection) Rule, 1986, a State Board may specify more stringent standards from those provided in (Schedules I to IV) as mentioned in sub rule 1 in respect to any specific industry, operation or process depending upon the quality of the recipient system and after recording reasons, therefore in writing.

The Board in exercise of powers conferred under section of 17 of Water Act, 1974 and rule 3 of E(P) rule, 1986, has notified standards for discharge of treated sewage/effluent from STPs vide order dated 2.7.2020, which are mentioned as per **Table-1** given below:

Table-1: Effluent discharge standards of STPs

Sewage/effluent discharge standards for Sewage Treatment Plant		
Sr. No.	**Parameters**	**Parameters limit**
1	pH	5.0-9.0
2	BOD, mg/l	10
3	COD, mg/l	50
4	TSS, mg/l	20
5	Total Nitrogen, mg/l	10
6	Total Phosphorus (for discharge into ponds, lakes), mg/l	1
7	Faecal Coliform (MPN/100 ml)	Less than 100

These standards have been notified by the Board vide order dated 2.7.2020 (copy enclosed as per **ANNEXURE-1**).

As per rule 3 of Environment (Protection) Rule, 1986, the State Pollution Control Board can specify more stringent standards from those provided under rule 3 of Environment (Protection) Rule, 1986 depending upon the quality of recipient system

and after recording the reasons, therefore, in writing & there are following grounds/reasons for fixing stringent standards for discharge of treated wastewater of STPs for various usage (irrigation, industrial purposes, construction activities, non potable usages and groundwater recharge though ponds, lakes, water storage area, natural or artificial depression etc.) and discharge of treated grey water (through natural treatment system) for irrigation and other non potable usage.

i). The quality of flow in river Yamuna and River Ghaggar has drastically come down during the recent years and this river have no flow in some stretches in non rainy periods and especially in summer and significant dilution is not available in these rivers. Therefore, the discharge of treated/untreated sewage/grey water in river system is required to be curtailed so as to maintain the quality of water in river system of the State.

ii). The State of Haryana has been categorized as water deficit State particularly regarding surface and groundwater resources. As per the information available with Haryana Water Resources Authority, it has been projected that there is water gap of 14 Lakh Crore liters after taking into account the demand of 30.57 Lakh Crore liters and supply of 44.60 Lakh Crore liters. Thus, there is urgent need to save groundwater and other resources of water, which may be possible if the treated sewage/grey water, conforming to the prescribed standards, is reused/recycled for various usages along with its use for irrigation and other non potable usages.

iii. Hon'ble Chief Minister, Haryana in various forums and especially in Water Conclave organized on 26.4.2023 and 27.4.2023 has given mandate to the departments to save groundwater and utilize the treated sewage of STPs and treated grey water of rural areas for irrigation and reuse/recycled the same for other non potable usages.

Therefore, in order to save groundwater by way of utilization of treated sewage for irrigation and other non potable usages, the Board has made deliberations in various meetings held on 9.2.2023, 25.4.2023, 24.5.2023, 6.7.2023 and 18.7.2023. The minutes of the meeting held on 24.5.2023 and 18.7.2023 are annexed as per **ANNEXURES 2 and 3.** The proposed standards for discharge of treated wastewater of STPs for various usages (irrigation, construction activities, industrial processes, other non potable usages, ground water recharging through ponds, lakes, water storage area, natural or artificial depression etc.) and for discharge of treated grey water through natural treatment (waste stabilization ponds, constructed wetlands etc.) for irrigation and other non potable usages were published in the leading News papers on 13.6.2023 and 5.8.2023, respectively, for inviting objections/suggestions from all the concerned with last date on 28.6.2023 and 20.8.2023, respectively. The suggestions given by four departments

namely MICADA, Public Health Engineering Department, Development and Panchayat Department and Aravali Power Co. Pvt. Ltd., Jhajjar on various parameters and their concentration in treated wastewater of STPs and the Chief Engineer, Department of Irrigation on the value of TDS parameter to keep it as 1500 mg/l same for both the treated wastewater of STPs and treated grey water, were considered by the Board in the meeting of Technical Experts/ Scientists of various organization/ Institutions and officers of concerned departments held on 05.09.2023 and finalized the standards for discharge of treated wastewater of STPs for various usage (irrigation, industrial purposes, construction activities, non potable usages and groundwater recharge though ponds, lakes, water storage area, natural or artificial depression etc.) and standards for discharge of treated grey water (through natural treatment system) for irrigation and other non potable usage. The minutes of the meeting held on 05.09.2023 are annexed as per **ANNEXURES-4**.

The standards prescribed by Board for discharge of treated wastewater of STPs for various usage (irrigation, industrial purposes, construction activities, non potable usages and ground water recharge though ponds, lakes, water storage area, natural or artificial depression etc.) and standards for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetland etc.) for irrigation and other non potable usage, as deliberated in the meeting held on 5.9.2023, are mentioned as per **Table-2 and 3** given below.

Table-2: Final discharge standards of treated grey water for irrigation and other non potable usage

Sr. No.	Parameters	Maximum permissible limits
1	pH	6.5-8.5
2	BOD (mg/l)	20
3	COD (mg/l)	100
4	Sodium (mg/l)	75
5	TSS (mg/l)	20
6	TDS (mg/l)	• 750 for non potable usages • 1500 for irrigation
7	Chloride (mg/l)	100
8	Sodium Adsorption Ratio (SAR) (meq/l)	10
9	Residual Sodium Carbonate (RSC) (meq/l)	1.5
10	Electrical Conductivity (EC) (µmhos/cm)	750

03/05

11	Total Nitrogen (mg/l)	20
12	Ammonical Nitrogen (mg/l)	5
13	Nitrate Nitrogen (mg/l)	10
14	Total Phosphorous (mg/l)	5
15	Phosphate P (Dissolved) (mg/l)	1
16	Total Hardness (mg/l)	200
17	Faecal Coliform (MPN/100 ml)	250
18	E.Coli (MPN/100 ml)	ND
19	Ionic detergents (MBAS) (mg/l)	0.2
20	Fluoride (mg/l)	1.0
21	Boron (mg/l)	1.0
22	Sulphate (mg/l)	200
23	Heavy metals	The treated grey water of various ponds and other water bodies may be analyzed for heavy metal once in a year to check their concentration. In case the concentration of heavy metals is found more than the permissible limits in the treated grey water, appropriate treatment may be imparted to the grey water to bring the concentration of various heavy metals within the prescribed limits.

03/06

Table-3: Maximum permissible limits for discharge of treated wastewater of STPs for irrigation, Industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds and other water storage areas and natural or artificial depression.

S. No.	Parameters	Current HSPCB discharge standards for STP	Maximum permissible limits for discharge of treated wastewater of STPs for:-		
			Irrigation	Industrial processes, construction activities and other non-potable usage	Groundwater recharge through lakes, ponds, water storage area, natural or artificial depression
1	pH	5.5-9.0	6.5-8.0	6.5-8.0	6.5-8.0
2	BOD (mg/l)	10	10*	10	10
3	COD (mg/l)	50	50*	50	50
4	FOG (mg/l)	-	Nil	Nil	Nil
5	TSS (mg/l)	20	20	10	10
6	TDS (mg/l)	-	1500	750	500
7	Chloride (mg/l)	-	100	100	100
8	HCO_3 (mg/l)	-	300	300	300
9	Sulphate (mg/l)	-	200	200	200
10	Fluoride (mg/l)	-	1	1	1
11	Total Nitrogen (mg/l)	-	20	20	20
12	Ammonical Nitrogen (mg/l)	-	5	5	5
13	Nitrate Nitrogen (mg/l)	-	10	10	10
14	Total Phosphorous (mg/l)	-	5	5	5
15	Phosphate P (Dissolved) (mg/l)	-	1	1	1
16	Total S (Sulphide) (mg/l)	-	0.01	0.01	0.01
17	Phenolic compound (mg/l)	-	0.002	0.002	0.002
18	Sodium (mg/l)	-	100	100	75
19	Magnesium (mg/l)	-	60	60	30
20	Calcium (mg/l)	-	100	100	75

03/07

21	Ionic detergents (MBAS) (mg/l)	-	<1	<1	0.2
22	Residual Chlorine (mg/l)	-	0.2	0.2	0.2
23	Total Alkalinity as $CaCo_3$ (mg/l)	-	200	200	200
24	Total Hardness (mg/l)	-	200	200	200
25	Faecal Coliform (MPN/100 ml)	<100	100	100	100
26	E.Coli (MPN/100 ml)	-	ND	ND	ND
27	Intestinal helminth eggs (MPN/100ml)	-	ND	ND	ND
28	Sodium Adsorption Ratio (SAR) (meq/l)	-	10	10	3.0
29	Residual Sodium Carbonate (RSC) (meq/l)	-	2.5	2.5	1.5
30	Electrical Conductivity (EC) (µmhos/cm)	-	2000	1200	750
31	Boron (mg/l)	-	1.0	1.0	0.5
32	Cu (Copper) (mg/l)	-	1.5	1.5	0.2
33	Fe (Iron) (mg/l)	-	5.0	5.0	0.3
34	Mn (Manganese) (mg/l)	-	0.5	0.5	0.3
35	Cr (Chromium) (mg/l)	-	0.2	0.2	0.1
36	Ni (Nickel) (mg/l)	-	0.20	0.20	0.02
37	Pb (Lead) (mg/l)	-	0.01	0.01	0.01
38	As (Arsenic) (mg/l)	-	0.01	0.01	0.01
39	Cd (Cadmium) (mg/l)	-	0.01	0.01	0.003
40	Co (Cobalt) (mg/l)	-	0.05	0.05	0.05
41	Li (Lithium) (mg/l)	-	2.5	2.5	2.5

42	Zn (Zinc) (mg/l)	-	2.0	2.0	2.0
43	Hg (Mercury) (mg/l)	-	0.001	0.001	0.001
44	Al (Aluminium) (mg/l)	-	1.0	1.0	0.03
45	Be (Beryllium) (mg/l)	-	0.1	0.1	0.1
46	CN (Cyanide) (mg/l)	-	ND	ND	ND
47	Mo (Molybdenum) (mg/l)	-	0.01	0.01	0.01
48	Se (Selenium) (mg/l)	-	0.02	0.02	0.01
49	V (Vanadium) (mg/l)	-	0.1	0.1	0.1
50	Ba (Barium) (mg/l)	-	1.0	1.0	0.7
51	Ag (Silver) (mg/l)	-	0.1	0.1	0.1

Note:-

i. If the operating agency uses the treated wastewater of STPs entirely for irrigation purposes than BOD of 30 mg/l and COD of 150 mg/l will be permissible provided the treated wastewater is not discharged into Drain/Nallah/River/any other surface water, under any circumstance.

ii. The maximum permissible limits for discharge of treated wastewater of STPs for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression as prescribed by the Board shall be valid initially for 03 years, well before which, detailed study with reference to effect of heavy metal and other parameters on the quality of soil, crop, horticulture, human and animal species shall be carried out jointly by Haryana Agriculture University (HAU), Hisar and Indian Agricultural Research Institute (IARI), New Delhi. The expenditure to be incurred on the said study shall be borne by Haryana State Pollution Control Board for which prior sanction of the project shall be obtained by the said organizations from the Board. For this purpose, HAU will be coordinating agency.

iii. No indiscriminate disposal of treated or untreated sewage/effluent shall be allowed.

03/09

iv. During groundwater recharging with treated wastewater, recharging shall be allowed through ponds, lakes, water storage area and natural or artificial depression but no direct injection of treated wastewater in underground strata will be permitted.

v. HSPCB shall carryout close monitoring of usages of treated wastewater of STPs and shall ensure that treated sewage of STPs is only used for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression and no direct injection of treated wastewater in underground strata will be permitted.

vi. With the adoption of the above standards for utilization of treated sewage for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression, the earlier discharge standards of treated sewage of STPs, as prescribed by HSPCB vide its order dated 2.7.2020, shall be superseded.

The matter regarding fixing the standards for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetland etc.) for irrigation and other non-potable usages and standards for discharge of treated wastewater of STPs for various usage (irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression) is placed before the Board for consideration and approval.

03/10

Annexure-1

HARYANA STATE POLLUTION CONTROL BOARD
C-11, SECTOR-6, PANCHKULA
Website – www.hspcb.gov.in
E-Mail:hspcbho@gmail.com, Ph:0172-2577870-873

Sub:- Fixing of effluent discharge standards for Sewage Treatment Plants (STPs).

Whereas, amongst others, under section 17 of the Water (Prevention & Control of Pollution) Act, 1974, one of the functions of the State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs), constituted under the Water (Prevention & Control of Pollution) Act, 1974 is to plan a comprehensive programme for prevention, control or abatement of pollution of streams and wells in the State and to secure the execution thereof;

Whereas, this Board is regularly monitoring the water quality of Water Bodies in the State of Haryana and the water quality monitoring results of rivers has indicated that water quality has been affected because of disposal of untreated or partially treated sewage into the water bodies and as a result, there is high concentration of pollutants making the water body unfit for human consumption or for other uses;

Whereas, Haryana State Pollution Control Board has adopted the standard for emission or discharge of Environmental Pollutants as prescribed under Section 3 of Environment (Protection) Rules, 1986 but the standards for discharge of Faecal Coliform in sewage effluent discharging from sewage treatment plants (STPs) has not been prescribed therein;

Whereas, the State Pollution Control Board under section 17 of the Water Act has been mandated with the following functions which inter-alia include;

(f) to inspect sewage or trade effluents, works and plants for the treatment of sewage and trade effluents and to review plans, specifications or other data relating to plants set up for the treatment of water, works for the purification thereof and the system for the disposal of sewage or trade effluents or in connection with the grant of any consent as required by this Act;

(g) lay down, modify or annul effluent standards for the sewage and trade effluents and for the quality of receiving waters (not being water in an inter-State stream) resulting from the discharge of effluents and to classify waters of the State;

(h) to evolve economical and reliable methods of treatment of sewage and trade effluents, having regard to the peculiar conditions of soils, climate and water resource of different regions and more especially the prevailing flow characteristics of water in streams and wells which render it impossible to attain even the minimum degree of dilution;

(i) to evolve methods of utilization of sewage and suitable trade effluents in agriculture;

(j) to evolve efficient methods of disposal of sewage and trade effluents on land, as are necessary on account of the predominant conditions of scant stream flows that do not provide for major part of the year the minimum degree of dilution;

(k) to lay down standards of treatment of sewage and trade effluents to be discharged in to any particular stream taking into account the minimum fair weather dilution available in that stream and the tolerance limits of pollution permissible in the water or the stream, after the discharge of such effluents;

(m) to lay down effluent standards to be complied with by persons while causing discharge of sewage or sullage or both and to lay down, modify or annul effluent standards for the sewage and trade effluents;

Whereas, as per section 3 of the Environment (Protection) Rules, 1986, the State Pollution Control Board can specify more stringent standards from those provided under Section 3 of Environment (Protection) Rules, 1986, depending upon the quality of recipient system and after recording the reasons, therefore, in writing & there are following grounds/reasons for fixing stringent standards for discharge of faecal coliform in sewerage effluent from the STPs:

1. The quantity of flow in River Yamuna and River Ghaggar has drastically come down during the recent years and these rivers have no flow in some stretches in non rainy periods and especially in summer. The State Pollution Control Board has been given mandate under section- 17(k) of the Water Act, 1974 to lay down standards of treatment of sewage to be discharge into any stream taking into account the minimum dilution available to maintain the quality of recipient Water Bodies & Rivers as per prescribed standards and accordingly, the revised standard are required for STPs which are discharging sewage.

2. The Hon'ble NGT has already issued various directions and state has to maintain the water quality standards in the rivers.

3. The State Govt. has already submitted Yamuna Action Plan and Ghaggar Action Plan before the Hon'ble NGT in OA No. 673 of 2018 "More River Stretches are Critically Polluted now: CPCB", wherein, as per objective of the Action Plans, to achieve standards for faecal coliform in sewage discharged less than 500 MPN / 100 ml.;

Whereas, in matter of OA No. 138 of 2016 titled as "Stench Grips Mansa's Sacred River Ghaggar", vide order dated 15.06.2020, Hon'ble NGT has fixed standards for Faecal Coliform as "less than 100 MPN/ 100 ml" and accordingly, this standard for faecal coliform has to be complied with.

Whereas, a public notice was published in Newspaper on 29.05.2020 for inviting objections / suggestions for proposed standards for discharge from STPs and no objections/ suggestions have been received from any quarter.

Therefore, considering all the aspects and under the powers conferred as per Section 3 of the Environment (Protection) Rules, 1986 & Section 17 of Water (Prevention and Control of Pollution) Act, 1974, the standard for discharge of treated sewage/ effluent from the STPs are fixed as given below:-

Sewage/ Effluent Discharge Standards For Sewage Treatment Plant		
Sr. No.	**Parameters**	**Parameters Limit**
1	pH	5.5 - 9.0
2	BOD (mg/l)	10
3	COD (mg/l)	50
4	TSS (mg/l)	20
5	Total Nitrogen (mg/l)	10
6	Total Phosphorus (for discharge into Ponds, Lakes) (mg/l)	1
7	Faecal Coliform (MPN/100 ml)	Less than 100

03/12

Further, with the power conferred under Section 33 A of the Water (Prevention & Control of Pollution) Act, 1974, the Haryana State Pollution Control Board issues following directions to all the Government Departments/ Agencies/ Units responsible for management & treatment of sewage effluents with regard to achieve the stringent standards for discharge of effluent as fixed by HSPCB:-

1. All the existing / under construction STPs/ under upgradation and modification which have been designed and executed for above parameters shall achieve above discharge standards immediately. The sewerage treatment plants to be installed in future, will be designed and constructed to achieve the above proposed discharge standards.

2. STPs which have not been designed for above standards so far shall achieve above discharge standards within 1 years in case of standards at Sr. No. 1 to 6.

3. The above faecal coliform standards shall to applicable to all STPs including existing STPs.

Sh. Ashok Kheterpal,
Chairman

Dated the
2nd July, 2020

No. HSPCB/ WC-2 / 2162-2169 **Dated:-02.07.2020**

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

1. Chief Secretary, Haryana, Chandigarh.
2. Chief Executive Officer, GMDA, Gurugram.
3. Additional Chief Secretary, PHED, Haryana, Chandigarh.
4. Additional Chief Secretary, Irrigation Department, Haryana, Chandigarh.
5. Additional Chief Secretary, ULBD, Haryana, Chandigarh.
6. Principal Secretary, Industries Department, Haryana, Chandigarh.
7. Principal Secretary, Town & Country Planning Department, Haryana, Chandigarh.
8. Principal Secretary, D & P Department, Haryana, Chandigarh.

-sd-
Sr. Env. Engineer (WC),
For Chairman.

Endst. No. HSPCB/ WC-2 / 2170-2199 **Dated:-02.07.2020**

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

1. All Branch Incharges.
2. All Regional Officers in field.
3. All Lab Incharges.

-sd-
Sr. Env. Engineer (WC),
For Chairman.

03/13

Annexure-2

HARYANA STATE POLLUTION CONTROL BOARD
C-11, SECTOR-6, PANCHKULA
Website – www.hspcb.org.in E-Mail: hspcbscientific@gmail.com
Ph: 0172-2577870-873

HSPCB/SSC/ 5336- 5344 Dated- 02/06/2023

To

1. Director, Horticulture Department, Govt. of Haryana, Panchkula
2. Chief Administrator, HSVP, Panchkula
3. Director, Development & Panchayat Department, Govt. of Haryana
4. Director, Urban Local Bodies Department, Govt. of Haryana, Panchkula
5. Director, Agriculture Department, Govt. of Haryana, Panchkula
6. Dean, College of Agriculture, HAU, Hisar
7. Engineer-in- Chief, PHED, Govt. of Haryana
8. Engineer-in- Chief, Irrigation Department, Govt. of Haryana
9. Director, ICCSRI, Karnal

Sub:- Proceedings of the meeting held under the Chairmanship of Sh. P. Raghavendra Rao, Chairman in the HSPCB, Conference Room, C-11, Sec-06, Panchkula at 11:00 AM on 24.05.2023 regarding fixing of discharge norms for STPs for Irrigation, Industrial processes, construction activities, other non potable usage and groundwater recharging.

Kindly refer to the subject noted above.

In this connection, I have been directed to enclose herewith the proceedings of the meeting held under the Chairmanship of Sh. P. Raghavendra Rao, Chairman in the HSPCB, Conference Room, C-11, Sec-06, Panchkula at 11:00 AM on 24.05.2023 regarding fixing of discharge norms for STPs for Irrigation, Industrial processes, construction activities, other non potable usage and groundwater recharging for your information and necessary action please.

DA/As above

Sr. Env. Engineer (HQ)
For Chairman

Endst. No. HSPCB/SSC/ 5345 - 5351 Dated: 02/06/2023

A copy of the above is forwarded to the following for information, please :-

1. Chief Executive Officer, HWRA
2. Dr. KC Bangar, Advisor, Environment and Climate Change Department, Haryana
3. Dr. Babu Ram, Technical Expert, HSPCB
4. Sh. Adrash Akolkar, Ex, MS, HSPCB
5. Proof. CR Babu, IIT Delhi.
6. Dr. Rakesh Kumar, Agriculture University, Hisar
7. Dr. Ravinder Kaur, Indian Agriculture Research Institute, Delhi

Sr. Env. Engineer (HQ)
For Chairman

03/14

Proceedings of the meeting held under the Chairmanship of Sh. P. Raghavendra Rao, Chairman, HSPCB on 24.5.2023 at 11:00 AM in the Conference Room, C-11, Panchkula to review the proposed discharge norms of treated wastewater of STPs for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression.

List of the participants is attached at Annexure-1.

At the outset of meeting, the Chairman, HSPCB welcomed all the technical experts/scientists of various organizations and officers of the various departments. It was apprised that discharge standards of STPs were proposed for reuse of treated wastewater of STPs for irrigation, industrial processes, construction activities and other non-potable usages by the technical experts/scientists in the earlier two meetings held on 9.2.2023 and 25.4.2023. The minutes of the 2nd meeting held on 25.4.2023 were conveyed to officers of all the departments vide no. HSPCB/2023/7835-7842 dated 25.4.2023. The standards proposed for utilization of treated sewage of STPs for various usages were published in the leading Newspapers on 5.5.2023 for inviting objections/suggestions from all the stakeholders within 15 days. However, no comments/suggestions/objections have been received from any stakeholder.

The technical experts/scientists of various organizations held detailed deliberation on each parameter as mentioned in Table-1 to 17 of the agenda (**Annexure-2**) and proposed modification/amendments in the parameters, as under:

i. **Nitrogen**

It was proposed that upper limit for Nitrogen may be prescribed as under:
Total Nitrogen: **20 mg/l**
Ammonical Nitrogen: **5 mg/l**
Nitrate Nitrogen: **10 mg/l**

The values of said parameters may be prescribed for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

ii. **Phosphorous**

It may be written as under:
Total Phosphorous: **5 mg/l**
Phosphate P (Dissolved): **1 mg/l**

The values of the said parameters may be prescribed for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

iii. **Cyanide (CN)**

It may be prescribed as **ND** for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

iv. **Lead (pb)**

It may be prescribed as **0.01 mg/l** for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

v. **Lithium**

It may be prescribed as **2.5 mg/l** for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

vi. **Mercury (Hg)**

It may be prescribed as **0.001 mg/l** for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

03/15

vii. **Molybdenum (MO)**

It may be prescribed as **0.01 mg/l** for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

viii. **Selenium**

It may be prescribed as **0.02 mg/l** for usage of treated wastewater of STPs for irrigation and all other purposes.

ix. **Parameters, Tin, Thallium and Vanadium may be deleted**

x. **TSS**

It may be prescribed as **20 mg/l** for usage of treated wastewater of STPs for irrigation and for other purposes and for groundwater recharge, it may be prescribed as <10 mg/l.

xi. **Table-7 of agenda (Annexure-2) may be deleted**

xii. **In Table-8, the value of BOD, COD and TSS for utilization of treated wastewater of STPs for groundwater recharge may be prescribed as <10 mg/l, <50 mg/l and <10 mg/l, respectively.**

xiii. **F.coli parameter may be prescribed as maximum 100 MPN/100 ml for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.**

xiv. **E.coli**

It may be mentioned as **ND** for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

xv. **Intestinal helminth eggs**

It may be prescribed as **ND** for all usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

xvi **DO**

It was suggested that said parameter may be **deleted** as it is related to BOD parameter.

xvii. **Turbidity**

It may be **deleted** as the relevant parameter TSS has been considered.

xix. **FOG**

It may be prescribed as **NIL** for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

xx. **MBAS**

It may be prescribed as **<1 mg/l** for usage of treated wastewater of STPs for irrigation and all other purposes.

xxi. **Phenolic compound**

It may be prescribed as **0.002 mg/l** for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

03/16

xxii. Bicarbonate (HCO_3)

It may be prescribed as **300 mg/l** for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

xxiii. Lithium

It may be prescribed as **2.5 mg/l** for usage of treated wastewater of STPs for irrigation and all other purposes, including for groundwater recharge.

xxiv. Total Kjeldahl Nitrogen, Hydrocarbons and Floatables mentioned in Table-12 of agenda may be deleted.

xxv. Antimony (Sb)

It may be **deleted**.

xxvi. TTCC (MPN/100 ml)

It was suggested that instead of mentioning the value of TTCC, the value of **F.coli** parameter may be prescribed as max. **100 MPN/100 ml**.

Based on the suggestions/inputs given by the technical experts/scientists of various organizations and officers of various departments as mentioned above and after detailed deliberation made on each parameter, consolidated **Table-1**, mentioning the proposed treated wastewater discharge standards of STPs for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, other water storage areas and natural or artificial depression, has been prepared, which is mentioned as under:

Table-1: Proposed treated wastewater discharge standards of STPs for irrigation, Industrial processes, construction activities, other non-potable usages and groundwater recharging through lakes, ponds and other water storage areas and natural or artificial depression.

S. No.	Parameters	Current HSPCB discharge standards for STP	Proposed discharge standards for		
			Irrigation	Industrial processes, construction activities and other non-potable usage	Groundwater recharge through lakes, ponds, water storage area, natural or artificial depression
1	pH	5.5-9.0	6.5-8.5	6.5-8.5	6.5-8.5
2	BOD (mg/l)	10	10*	10	<10
3	COD (mg/l)	50	50*	50	<50
4	FOG (mg/l)	-	Nil	Nil	Nil
5	TSS (mg/l)	20	20	10	<10
6	TDS (mg/l)	-	1500	750	<500
7	Chloride (mg/l)	-	100	100	100
8	HCO_3 (mg/l)	-	300	300	300
9	Sulphate (mg/l)	-	200	200	200
10	Fluoride (mg/l)	-	1	1	1
11	Total Nitrogen (mg/l)	-	20	20	20
12	Ammonical Nitrogen (mg/l)	-	5	5	5
13	Nitrate Nitrogen	-	10	10	10

S. No.	Parameters	Current HSPCB discharge standards for STP	Proposed discharge standards for		
			Irrigation	Industrial processes, construction activities and other non-potable usage	Groundwater recharge through lakes, ponds, water storage area, natural or artificial depression
	(mg/l)				
14	Total Phosphorous (mg/l)	-	5	5	5
15	Phosphate P (Dissolved) (mg/l)	-	1	1	1
16	S (Sulphide) (mg/l)	-	0.01	0.01	0.01
17	Phenolic compound (mg/l)	-	0.002	0.002	0.002
18	Sodium (mg/l)	-	100	100	75
19	Magnesium (mg/l)	-	60	60	30
20	Calcium (mg/l)	-	100	100	75
21	Ionic detergents (MBAS) (mg/l)	-	<1	<1	0.2
22	Residual Chlorine (mg/l)	-	0.2	0.2	0.2
23	Total Alkalinity as $CaCo_3$ (mg/l)	-	200	200	200
24	Total Hardness (mg/l)	-	200	200	200
25	Faecal Coliform (MPN/100 ml)	<100	<100	< 100	<100
26	E.Coli (MPN/100 ml)	-	ND	ND	ND
27	Intestinal helminth eggs (MPN/100ml)	-	ND	ND	ND
28	Sodium Adsorption Ratio (SAR) (meq/l)	-	<10	<10	< 3.0
29	Residual Sodium Carbonate (RSC) (meq/l)	-	< 2.5	< 2.5	< 1.5
30	Electrical Conductivity (EC) (µmhos/cm)	-	<2000	<1200	< 750
31	Boron (mg/l)	-	1.0	1.0	0.5
32	Cu (Copper) (mg/l)	-	0.2	0.2	0.05
33	Fe (Iron) (mg/l)	-	5.0	5.0	0.3
34	Mn (Manganese) (mg/l)	-	0.2	0.2	0.1
35	Cr (Chromium) (mg/l)	-	0.10	0.10	0.05
36	Ni (Nickel) (mg/l)	-	0.20	0.20	0.02
37	Pb (Lead) (mg/l)	-	0.01	0.01	0.01
38	As (Arsenic) (mg/l)	-	0.01	0.01	0.01
39	Cd (Cadmium)	-	0.01	0.01	0.003

S. No.	Parameters	Current HSPCB discharge standards for STP	Proposed discharge standards for		
			Irrigation	Industrial processes, construction activities and other non-potable usage	Groundwater recharge through lakes, ponds, water storage area, natural or artificial depression
	(mg/l)				
40	Co (Cobalt) (mg/l)	-	0.05	0.05	0.05
41	Li (Lithium) (mg/l)	-	2.5	2.5	2.5
42	Zn (Zinc) (mg/l)	-	2.0	2.0	2.0
43	Hg (Mercury) (mg/l)	-	0.001	0.001	0.001
44	Al (Aluminium) (mg/l)	-	1.0	1.0	0.03
45	Be (Beryllium) (mg/l)	-	0.1	0.1	0.1
46	CN (Cyanide) (mg/l)	-	ND	ND	ND
47	Mo (Molybdenum) (mg/l)	-	0.01	0.01	0.01
48	Se (Selenium) (mg/l)	-	0.02	0.02	0.01
49	V (Vanadium) (mg/l)	-	0.1	0.1	0.1
50	Ba (Barium) (mg/l)	-	1.0	1.0	0.7
51	Ag (Silver) (mg/l)	-	0.1	0.1	0.1

* If the operating agency usage the treated wastewater of STPs entirely for irrigation purposes than BOD of 30 mg/l and COD of 150 mg/l will be permissible provided the treated wastewater is not discharged into drain/nallah/river/any other surface water, under any circumstance.

*****

The meeting ended with a vote of thanks to the chair and all the participants.

03/19

Annexure-1

List of participants of meeting held under the Chairmanship of Sh. P. Raghavendra Rao, Chairman in the HSPCB, Conference Room, C-11, Sec-06, Panchkula at 11:00 AM on 24.05.2023 regarding fixing of discharge norms for STPs for Irrigation, Industrial processes, construction activities, other non potable usage and groundwater recharging.

Sr.No.	Name/ Department
1.	Sh. P. Raghavendra Rao, Chairman, HSPCB.....in Chair
2.	Sh. Pardeep Kumar, IAS, Member Secretary, HSPCB, Panchkula
3.	Dr. Babu Ram , Ex Member Secretary, PSPCB, Patiala
4.	Sh. Rakesh Kumar, CE, PHED, Panchkula
5.	Sh. SK Yadav, CE, MICADA, Irrigation Department, Panchkula
6.	Sh. JP Singh, SEE, HSPCB, Panchkula
7.	Sh. Yashpal Singh, XEN, I&WRD, Panchkula
8.	Sh. Ranbir Singh, XEN, DULB, Panchkula
9.	Sh. Amit Rathee, XEN, HSVP, Panchkula
10.	Sh. Gulshan Kumar, Sr. Manager, HSIIDC, Panchkula
11.	Sh. Jasvinder Singh, AE, Agriculture Department, Panchkula
12.	Sh. Rajiv Kr Goyal, AAE, Agriculture Department, Panchkula
13.	Sh. Sangeet Kumar, PO, Horticulture Department, Panchkula
14.	Sh. Narender, Agriculture Department, Panchkula
	Through VC
1.	Dr. KC Banger, Advisor, Environment and Climate Change Department, Haryana, Chandigarh
2.	Dr. Ravinder Kaur, Former Project Director, IARI, New Delhi
3.	Dr. Rakesh Sehrawat, HAU, Hisar

03/20

Annexure-2

Agenda for fixation of effluent discharge norms of STPs for irrigation, industrial processes, construction activities, other non potable usage and groundwater recharging

1) Having two meetings with Technical Experts/Scientists of various departments/organizations on 9.2.2023 and 25.4.2023, Haryana State Pollution Control Board has proposed standards for reuse of treated sewage from STPs for irrigation, industrial processes, construction activities and other non potable usages and objections/suggestions from all the stakeholder were sought through newspaper (The Tribune dated 5.5.2023) within 15 days. These proposed standards are mentioned as under:

Proposed treated wastewater discharge standards of STPs for irrigation, Industrial processes, construction activities and other non-potable usages

S. No.	Parameters	Prescribed standards for		
		Discharge standards for STP	Irrigation	Industrial processes, construction activities and other non-potable usage
1	pH	5.5-9.0	6.5-8.5	6.5-8.5
2	BOD (mg/l)	10	10*	10
3	COD (mg/l)	50	50*	50
4	TSS (mg/l)	20	20	10
5	TDS (mg/l)		1500	750
6	Chloride (mg/l)		100	100
7	Sulphate (mg/l)		200	200
8	Fluoride (mg/l)		1.0	1.0
9	Total Nitrogen (mg/l)	10	10	10
10	Total Phosphorus (for discharge into Ponds, Lakes) (mg/l)	1	1	1
11	Faecal Coliform (MPN/100 ml)	<100	<100	< 100
12	Sodium Adsorption Ratio (SAR) (meq/l)		<10	<10
13	Residual Sodium Carbonate (RSC) (meq/l)		< 2.5	< 2.5
14	Electrical Conductivity (EC) (µmhos/cm)		<2000	<1200
15	Boron (mg/l)		1.0	1.0
16	Cu (Copper) (mg/l)		0.2	0.2
17	Fe (Iron) (mg/l)		5.0	5.0
18	Mn (Manganese) (mg/l)		0.2	0.2
19	Cr (Chromium) (mg/l)		0.10	0.10
20	Ni (Nickel) (mg/l)		0.20	0.20

03/21

21	Pb (Lead) (mg/l)		0.01	0.01
22	As (Arsenic) (mg/l)		0.01	0.01
23	Cd (Cadmium) (mg/l)		0.01	0.01
24	Co (Cobalt) (mg/l)		0.05	0.05
25	Li (Lithium) (mg/l)		2.5	2.5
26	Zn (Zinc) (mg/l)		2.0	2.0
27	Hg (Mercury) (mg/l)		0.01	0.01

2) Advisor to Hon'ble Chief Minister, Haryana has desired that treated sewage discharge standards for groundwater recharging may also be fixed by HSPCB. A note dated 10.5.2023 has also been sent. In the said note, treated wastewater discharge standards for various usages have been mentioned, which are mentioned in Tables 1 to 7 given below.

Table-1: Upper limit of parameters for treated waste water use for irrigation (compiled from Schellenberg et al. 2020; mpcb.gov.in; cpcb.nic.in; epa.gov).

Parameters	US-EPA	Israel	CPCB	MPCB	EU	Italy
BOD (mg/l)	10-30	<10		30	<10	<20
COD (mg/l)		<100		250		<100
Total suspended solids (mg/l)		<10	100	100		<10
E Coli Org/100 ml		<10			<10	
pH	6-9	6.5-8.5	5.5-9	5.5-9		6.5-8.5
Total Nitrogen (mg/l)		<25				<15
Total Phosphorus (mg/l)		<5				<2

Table-2: Recommended maximum concentrations of trace elements in treated waste water used for irrigation (Jeong et al. 2016; www.fao.org; www.epa.gov)

Parameters	Korea	FAO	US EPA	Cyprus	Greece	Israel	Italy
Al (Aluminium) (mg/l)	5.0	5.0	5.0	5.0	5.0	5.0	1.0
As (Arsenic) (mg/l)	0.05	0.1	0.1	0.1	0.1	0.1	0.02
Be (Beryllium) (mg/l)	-[a]	0.1	0.1	0.1	0.1	0.1	-
B (Boron) (mg/l)	0.75	0.7	0.75	0.75	2.0	0.4	1.0
Cd (Cadmium) (mg/l)	0.01	0.01	0.01	0.01	0.01	0.01	0.005

03/22

Cr (Chromium) (mg/l)	0.05	0.1	0.1	0.1	0.1	0.1	0.1
Co (Cobalt) (mg/l)	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Cu (Copper) (mg/l)	0.2	0.2	0.2	0.2	0.2	0.2	1.0
CN (Cyanide) (mg/l)	ND [b]	-	-	-	-	0.1	0.05
F (Fluoride) (mg/l)	-	1.0	1.0	-	1.0	2.0	1.5
Fe (Iron) (mg/l)	-	5.0	5.0	5.0	3.0	2.0	2.0
Pb (Lead) (mg/l)	0.1	5.0	5.0	5.0	0.1	0.1	0.1
Li (Lithium) (mg/l)	2.5	2.5	2.5	2.5	2.5	2.5	-
Mn (Manganese) (mg/l)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Hg (Mercury) (mg/l)	0.001	-	-	-	0.002	0.002	0.001
Mo (Molybdenum) (mg/l)	-	0.01	0.01	0.01	0.01	0.01	-
Ni (Nickel) (mg/l)	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Se (Selenium) (mg/l)	0.02	0.02	0.02	0.02	0.02	0.02	0.01
Sn (Tin) (mg/l)	-	-	-	-	-	-	3.0
Tl (Thallium) (mg/l)	-	-	-	-	-	-	0.001
V (Vanadium) (mg/l)	-	0.1	0.2	2.0	0.1	0.1	0.1
Zn (Zinc) (mg/l)	2.0	2.0	2.0	0.005	2.0	2.0	0.5

(a) No recommendation; (b) Not detected

Table-3: Effluent discharge standards for sewage treatment plant as recommended by CPCB (www.cpcp.nic.in).

Sr. no.	Parameters	Parameters limits (Standard for new STPs design after notification)
1	pH	6.0-9.0
2	BOD, mg/l	Not more than 10
3	COD, mg/l	Not more than 50
4	TSS, mg/l	Not more than 20
5	NH4-N, mg/l	Not more than 5
6	N-total, mg/l	Not more than 10
7	Faecal Coliform, MPN/100ml	< 100

Note:

i) These standards will be applicable for discharge in water resources as well as for land disposal. The standards for Faecal Coliform may not be applied for use of treated sewage in industrial purposes.

ii) *Achievement of Standards for existing STPs within 05 years from the date of notification.

Table-4: Effluent discharge standards for sewage treatment plant as per the National Green Tribunal verdict. (available at https://images.assettype.com/barandbench/import/2019/01/NS-Deshpande-v-UOI-NGT-order-Dec-21-2018.pdf).

Sr. no.	Parameters	Parameters limits (Standard for new STPs design after notification)
1	pH	6.5-9.0
2	BOD, mg/l	Not more than 10
3	COD, mg/l	Not more than 50
4	TSS, mg/l	Not more than 20
5	NH4-N, mg/l	Not more than 5
6	N-total, mg/l	Not more than 10
7	Faecal Coliform, MPN/100ml	< 100

03/24

Table 5: Indian STP discharge standards evolved with time (Schellenberg et al. 2020).

Sr.no.	Parameters	General Norms 1986				Draft Norms Nov. 2015**	MoEF & CC notification, Oct 2017**	NGT order 2019**
		Inland Surface Water	Public Sewers	Land Irrigation	Marine coastal areas			
1	BOD (mg/l)	30	350	100	100	10	30 20 (metro cities)	10
2	COD (mg/l)	250	-	-	250	50	-	50
3	TSS (mg/l)	100	600	200	100 (process water)	20	100 50 (metro cities)	20
4	pH	5.5-9.0	5.5-9.0	5.5-9.0	5.5-9.0	6.5-9.0	6.5-9.0	5.5-9.0
5	TN (mg/l)	100	-	-	100	10	-	10
6	Ammonical Nitrogen as N (mg/l)	50	-	-	50	5*	-	-
7	Free NH_3 (mg/l)	5	-	-	5	-	-	-
8	Nitrate mg/l)	10	-	-	20	-	-	-
9	Diss. PO_4 as P (mg/l)	5	-	-	-	-	-	1
10	Faecal Coloform	-	-	-	-	<100	<1000	<230

Table 6: Treated sewage quality for different uses recommended by CPHEE) 2013 (Schellenberg et al. 2020).

Parameter	Toilet Flushing	Fire Protection	Vehicle exterior washing	Non-contact impound-ments	Landscaping, horticulture & agriculture			
					Horticulutre golf courses	Crops		
						Non-edible crops	Edible crops	
							Raw	Cooked
Turbidity (NTU)	<2	<2	<2	<2	<2	AA	<2	AA
SS (mg/l)	nil	nil	nil	nil	nil	30	nil	30
TDS (mg/l)	-	-	-	2100	-	-	-	-
pH	-	-	-	6.5-8.3	-	-	-	-
Temp. (^{0}C)	-	-	-	Ambient	-	-	-	-
Oil & grease (mg/l)	10	nil	nil	nil	10	10	nil	nil
Minimum Residual Chlorine (mg/l)	1	1	1	0.5	1	nil	nil	nil
Total Kjeldal Nitrogen (mg/l)	10	10	10	10	10	10	10	10
BOD (mg/l)	10	10	10	10	10	20	10	20

03/25

COD (mg/l)	AA	AA	AA	AA	AA	30	AA	30
Dissolved Phosphorus P (mg/l)	1	1	1	1	2	2	5	5
Nitrate (mg/l)	10	10	10	5	10	10	10	10
Faecal Coliform/(MPN/100 ml)	nil	nil	nil	nil	nil	230	nil	230
Helminthic eggs/litre	AA[m]	AA	AA	AA	AA	<1	<1	<1
Color	Colorles s	Colorless	Colorle ss	Colorles s	Colorle ss	Colorle ss	Colorle ss	Colorle ss
Odor	Aseptic (Not septic and no foul odor)							

Table 7: Recommended Guidelines for Treated Sewage if Discharged into Surface Water to be used as source of Drinking Water (available at https://scbp.niua.org/sites/default/files/NGT_Order_30.04.2019_Sewage_Disposal_Norms.pdf).

Parameter	MoEF Standards (A)	Recommended Values
BOD, mg/l	30	Less than 10
SS, mg/l	100	Less than 10
TN, mg/l	100	Less than 10
Dissolved P, mg/l	5	Less than 2
Faecal Coliforms, MPN/100ml	Not specified	Less than 230

Parameter	Values
pH	6.0-8.5
BOD	< 10 mg/l
Suspended Solids	< 2 mg/l
COD	< 60 mg/l
Oil and Grease	< 5 mg/l
E.Coli	nil

3)Technical Expert, HSPCB has also consulted literature available at various sources and discharge standards for treated sewage for recharge of groundwater are mentioned as under.

Table-8: Characteristics of treated wastewater for its utilization for groundwater recharge

Source: Indian journal of Science and Technology, Vol 8(11) DOI: 10.17485/ijst/2015/v8i11/71806, June 2015- inducing recharge of groundwater by treated wastewater- A pilot study in Southern Chennai Metropolitan area by S.Packialakshmi, S.Balaji and T.Kumaresan

Table-9: Jordanian Standard (JS: 893/2002) for discharge to streams, storage

Parameter	Unit	Discharge to streams, wadis and water storage areas	Ground water recharge
Group A			
BOD_5	mg/L	60.0[a]	15.0
COD	mg/L	150.0[b]	50.0
DO	mg/L	> 1.0	> 2.0
TSS	mg/L	60.0[b]	50.0
pH	unit	6.0–9.0	6.0–9.0
Turbidity	NTU	—	2.0
NO_3	mg/L	45.0	30.0
NH_4	mg/L	-	5.0
T-N	mg/L	70.0	45.0
E. coli	MPN/100 ml	1000.0	< 2.2
Intestinal helminth eggs	egg/L	≤ 1.0	≤ 1.0
FOG	mg/L	8.0	—
Group B			
Phenol	mg/L	< 0.002	< 0.002
MBAS	mg/L	25.0	25.0
TDS	mg/L	1500.0	1500.0
Total PO_4	mg/L	15.0	15.0
Cl	mg/L	350.0	350.0
SO_4	mg/L	300.0	300.0
HCO_3	mg/L	400.0	400.0
Na	mg/L	200.0	200.0
Mg	mg/L	60.0	60.0
Ca	mg/L	200.0	200.0
SAR	mg/L	6.0	6.0
Al	mg/L	2.0	2.0
As	mg/L	0.05	0.05
Be	mg/L	0.1	0.1
Cu	mg/L	0.2	0.2
F	mg/L	1.5	1.5
Fe	mg/L	5.0	5.0
Li	mg/L	2.5	2.5
Mn	mg/L	0.2	0.2
Mo	mg/L	0.01	0.01
Ni	mg/L	0.2	0.2
Pb	mg/L	0.2	0.2
Se	mg/L	0.05	0.05
Cd	mg/L	0.01	0.01
Zn	mg/L	5.0	5.0
Cr	mg/L	0.02	0.02
Hg	mg/L	0.002	0.002
V	mg/L	0.1	0.1
Co	mg/L	0.05	0.05

03/27

B	mg/L	1.0	1.0

a: BOD_5 measured as soluble for waste stabilization ponds effluents and those with polishing ponds and as total for all others.

b: Twice this value may be allowed for effluents of waste stabilization ponds and those with polishing ponds.

Table-10: Jordanian Standard (JS: 893/2002) for effluent reuse for agriculture irrigation, 1

Parameter	Unit	Cooked vegetables, parking areas, playgrounds and side of roads inside cities	Plenteous trees and green areas, side of roads outside cities	Field crops, industrial crops and forestry
Group		**A**	**B**	**C**
BOD_5	mg/L	30.0	200	300
COD	mg/L	100	500	500
DO	mg/L	> 2.0	—	—
TSS	mg/L	50.0	150	150
pH	unit	6.0–9.0	6.0–9.0	6.0–9.0
Turbidity	NTU	10.0	—	—
NO_3	mg/L	30.0	45.0	45.0
T-N	mg/L	45.0	70.0	70.0
E. coli	MPN/100ml	100	1000	—
Intestinal helminth eggs	egg/L	≤ 1.0	≤ 1.0	≤ 1.0

Table-11: Jordanian Standard (JS: 893/2002) for effluent reuse for agricultural irrigation, 2

Parameter (mg/l)	Guideline values (maximum permissible)
FOG	8.0
Phenol	< 0.002
MBAS	100.0
TDS	1500.0
Total PO_4	30.0
Cl	400.0
SO_4	500.0
HCO_3	400.0
Na	230.0

Mg	100.0
Ca	230.0
SAR	9.0
Al	5.0
As	0.1
Be	0.1
Cu	0.2
F	1.5
Fe	5.0
Li	2.5 (0.075 for citrus crop)
Mn	0.2
Mo	0.01
Ni	0.2
Pb	5.0
Se	0.05
Cd	0.01
Zn	5.0
Cr	0.1
Hg	0.002
V	0.1
Co	0.05
B	1.0

Kuwait

Table 12. Treated wastewater criteria for reuse in Kuwait

Parameter	Maximum allowable
pH	6.5–8.5
BOD_5 (5 days, 20 °C)	20.0
COD (dichromate)	100.0
FOG	5.0
TSS	15.0
TDS	1500.0
PO_4	30.0
NH3-N	15.0
Total Kjeldahl nitrogen	35.0
Total recoverable phenol	1.0

F	25.0
S	0.1
Cl_2	0.5–1.0
DO	> 2.0
Hydrocarbons	5.0
Floatables	Nil
Al	5.0
As	0.1
Ba	2.0
B	2.0
Cd	0.01
Cr	0.15
Ni	0.2
Hg	0.002
Co	0.2
Fe	5.0
Sb	—
Cu	0.2
Mn	0.2
Zn	2.0
Pb	0.5
Most probable number of total coliforms	400.0
Most probable number of faecal coliforms (MPN/100 mL)	20.0
Egg parasites (no/litre)	< 1.0
Worm parasites	Absent

Source: Annex No. (15), Decree No. (210), 2001.
All units are in mg/l except where noted otherwise.

Oman

Table-13: Regulations for wastewater reuse and discharge (145/193, 1993), oman

Parameters (mg/l)	Standards	
	A	B
BOD (5 days at 20 °C)	15.0	20.0
COD	150.0	200.0
TSS	15.0	30.0
TDS	1500.0	2000.0
EC (micro S/cm)	2000.0	2700.0
SAR[a]	10.0	10.0
pH (within range)	6.0–9.0	6.0–9.0
Al	5.0	5.0
As	0.1	0.1

Ba	1.0	2.0
Be	0.100	0.300
B	0.500	1.0
Cd	0.010	0.010
Cl	650.0	650.0
Cr	0.050	0.050
Co	0.050	0.050
Cu	0.050	1.0
CN	0.05	0.100
F	1.0	2.0
Fe	1.0	5.0
Pb	0.100	0.200
Li	0.070	0.070
Mg	150.0	150.0
Mn	0.100	0.500
Hg	0.001	0.001
Mo	0.01	0.05
Ni	0.100	0.100
Ammonical (as N)	5.0	10.0
Nitrate (as NO_3)	50.0	50.0
Organic (Kjeldahl) (as N)	5.0	10.0
FOG (total extraciable)	0.500	0.500
Phenols (total)	0.001	0.002
P	30.0	30.0
Se	0.02	0.02
Ag	0.010	0.010
Na	200.0	300.0
SO_4	400.0	400.0
S	0.01	0.01
V	0.10	0.10
Zn	5.0	5.0
Faecal coliform bacteria (MPN/100 ml)	200.0	1000.0
Viable nematode ova (No. per litre)	< 1.0	< 1.0

a: The effect of sodium as soil absorption
All units are in mg/l excepted where noted otherwise.

Saudi Arabia

Table-14: Reclaimed water standards for unrestricted irrigation in Saudi Arabia

Parameter	Maximum concentration
Physical characteristics	
Floating material	Nil
TSS	10.0
pH (SU)	6.0–8.5
Chemical characteristics–organic	
BOD_5	10.0
Turbidity (NTU)	5.0

FOG	Nil
Phenol	0.002
Chemical characteristics	
Al	5.00
As	0.1
Be	0.1
B	0.5
Ba	1.0
Cd	0.01
Cl_2	0.2
Cr	0.1
Co	0.05
Cu	0.4
CN	0.05
F	1.0
Fe	2.0
Pb	0.1
Ag	0.5
Li	0.07
Mn	0.2
Hg	0.001
Mo	0.01
Ni	0.2
Se	0.02
Va	0.1
Zn	2.0
NO_3	10.0
Cl	100.0
SO_4	600.0
NH_3	5.0
Microbiological characteristics	
TTCC (MPN/100 mL)	2.2
Living intestinal nematodes (no/litre)	1.0

Source: treated wastewater and reuse bylaw no. 42,2000.
All units are in mg/l unless indicated otherwise

Table-15: Reclaimed water standards for restricted irrigation in Saudi Arabia

Parameter (mg/l except TLCC)	Maximum concentration
BOD_5	40.0
TSS	40.0
TDS	2000
TTCC (MPN/100 ml)	1000

Living intestinalnematodes (no/liter)	1.0

Tunisian

Table-16: Tunisian Standards, NT 106-03 (1989)

Parameter	Maximum allowable
PH	6.5 to 8.5
Conductivity	7000 (µs/cm)
COD	90.0[a]
BOD_5	30.0[a]
TSS	30.0
Cl	2000
Fluorides	3.0
Organic chlorine	0.001
As	0.1
B	3.0
Cd	0.01
Co	0.1
Cr	0.1
Cu	0.5
Fe	0.5
Mg	0.5
Hg	0.001
Ni	0.2
Pb	1.0
Se	0.05
Zn	5.0

Source: Tunisian Standard NT 106.03 (1989).

a: 24- hour composite sample.

All units are in mg/L unless indicated otherwise.

Table-17: The permitted limit for grey water reuse according to the use type

Test			
	(A) Irrigation of	(B) Irrigation of	(c) Toilet

	ornamental fruit trees and fodder crops	vegetables likely to be eaten uncooked	flushing
BOD_5 (mg/L)	≤ 40	≤ 20	≤ 10
TSS (mg/l)	≤ 140	≤ 20	≤ 10
Thermotolerant coliforms (cfu/100ml)	≤ 1000	≤ 200	≤ 10

Source: Report on the WHO/AFESD regional consultation to review national priorities and action plans for wastewater reuse and management (WHO- EM/CEH/106/E).

4) Proposed treated wastewater standards for various usages

Based on the standards earlier proposed by HSPCB, wherein objections/suggestions were invited from the stakeholders on 5.5.2023, literature study on treated wastewater usages for various purposes, sent by advisor to Hon'ble Chief Minister, Haryana and the literature study conducted by Technical Expert, HSPCB, the following standards for treated wastewater utilization for various usages have been purposed and same are mentioned in Table-18 given below.

Table-18: Proposed treated wastewater discharge standards of STPs for irrigation, Industrial processes, construction activities, other non-potable usages and groundwater recharging through lakes, ponds and other water storage areas and natural or artificial depression.

S. No.	Parameters	Prescribed standards for			
		Discharge standards for STP	Irrigation	Industrial processes, construction activities and other non-potable usage	Groundwater recharge through lakes, ponds, water storage area, natural or artificial depression
1	pH	5.5-9.0	6.5-8.5	6.5-8.5	6.5-8.5
2	Turbidity (mg/l)	-	<5	<5	<1
3	BOD (mg/l)	10	10*	10	<1
4	COD (mg/l)	50	50*	50	<5
5	TSS (mg/l)	20	20	10	<1
6	TDS (mg/l)	-	1500	750	<500
7	Chloride (mg/l)	-	100	100	100
8	Sulphate (mg/l)	-	200	200	200
9	Fluoride (mg/l)	-	1	1	1
10	Total Nitrogen (mg/l)	10	10	10	10
11	Total Phosphorus (for discharge into Ponds, Lakes) (mg/l)	1	1	1	1
12	S (Sulphide) (mg/l)		0.01	0.01	0.01
13	Phenolic compound		0.002	0.002	0.001

	(mg/l)				
14	Sodium (mg/l)		100	100	75
15	Magnesium (mg/l)		60	60	30
16	Calcium (mg/l)		100	100	75
17	Ionic detergents (MBAS) (mg/l)		1	1	0.2
18	Residual Chlorine (mg/l)		0.2	0.2	0.2
19	Total Alkalinity as $CaCo_3$ (mg/l)		200	200	200
20	Total Hardness		200	200	200
21	Faecal Coliform (MPN/100 ml)	<100	<100	< 20	ND
22	Egg Parasite (MPN/100ml)		<1	<1	ND
23	Sodium Adsorption Ratio (SAR) (meq/l)		<10	<10	< 3.0
24	Residual Sodium Carbonate (RSC) (meq/l)		< 2.5	< 2.5	< 1.5
25	Electrical Conductivity (EC) (µmhos/cm)		<2000	<1200	< 750
26	Boron (mg/l)		1.0	1.0	0.5
27	Cu (Copper) (mg/l)		0.2	0.2	0.05
28	Fe (Iron) (mg/l)		5.0 (2.0)	5.0 (2.0)	0.3
29	Mn (Manganese) (mg/l)		0.2	0.2	0.1
30	Cr (Chromium) (mg/l)		0.10	0.10	0.05
31	Ni (Nickel) (mg/l)		0.20	0.20	0.02
32	Pb (Lead) (mg/l)		0.01	0.01	0.01
33	As (Arsenic) (mg/l)		0.01	0.01	0.01
34	Cd (Cadmium) (mg/l)		0.01	0.01	0.003
35	Co (Cobalt) (mg/l)		0.05	0.05	0.05
36	Li (Lithium) (mg/l)		2.5	2.5 (0.07)	0.07
37	Zn (Zinc) (mg/l)		2.0	2.0	2.0
38	Hg (Mercury) (mg/l)		0.01 (0.001)	0.01 (0.001)	0.001
39	Al (Aluminium) (mg/l)		1.0	1.0	0.03
40	Be (Beryllium) (mg/l)		0.1	0.1	0.1
41	CN (Cyanide) (mg/l)		0.05	0.05	0.05
42	Mo (Molybdenum) (mg/l)		0.01	0.01	0.07

43	Se (Selenium) (mg/l)		0.02	0.02	0.01
44	V (Vanadium) (mg/l)		0.1	0.1	0.1
45	Ba (Barium) (mg/l)		1.0	1.0	0.7
46	Ag (Silver) (mg/l)		0.1	0.1	0.1

The above agenda is submitted for discussion and deliberation among the technical experts/scientists of various departments/organizations/agencies and fixing the proposed standards.

HARYANA STATE POLLUTION CONTROL BOARD
C-11, SECTOR-6, PANCHKULA
Ph-0172-577870-73, Fax No. 2581201

03/36
Annexure - 3

No.HSPCB /2023/ 5038-5043 Dated:19.07.2023

To

1. Dr. K.C Bangar, Advisor, Environment & Climate Change Department, Haryana
2. Dr. Babu Ram, Technical Expert, HSPCB
3. Sh. Avinash Akolkar, Ex. MS, CPCB
4. Prof. C.R Babu, IIT Delhi
5. Dr. Rakesh Kumar, Agriculture University, Hisar
6. Dr. Ravinder Kaur, Indian Agriculture Research Institute, Delhi

Sub:- Minutes of the meeting regarding finalization of standards for discharge of treated grey water (though natural treatment system) on 18.7.2023 at 11:00 AM under the chairmanship of Sh. Raghavendra Rao, Chairman, HSPCB in the Conference Hall, HSPCB, Sector-6, Panchkula - proposal sent by Haryana Pond and Wastewater Management Authority (HPWWMA)

Please refer to the subject noted above.

In this connection, I have been directed to enclose herewith the minutes of the meeting regarding finalization of standards for discharge of treated grey water (though natural treatment system) on 18.7.2023 at 11:00 AM under the chairmanship of Sh. Raghavendra Rao, Chairman, HSPCB in the Conference Hall, HSPCB, Sector-6, Panchkula - proposal sent by Haryana Pond and Wastewater Management Authority (HPWWMA) for your information and necessary action please.

DA/As Above

Sr. Env. Engineer (HQ)
For Chairman

Endst. No. 5044-5045 Dated:19.07.2023

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

1. Executive Vice-Chairman, HPWWMA, Panchkula.
2. Administrative Secretary, Development and Panchayat Department, Haryana.

Sr. Env. Engineer (HQ)
For Chairman

Endst. No. 5046-5049 Dated:19.07.2023

A copy of the above is forwarded to the following for information please:-

1. PS to Advisor to CM, Govt. of Haryana
2. PS to ACS Environment & Climate Change Department, Govt. of Haryana
3. PS to Chairman, HSPCB
4. PS to Member Secretary, HSPCB

Sr. Env. Engineer (HQ)
For Chairman

R

03/37

Minutes of the meeting held under the Chairmanship of Sh. P. Raghavendra Rao, Chairman, HSPCB on 18.7.2023 at 11:00 AM in the Conference Room, C-11, Panchkula to finalize the standards proposed for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetland etc.) for irrigation and other non-potable usages.

List of the participants is attached at Annexure-1.

At the outset of meeting, the Chairman, HSPCB welcomed all the technical experts/scientists of various organizations, institutions and officers of the various departments. It was apprised that treated sewage discharge standards of STPs were earlier proposed for reuse of treated wastewater of STPs for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression by the technical experts/scientists in three meetings held on 9.2.2023, 25.4.2023 and 24.5.2023. The standards proposed for utilization of treated sewage of STPs for various usages were published in the leading Newspapers on 13.6.2023 for inviting objections/suggestions from all the stakeholder departments within 15 days. The comments/suggestions received from 04 departments namely MICADA, Development and Panchayat Department, Public Health Engineering Department and Aravali Power Company Ltd., Jhajjar were considered in the last meeting held on 6.7.2023, wherein, the following decisions were taken.

i. 'pH' value for discharge of treated sewage for various usages may be prescribed as 6.5-8.0.

ii. The value of 'Total Alkalinity' as calcium carbonate (parameter at serial no.23) may be prescribed as 120-180 mg/l for all usages as mentioned above.

iii. The concentration of 'Total Hardness' (parameter at serial no. 24) may be prescribed as 75-150 mg/l for all usages as mentioned above.

iv. Public Health Engineering Department (PHED) shall analyze the concentration of all 20 heavy metals (Sr.no. 32 to 51) in atleast 25% of STPs and the analysis reports may be submitted to the HSPCB within 01 month.

v. PHED shall also analyze the concentration of residual Chlorine in the treated sewage after using Chlorine dosing as 5 mg/l, 4 mg/l, 3 mg/l and 2 mg/l and the analysis reports may be submitted to the HSPCB within 01 month.

03/38

vi. The Research study analysis on the characteristics of grey water generated in rural areas and treatment efficiency of low cost treatment technology available for treatment of such wastewater may be submitted by Dr. K.C Bangar within 07 days so that appropriate decision regarding applicability of discharge standards on such wastewater may be taken.

vii. It was observed that the desired quality of treated wastewater with stringent values of parameters as proposed by Indira Gandhi Super Thermal Plant, Jharli, Jhajjar is difficult to be achieved by the present STPs. Therefore, it was decided that the APCPL be advised to treat the water made available to them to achieve the desired quality.

It was further informed that the Haryana Pond Wastewater Management Authority (HWWMA) vide its letter no. HPA/2023/ADMIN/0041/65478 dated 7.7.2023 and subsequent letter no. 65504 dated 10.7.2023 has now submitted proposed standards for discharge of treated grey water through pond rejuvenation, with natural treatment system. These proposed standards are mentioned as per **Table-1** given below.

Table-1: Proposed standards by Haryana Pond Wastewater Management Authority (HWWMA) for discharge of treated grey water through pond rejuvenation with natural treatment system

Sr. no.	Parameters	Proposed standards
1	pH	6.5-8.5
2	BOD (mg/l)	<20
3	COD (mg/l)	<100
4	Sodium (mg/l)	75
5	TSS (mg/l)	<20
6	TDS (mg/l)	<750
7	Chloride (mg/l)	100
8	Sodium Adsorption Ratio (SAR) (meq/l)	<10
9	Residual Sodium Carbonate (RSC) (meq/l)	<1.5
10	Electrical Conductivity (EC) (µmhos/cm)	<750
11	Total Nitrogen (mg/l)	20
12	Ammonical Nitrogen (mg/l)	5

13	Nitrate Nitrogen (mg/l)	10
14	Total Phosphorous (mg/l)	5
15	Phosphate P (Dissolved) (mg/l)	1
16	S (Sulphide) (mg/l)	1.0
17	Total Hardness (mg/l)	200
18	Faecal Coliform (MPN/100 ml)	<250
19	E.Coli (MPN/100 ml)	ND
20	Ionic detergents (MBAS) (mg/l)	0.2
21	Residual Chlorine (mg/l)	0.2

- Grey water treated through natural treatment having BOD upto 40 mg/l and COD upto 200 mg/l should be directly used for irrigation and should not be discharged through lakes, canals and rivers.
- The standard mentioned above are recommended only for treated grey water.
- Proposed standards by HSPCB from sr.no. 32 to 51 should be made applicable for mixed sewage and industrial effluent.

Thereafter, Dr. Babu Ram, Technical Expert, HSPCB gave a detailed presentation on the standards proposed by the HPWWMA for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetland etc.) for irrigation and other non-potable usages.

After detailed deliberation on each proposed parameter as mentioned in **Table-1** given above, it was decided that the concentration of proposed parameters may be fixed as mentioned in Table-2 given below.

Table-2: Standards for discharge of treated grey water through pond rejuvenation with natural treatment system (waste stabilization pond, constructed wet land etc.)

Sr. no.	Parameters	Proposed standards
1	pH	6.5-8.5

03/40

2	BOD (mg/l)	<20
3	COD (mg/l)	<100
4	Sodium (mg/l)	75
5	TSS (mg/l)	<20
6	TDS (mg/l)	<750
7	Chloride (mg/l)	100
8	Sodium Adsorption Ratio (SAR) (meq/l)	<10
9	Residual Sodium Carbonate (RSC) (meq/l)	<2.5
10	Electrical Conductivity (EC) (µmhos/cm)	<2000
11	Total Nitrogen (mg/l)	20
12	Ammonical Nitrogen (mg/l)	5
13	Nitrate Nitrogen (mg/l)	10
14	Total Phosphorous (mg/l)	5
15	Phosphate P (Dissolved) (mg/l)	1
16	S (Sulphide) (mg/l)	1.0
17	Total Hardness (mg/l)	<200
18	Faecal Coliform (MPN/100 ml)	<100
19	E.Coli (MPN/100 ml)	ND
20	Ionic detergents (MBAS) (mg/l)	0.2
21	Residual Chlorine (mg/l)	0.2

Besides, Technical Experts/ Scientists considered the left out 10 parameters (FOG, HCO_3, Sulphate, Fluoride, Phenolic compounds, Magnesium, Calcium, Total Alkalinity, Intestinal Helminth and Boron) and heavy metals (sr. no. 32 to 51) from the proposed discharge norms prescribed by HSPCB (published in the newspaper on 13.6.2023) by the HPWWMA. Detailed discussion on these left out parameters was held and it was decided that the parameters, namely, FOG, HCO_3, Sulphate, Phenolic compunds, Magnesium, Calcium, Total Alkalinity, Intestinal Helminth may not be considered as these parameters have direct/indirect relation with the parameters as mentioned in the **Table-2** given above and only parameters namely Fluoride, Boron and heavy metals (Sr. no. 32 to 51) may be considered and their values may be fixed as mentioned in **Table-3** given below.

Table-3: Concentration of parameters left out by HPWWMA

Sr. No.	Parameter	Concentration (mg/l)
1	Fluoride	1.0
2	Boron	1.0
3	Sulphate	<200
4	Heavy metals	The concentration of heavy metals (Sr. no. 32 to 51) shall be made applicable only in those treatment systems, where mixed sewage and industrial wastewater are found entering into the treatment system.

After considering all the cumulative parameters and their values as mentioned in **Table-2 and Table-3** above, it was decided that the standards for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetlands etc.) for irrigation and other non potable usages may be fixed as mentioned in **Table-4** given below.

Table-4: Standards for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetlands etc.) for irrigation and other non potable usages

Sr. no.	Parameters	Proposed standards
1	pH	6.5-8.5
2	BOD (mg/l)	<20
3	COD (mg/l)	<100
4	Sodium (mg/l)	75
5	TSS (mg/l)	<20
6	TDS (mg/l)	<750
7	Chloride (mg/l)	100
8	Sodium Adsorption Ratio (SAR) (meq/l)	<10
9	Residual Sodium Carbonate (RSC) (meq/l)	<2.5
10	Electrical Conductivity (EC) (µmhos/cm)	<2000
11	Total Nitrogen (mg/l)	20
12	Ammonical Nitrogen (mg/l)	5
13	Nitrate Nitrogen (mg/l)	10
14	Total Phosphorous (mg/l)	5
15	Phosphate P (Dissolved) (mg/l)	1
16	S (Sulphide) (mg/l)	1.0

03/42

17	Total Hardness (mg/l)	<200
18	Faecal Coliform (MPN/100 ml)	<100
19	E.Coli (MPN/100 ml)	ND
20	Ionic detergents (MBAS) (mg/l)	0.2
21	Residual Chlorine (mg/l)	0.2
22	Fluoride (mg/l)	1.0
23	Boron (mg/l)	1.0
24	Sulphate (mg/l)	<200
25	Heavy metals	The concentration of heavy metals (Sr. no. 32 to 51) shall be made applicable only in those treatment systems, where mixed sewage and industrial wastewater are found entering into the treatment system.

The meeting ended with vote of thanks to the chair and all the participants.

Annexure-1

List of participants of the meeting held under the Chairmanship of Sh. P. Raghavendra Rao, Chairman, HSPCB on 18.7.2023 at 11:00 AM in the Conference Room, C-11, Panchkula to finalize the standards proposed for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetland etc.) for irrigation and other non-potable usages.

Sr. No.	Name and Designation
1.	Sh. P. Raghavendra Rao, Chairman, HSPCB.....in the chair.
2.	Sh. Prabhakar Kr. Verma, Executive Vice Chairperson, Haryana Pond Authority, Panchkula
3.	Dr. Babu Ram, Technical Expert, HSPCB, Panchkula
4.	Sh. JP Singh, SEE, HSPCB, Panchkula
5.	Sh. Ramesh Kumar, DSCO, Agriculture Department, Panchkula
6.	Sh. Narender Kumar, TA (ST)
7.	Dr. Rakesh Kumar, Agriculture University, Hisar
8.	Dr. Ravinder Kaur, Indian Agriculture Research Institute, Delhi
9.	Sh. AK Sharda, Scientist, Haryana Pond Authority, Panchkula

03/44

Annexure-4

HARYANA STATE POLLUTION CONTROL BOARD
C-11, SECTOR-6, PANCHKULA
Website – www.hspcb.org.in E-Mail: hspcbscientific@gmail.com
Ph: 0172-2577870-873

Endst. No. HSPCB/SSC/2023/8191 - 8197 Dated:- 06.09.2023

To

1. Director, Development & Panchayat Department, Govt. of Haryana
2. Director, Urban Local Bodies Department, Govt. of Haryana, Panchkula
3. Director, Agriculture Department, Govt. of Haryana, Panchkula
4. Director, Horticulture Department, Govt. of Haryana, Panchkula
5. Engineer-in- Chief, PHED, Govt. of Haryana
6. Engineer-in- Chief, Irrigation Department, Govt. of Haryana
7. Dean, College of Agriculture, HAU, Hisar

Sub:- Minutes of the meeting held under the Chairmanship of Sh. P. Raghavendra Rao, Chairman, HSPCB on 5.9.2023 in the Conference Room, C-11, Sector 6, Panchkula to finalize the standards proposed for discharge of treated wastewater of STPs for various usages(irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression) and standards for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetland etc.) for irrigation and other non-potable usages.

Kindly refer to the subject noted above

In this connection, I have been directed to enclose herewith the proceedings of the meeting held under the Chairmanship of Sh. P. Raghavendra Rao, Chairman in the HSPCB, Conference Room, C-11, Sec-06, Panchkula at 2.00 pM on 5.09.2023 regarding finalize the standards proposed for discharge of treated wastewater of STPs for various usages(irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression) and standards for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetland etc.) for irrigation and other non-potable usages for your information and necessary action please.

DA/As above

Sr. Env. Engineer (HQ)
For Chairman

Endst. No. HSPCB/SSC/2023/8198 - 8200 Dated:- 06.09.2023

A copy of the above is forwarded to the following for information, please :-

1. Chief Executive Officer, HWRA.
2. Dr. KC Bangar, Advisor, Enviroment and Climate Change Departmet, Haryana
3. Dr. Ravinder Kaur, Indian Agriculture Research Institute, Delhi

Sr. Env. Engineer (HQ)
For Chairman

03/45

Minutes of the meeting held under the Chairmanship of Sh. P. Raghavendra Rao, Chairman, HSPCB on 5.9.2023 in the Conference Room, C-11, Sector 6, Panchkula to finalize the standards proposed for discharge of treated wastewater of STPs for various usages(irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression) and standards for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetland etc.) for irrigation and other non-potable usages.

List of the participants is attached at Annexure-1.

At the outset, the Chairman, HSPCB welcomed all the technical experts/scientists of various organizations, institutions and officers of the various departments. It was apprised that treated sewage discharge standards of STPs were earlier proposed for reuse of treated wastewater of STPs for irrigation, industrial processes, construction activities,other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression by the technical experts/scientists in three meetings held on 9.2.2023, 25.4.2023 and 24.5.2023. The standards proposed for utilization of treated sewage of STPs for various usages were published in the leading Newspapers on 13.6.2023 for inviting objections/suggestions from all the stakeholder departments within 15 days. The comments/suggestions received from 04 departments namely MICADA, Development and Panchayat Department, Public Health Engineering Department and Aravali Power Company Ltd., Jhajjar were considered in the meeting held on 6.7.2023, wherein, the following decisions were taken.

i. 'pH' value for discharge of treated sewage for various usages may be prescribed as 6.5-8.0.
ii. The value of 'Total Alkalinity' as calcium carbonate (parameter at serial no.23) may be prescribed as 120-180 mg/l for all usages as mentioned above.
iii. The concentration of 'Total Hardness' (parameter at serial no. 24) may be prescribed as 75-150 mg/l for all usages as mentioned above.
iv. Public Health Engineering Department (PHED) shall analyze the concentration of all 20 heavy metals (Sr.no. 32 to 51) in atleast 25% of STPs and the analysis reports may be submitted to the HSPCB within 01 month.
v. PHED shall also analyze the concentration of residual Chlorine in the treated sewage after using chlorine dosing as 5 mg/l, 4 mg/l, 3 mg/l and 2 mg/l and the analysis reports may be submitted to the HSPCB within 01 month.
vi. The Research study analysis on the characteristics of grey water generated in rural areas and treatment efficiency of low cost treatment technology available for treatment of such wastewater may be submitted by Dr. K.C Bangar within 07 days so that appropriate decision regarding applicability of discharge standards on such wastewater may be taken.
vii. It was observed that the desired quality of treated wastewater with stringent values of parameters as proposed by Indira Gandhi Super Thermal Plant, Jharli, Jhajjar is difficult to be achieved by the present STPs. Therefore, it was decided that the APCPL be advised to treat the water made available to them to achieve the desired quality.

It was further apprised that the Haryana Pond and Wastewater Management Authority (HPWWMA) vide its letter no. HPA/2023/ADMIN/0041/65478 dated 7.7.2023 and subsequent letter no. 65504 dated 10.7.2023 submitted proposed standards for discharge of treated grey water through pond rejuvenation with natural treatment system. The proposed standards by the HPWWMA were considered by the Technical Experts/Scientists of various

03/46

organizations/institutions and officers of the stakeholder departments in the meeting held on 18.7.2023 and the following standards for discharge of treated grey water for irrigation and other non-potable usages were proposed, which are mentioned in **Table-1** given below.

Table-1: Proposed discharge standards of treated grey water for irrigation and other non potable usage

Sr. no.	Parameters	Prescribed standards
1	pH	6.5-8.5
2	BOD (mg/l)	<20
3	COD (mg/l)	<100
4	Sodium (mg/l)	75
5	TSS (mg/l)	<20
6	TDS (mg/l)	<750
7	Chloride (mg/l)	100
8	Sodium Adsorption Ratio (SAR) (meq/l)	<10
9	Residual Sodium Carbonate (RSC) (meq/l)	<1.5
10	Electrical Conductivity (EC) (µmhos/cm)	<750
11	Total Nitrogen (mg/l)	20
12	Ammonical Nitrogen (mg/l)	5
13	Nitrate Nitrogen (mg/l)	10
14	Total Phosphorous (mg/l)	5
15	Phosphate P (Dissolved) (mg/l)	1
16	S (Sulphide) (mg/l)	1.0
17	Total Hardness (mg/l)	200
18	Faecal Coliform (MPN/100 ml)	<250
19	E.Coli (MPN/100 ml)	ND
20	Ionic detergents (MBAS) (mg/l)	0.2
21	Residual Chlorine (mg/l)	0.2

22	Fluoride (mg/l)	1.0
23	Boron (mg/l)	1.0
24	Sulphate (mg/l)	<200
25	Heavy metals	The concentration of heavy metals (Sr. no. 32 to 51) shall be made applicable only in those treatment systems, where mixed sewage and industrial wastewater are found entering into the treatment system.

The proposed standards for discharge of treated grey water through natural treatment system, as mentioned in **Table-1** given above, were published in the leading newspaper on 5.8.2023, with last date as 20.8.2023. No suggestions/objections of stakeholder departments were received/raised except verbal suggestion by the Chief Engineer, Department of Irrigation to keep same value of TDS parameter (1500 mg/l instead of 750 mg/l) for discharge of treated grey water as well as discharge of treated sewage of STPs for irrigation.

Dr. Babu Ram, Technical Expert, HSPCB gave detailed presentation on finalization of standards for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetland, etc.) for irrigation and other non-potable usages and standards for discharge of treated wastewater of STPs for various usages (irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression).

Afterdetailed deliberations on various parameters as mentioned in the treated grey water discharge standards for irrigation and other non-potable usage as earlier proposed in the meeting held on 18.7.2023, it was decided as under:

i. The value of TDS parameter may be prescribed as <1500 mg/l in place of earlier proposed value as<750 mg/l for use of treated grey water for irrigation.
ii. Sulphide parameter mentioned at sr. no. 16 may be deleted as it is a part of sulphate parameter.
iii. Residual Chlorine parameter mentioned at sr.no. 21 may be deleted as chlorine is not used during the treatment of grey water.
iv. In case of heavy metal as mentioned at sr.no. 26, the word already written in the minutes of the meeting held on 18.7.2023 as " ***The concentration of heavy metals (Sr. no. 32 to 51) shall be made applicable only in those treatment systems, where mixed sewage and industrial wastewater are found entering into the treatment system***" may be replaced with the words" ***the treated grey water of various ponds and other water bodies may be analyzed for heavy metal once in a year to check their concentration ". In case the concentration of heavy metals is found more than the permissible limits in the treated grey water, appropriate treatment may be imparted to the grey water to bring the concentration of various heavy metals within the prescribed limits.***

After detailed deliberation on the values of the various parameters as mentioned above, the standards for discharge of treated grey water for irrigation and other non-potable usages are finalized and the same are mentioned in **Table-2** given below.

03/48

Table-2: Final discharge standards of treated grey water for irrigation and other non potable usage

Sr. no.	Parameters	Prescribedstandards
1	pH	6.5-8.5
2	BOD (mg/l)	<20
3	COD (mg/l)	<100
4	Sodium (mg/l)	75
5	TSS (mg/l)	<20
6	TDS (mg/l)	• <750for non potable usages • <1500 for irrigation
7	Chloride (mg/l)	100
8	Sodium Adsorption Ratio (SAR) (meq/l)	<10
9	Residual Sodium Carbonate (RSC) (meq/l)	<1.5
10	Electrical Conductivity (EC) (µmhos/cm)	<750
11	Total Nitrogen (mg/l)	20
12	Ammonical Nitrogen (mg/l)	5
13	Nitrate Nitrogen (mg/l)	10
14	Total Phosphorous (mg/l)	5
15	Phosphate P (Dissolved) (mg/l)	1
16	Total Hardness (mg/l)	200
17	Faecal Coliform (MPN/100 ml)	<250
18	E.Coli (MPN/100 ml)	ND
19	Ionic detergents (MBAS) (mg/l)	0.2
20	Fluoride (mg/l)	1.0
21	Boron (mg/l)	1.0
22	Sulphate (mg/l)	<200

23	Heavy metals	The treated grey water of various ponds and other water bodies may be analyzed for heavy metal once in a year to check their concentration. In case the concentration of heavy metals is found more than the permissible limits in the treated grey water, appropriate treatment may be imparted to the grey water to bring the concentration of various heavy metals within the prescribed limits.

Regarding finalization of discharge standards of STPs for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression, the Chief Engineer, Public Health Engineering Department informed that out of total 120 STPs, treated effluent samples of 32 STPs have been analyzed for heavy metals, out of which analysis results of effluent samples of 16 STPs have been received. Out of the 16 STPs, 08 STPs, 05 STPs and 06 STPs have been found failed in parameters namely copper, manganese and chromium, respectively.

Detailed deliberations on all the 51 parameters, as mentioned in the minutes of the meeting held on 24.5.2023, were made and it was decided as under:

i. **The prescribed discharge standards** may be replaced by the words **Maximum permissible discharge limits** for use of treated wastewater of STPs for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds and other water storage areas and natural or artificial depression.
ii. The value of copper for irrigation; industrial processes, construction activities, other non-potable usages; groundwater recharge through lakes, ponds, water storage area, natural or artificial depression may be fixed as 1.5 mg/l, 1.5 mg/l and 0.2 mg/l, respectively.
iii. The value of manganese for irrigation; industrial processes, construction activities, other non-potable usages; groundwater recharge through lakes, ponds, water storage area, natural or artificial depression may be fixed as 0.5 mg/l, 0.5 mg/l and 0.3 mg/l, respectively.
iv. The value of Chromium for irrigation; industrial processes, construction activities, other non-potable usages; groundwater recharge through lakes, ponds, water storage area, natural or artificial depression may be fixed as 0.2 mg/l, 0.2 mg/l and 0.1 mg/l, respectively.

After detailed deliberations on the values of the various parameters as mentioned above, the maximum permissible limits for discharge of treated wastewater of STPs for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depressionwere finalized and the same are mentioned as in **Table-3** given below.

Table-3:Maximum permissible limits for discharge of treated wastewater of STPs for irrigation, Industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds and other water storage areas and natural or artificial depression.

03/50

S. No.	Parameters	Current HSPCB discharge standards for STP	Maximum permissible limits for discharge of treated wastewater of STPs for		
			Irrigation	Industrial processes, construction activities and other non-potable usage	Groundwater recharge through lakes, ponds, water storage area, natural or artificial depression
1	pH	5.5-9.0	6.5-8.0	6.5-8.0	6.5-8.0
2	BOD (mg/l)	10	10*	10	10
3	COD (mg/l)	50	50*	50	50
4	FOG (mg/l)	-	Nil	Nil	Nil
5	TSS (mg/l)	20	20	10	10
6	TDS (mg/l)	-	1500	750	500
7	Chloride (mg/l)	-	100	100	100
8	HCO_3 (mg/l)	-	300	300	300
9	Sulphate (mg/l)	-	200	200	200
10	Fluoride (mg/l)	-	1	1	1
11	Total Nitrogen (mg/l)	-	20	20	20
12	Ammonical Nitrogen (mg/l)	-	5	5	5
13	Nitrate Nitrogen (mg/l)	-	10	10	10
14	Total Phosphorous (mg/l)	-	5	5	5
15	Phosphate P (Dissolved) (mg/l)	-	1	1	1
16	Total S (Sulphide) (mg/l)	-	0.01	0.01	0.01
17	Phenolic compound (mg/l)	-	0.002	0.002	0.002
18	Sodium (mg/l)	-	100	100	75
19	Magnesium (mg/l)	-	60	60	30
20	Calcium (mg/l)	-	100	100	75

03/51

21	Ionic detergents (MBAS) (mg/l)	-	<1	<1	0.2
22	Residual Chlorine (mg/l)	-	0.2	0.2	0.2
23	Total Alkalinity as $CaCo_3$ (mg/l)	-	200	200	200
24	Total Hardness (mg/l)	-	200	200	200
25	Faecal Coliform (MPN/100 ml)	<100	100	100	100
26	E.Coli (MPN/100 ml)	-	ND	ND	ND
27	Intestinal helminth eggs (MPN/100ml)	-	ND	ND	ND
28	Sodium Adsorption Ratio (SAR) (meq/l)	-	10	10	3.0
29	Residual Sodium Carbonate (RSC) (meq/l)	-	2.5	2.5	1.5
30	Electrical Conductivity (EC) (µmhos/cm)	-	2000	1200	750
31	Boron (mg/l)	-	1.0	1.0	0.5
32	Cu (Copper) (mg/l)	-	1.5	1.5	0.2
33	Fe (Iron) (mg/l)	-	5.0	5.0	0.3
34	Mn (Manganese) (mg/l)	-	0.5	0.5	0.3
35	Cr (Chromium) (mg/l)	-	0.2	0.2	0.1
36	Ni (Nickel) (mg/l)	-	0.20	0.20	0.02
37	Pb (Lead) (mg/l)	-	0.01	0.01	0.01
38	As (Arsenic) (mg/l)	-	0.01	0.01	0.01
39	Cd (Cadmium) (mg/l)	-	0.01	0.01	0.003
40	Co (Cobalt) (mg/l)	-	0.05	0.05	0.05
41	Li (Lithium) (mg/l)	-	2.5	2.5	2.5
42	Zn (Zinc) (mg/l)	-	2.0	2.0	2.0
43	Hg (Mercury) (mg/l)	-	0.001	0.001	0.001
44	Al (Aluminium) (mg/l)	-	1.0	1.0	0.03
45	Be (Beryllium) (mg/l)	-	0.1	0.1	0.1
46	CN (Cyanide) (mg/l)	-	ND	ND	ND

03/52

47	Mo (Molybdenum) (mg/l)	-	0.01	0.01	0.01
48	Se (Selenium) (mg/l)	-	0.02	0.02	0.01
49	V (Vanadium) (mg/l)	-	0.1	0.1	0.1
50	Ba (Barium) (mg/l)	-	1.0	1.0	0.7
51	Ag (Silver) (mg/l)	-	0.1	0.1	0.1

Note:-

i. If the operating agency uses the treated wastewater of STPs entirely for irrigation purposes then BOD of 30 mg/l and COD of 150 mg/l will be permissible provided the treated wastewater is not discharged into drain/nallah/river/any other surface water, under any circumstances.

ii. The maximum permissible limits for discharge of treated wastewater of STPs for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression shall be valid initially for 03 years, well before which detailed study with reference to the effect of heavy metals and other parameters on the quality of soil, crop, horticulture, human and animal species shall be carried out jointly by the Haryana Agriculture University (HAU), Hisar and Indian Agricultural Research Institute (IARI), New Delhi. The expenditure to be incurred on the said study shall be borne by the Haryana State Pollution Control Board, for which prior sanction of the project shall be obtained by the said organizations from the Board. For this purpose, HAU will be the coordinating agency.

iii. No indiscriminate disposal of treated or untreated sewage/effluent shall be allowed.

iv. During groundwater recharging with treated wastewater, recharging shall be allowed through ponds, lakes, water storage area and natural or artificial depression but no direct injection of treated wastewater into the underground strata will bepermitted.

v. HSPCB shall carryout close monitoring of usages of treated wastewater of STPs and shall ensure that treated sewage of STPs is only used for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression and no direct injection of treated wastewater in underground strata will be permitted.

vi. With the adoption of the above standards for utilization of treated sewage for irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression, the earlier standards prescribed by HSPCB vide its order dated 2.7.2020 shall be superseded.

The meeting ended with vote of thanks.

Annexure-I

List of participants for the meeting held under the Chairmanship of Sh. P. Raghavendra Rao, Chairman, HSPCB on 5.9.2023 at 2:00 PM in the Conference Room, C-11, Sector 6, Panchkula to finalize the standards proposed for discharge of treated wastewater of STPs for various usages (irrigation, industrial processes, construction activities, other non-potable usages and groundwater recharge through lakes, ponds, water storage area, natural or artificial depression) and standards for discharge of treated grey water through natural treatment system (waste stabilization pond, constructed wetland etc.) for irrigation and other non-potable usages.

Sr. No.	Name and Designation
1.	Sh. P. Raghavendra Rao, Chairman, HSPCB.....in the chair.
2.	Dr. Babu Ram, Technical Expert, HSPCB, Panchkula
3.	Proof. CR Babu, IIT, Delhi through VC
4.	Dr. Ravinder Kaur, Indian Agriculture Research Institute, Delhi through VC
5.	Sh. Shailender Singh, Chief Engineer, PHED, Panchkula
6.	Sh. JP Singh, SEE, HSPCB, Panchkula
7.	Sh. Dinesh Kumar Saini, SEE, PHED, Panchkula
8.	Sh. Ranbir Singh, XEN, ULBD, Panchkula
9.	Sh. Narender Kumar, ADO, Agriculture Department, Panchkula
10.	Sh. SK Yadav, MICADA, Panchkula
11.	Sh. Nitin Atray, XEN, I&WR, Irrigation Department, Panchkula
12.	Dr. Vivek Bhanwala, Horticulture Department, Panchkula
13.	Sh. Yashpal Singh, XEN, I&WRD, Irrigation Department, Panchkula

AGENDA ITEM NO. 197.04

ADOPTION OF POLICY BY THE BOARD FOR GRANT OF SHORT TERM PROVISIONAL CONSENT TO OPERATE UNDER WATER ACT, 1974 FOR 06 MONTHS TO THE RESIDENTIAL PROJECTS, TO WHOM CONSENT TO OPERATE IS REFUSED BY THE BOARD UNDER WATER ACT, 1974 ON THE GROUND OF FAILURE OF EFFLUENT SAMPLES OF STP OF THE PROJECT OR ANY OTHER REASONS.

Agenda Item No. 197.04 04/01

Adoption of policy by the Board for grant of short term provisional consent to operate under Water Act, 1974 for 06 months to the residential projects, to whom consent to operate is refused by the Board under Water Act, 1974 on the ground of failure of effluent samples of STP of the project or any other reasons.

M/s Aerens Jai Realty Pvt. Ltd., Yamunanagar is a residential project having an area of 54 acres with 250 houses. Haryana State Pollution Control Board has refused consent to operate to the project under the provisions of the Water Act, 1974 on the ground of failure of effluent sample of STP of the project. Accordingly, the project owner has filed an appeal before the Appellate Authority, against the refusal order made by the Board under the provisions of the said Act. The said appeal was considered by the Appellate Authority on 24.8.2023 (copy enclosed as per **Annexure-1**), wherein the Appellate Authority felt that in the absence of CTO, how sewerage, hazardous waste etc generated in the residential project shall be managed. Accordingly, the case has been referred to the Chairman, HSPCB to assist in finding a solution to such a problem relating to residential/commercial projects in various cities of Haryana. It was further desired that Chairman, HSPCB will hold series of meetings with the concerned officers/SEEs and suggest point of view of HSPCB and solution in such matters. The matter was deliberated and after considering various issues in the matter, a committee of the following officers was constituted to study all relevant aspects and it was directed to submit their recommendations at the earliest.

Sr. No.	Name and designation in the Board	Designation in the committee
1	Dr. Babu Ram, Technical Expert	Chairman
2	Sh. Jatinder Pal, SEE	Member
3	Sh. Sanjeev Kumar, SEE	Member
4	Sh. Paramjeet Singh Surjewala, DDA	Member

The committee has considered the facts mentioned in the instant case and some other cases like M/s Mailbo Federation, Gurugram, M/s Doodh Moti Sagar, Rewari and M/s TDI, Sonipat. The committee has also gone through applicability of environment laws and their compliance to be made by the residential projects and has prepared its report, which is annexed as per **Annexure-2**.

It has been observed by the committee that as per EIA notification dated 14.9.2006, the building construction projects, covered under category B (having an area > 20000 sq.m and <150000 sq.m) are required to obtain environment clearance as required under said notification from the SEIAA and

to apply for consent to establish and consent to operate to the State Pollution Control Board under the provisions of section 25/26 of Water Act, 1974. The building construction projects such as residential complex, apartments, township, town houses, condominiums, educational institutions hostels, multi storey buildings, commercial buildings such as office complexes, shopping complexes, multiplexes, dormitories or any other project discharging only domestic wastewater ≥ 10 KLD are required to install individual sewage treatment plants before discharge of their domestic effluent into sewerage system or any other mode of disposal.

The performance of sewage treatment plants of residential building complexes are monitored by the Regional Offices of the Haryana State Pollution Control Board from time to time. However, during monitoring the performance of STPs, sometime the effluent samples of the treated sewage discharged by these residential projects do not meet with the standards prescribed by the Board, resulting into violation of provisions of the Water Act, 1974 which warrants legal action under the provisions of the section 43/44/47 of Water Act, 1974 along with imposition of environment compensation as directed by the Hon'ble National Green Tribunal and also consent to operate under the provision of the Water Act, 1974 is refused/not granted by the Board to the residential project. However, untreated wastewater of the residential projects continues to be discharged and damage is caused to the environment. Due to habitation of the project, in which the residents are residing, electrical supply and water supply is not disconnected to stop the discharge of untreated sewage for any mode of disposal.

Presently, the Board after refusal of consent/ not granting consent to operate to such project proponents under provisions of the Water Act, 1974, launches prosecution under the provision of section 43/44/47 of the Water Act, 1974 against the project proponent and other concerned persons but no other remedial steps are taken to stop the damage caused to the environment due to discharge of untreated wastewater of the project. The damage caused to the environment can, in fact, be controlled only by operating the sewage treatment plant by the project proponent and granting consent to operate on provisional basis and monitoring the sewage treatment plant by the HSPCB within the period of provisional consent to operate.

Therefore, the Board may consider the cases of such residential projects such as apartments, townships, town houses, condominiums, student hostels of educational institutions, multi storey residential buildings, commercial buildings (shopping complex, multiplex, dormitories) or any other project discharging only domestic wastewater ≥ 10 KLD, where consent to operate is refused by the Board under the provisions of Water Act, 1974, to grant

provisional consent to operate for short period of 06 months for the purpose of inspection of the unit by the officers of the Board, continue to operate its primary effluent treatment facilities of sewage treatment plant (STP) to reduce pollution load in the environment and upgrading the other components of STP installed by the project proponents/Resident Welfare Associations (RWAs). Simultaneously, the Board may launch prosecution under section 43/44/47 of said Act against the project proponent/RWA for violation of provisions of the Water Act, 1974 and impose environment compensation as per the formula devised by CPCB and approved by Hon'ble National Green Tribunal due to its failure to achieve prescribed standards. For granting short term provisional consent to operate for 06 months, under section 25/26 of the Water Act, 1974, the committee recommended the following criteria, which may be followed by the Board.

i. The Board may launch prosecution under the provisions of section 43/44/47 of said Act against the project proponent/Resident Welfare Association for violation of provisions of the Water Act, 1974, if any and impose environment compensation as per the formula devised by the CPCB and approved by Hon'ble National Green Tribunal due to failure to achieve the prescribed standards.
ii. The Project proponent/Resident Welfare Association shall continue to operate its primary effluent treatment units to reduce pollution load in the disposal system and environment, during the period.
iii. The project proponent /Resident Welfare Association shall upgrade/remove deficiencies in various components of sewage treatment plant and other activities within 04 months and report may be submitted to the Board.
iv. The Board shall monitor the performance of STP of the project and check its all compliances within 01 month.
v. In case the performance of STP of the project is found adequate and analysis results of the treated sewage are within the norms, the Board may extend its further consent to operate for 01 year and further check the performance of sewage treatment plant on quarterly basis.
vi. During the first 06 months, in case the project proponent/Resident Welfare Association/Institution fails to achieve the prescribed standards and the performance of STP is found inadequate and fails to comply with other environment compliances, additional prosecution under the provision of Water Act, 1974 shall be launched along with imposition of additional amount of environmental compensation on the project proponent/residential complex.
vii. In case the performance of STP of the project is found adequate for 01 year and all the treated wastewater samples of sewage treatment plant collected in a year are found within the norms, the Board may consider to grant consent to operate under the provision of Water Act, 1974 on yearly basis or as per the policy of HSPCB.
viii. The projects established/setup without environment clearance as required under EIA notification dated 14.9.2006 may not be allowed to make any further expansion in the existing project and also may not be given any further license /approval by the competent authority to construct any new

such project/activity in the State and he may be delicenced from the said activities.

ix. In order to protect the environment, the installation and operation of sewage treatment plant is necessary. However, keeping in view present circumstances of the cases as mentioned in report of the committee **(Annexure-2)**, there is a possibility that the project proponent may run away from the site without providing such facilities and Resident Welfare Association (RWA) also doesn't take the responsibility for installation and operation of sewage treatment plant and management of other waste, in that case, the concerned department, under whose jurisdiction the project falls or as decided by the State Government, may take over the project and ensure compliances as required under the provisions of environment laws and the expenditure to be incurred for providing such facilities may be recovered from the RWA/Residents/Occupiers of the project.

The matter is placed before the Board for consideration and approval of the recommendations of the committee as above.

04/05

Annexure-1

A Committee is hereby constituted under the chairmanship of Dr Babu Ram, TE with Sh JP Singh, SEE; Sh Sanjeev Budhiraja, SEE and Sh. P.S. Gurjeewala, DOA, as members to study all relevant aspects and submit their recommendation at the earliest.

P. Ramachandra 28/8/2023

22 of 2023 M/s Acrens Jai Realty Pvt. Ltd. Vs. HSPCB

M/s by Shri

TE

Present: Sh.Himanshu Singh, Advocate counsel for appellant.
Shri Ramesh Chahal, Advocate for the respondent alongwith Sh.Abhijeet Singh Tanwar, AEE, HSPCB, Yamuna Nagar Region.

This is a case where CTO has been refused for residential project. It has been submitted that it is a 54 Acres area where 250 houses have been constructed and families are residing there.

A question was put to the learned counsel for respondent that in the absence of CTO how sewerage, hazardous waste etc. generated in this residential project is being managed but he has no answer to it. This point was also dealt in detail vide order dated 20.07.2023 in Case no.92/2021 titled Doodhmotisagar Bhawan Mehsana DCMPUL Vs. HSPCB & Others.

It appears that Chairman, HSPCB will be in a position to assist to find a solution to such problems relating to residential/commercial projects in various cities of Haryana. Learned counsel for the respondent submits that before calling the Chairman, HSPCB an opportunity be given to have discussion on this topic. Request allowed.

The Chairman, HSPCB will hold series of meeting with the concerned officers/SEEs and suggest point of view of HSPCB and solutions in such matters.

In the meanwhile, it is also ordered that HSPCB will take necessary steps immediately within 7 days to ensure proper running of STP/management of hazardous waste etc. in the project of appellant and may pass any order, as required.

List on 07.09.2023.

On that date, learned counsel for respondent will place on file the point of view of HSPCB to deal with such matters and also regarding points raised in case no.92/2021 titled Doodhmotisagar Bhawan Mehsana DCMPUL Vs. HSPCB & Others. Copy of this order be given to learned counsel for appellant.

Sd/-
Appellate Authority

Dated 24.08.2023

04/06

Annexure-2

Adoption of policy by the Board for grant of short term provisional consent to operate under Water Act, 1974 for 06 months to the residential projects, to whom consent to operate is refused by the Board under Water Act, 1974 on the ground of failure of effluent samples of STP of the project or any other reasons

1.0 Background

M/s Aerens Jai Realty Pvt. Ltd., Yamunanagar is a residential project having an area of 54 acres with 250 houses. Haryana State Pollution Control Board has refused consent to operate under the provisions of the Water Act, 1974 on the ground of failure of effluent sample of STP of the project. Accordingly, the project owner has filed an appeal before the Appellate Authority, against the refusal order made by the Board under the provisions of the said Act. The said appeal was considered by the Appellate Authority on 24.8.2023 (copy enclosed as per **Annexure-1**), wherein the Appellate Authority felt that in the absence of CTO, how sewerage, hazardous waste etc generated in the residential project shall be managed. Accordingly, the case has been referred to Chairman, HSPCB to assist in finding a solution to such a problem relating to residential/commercial projects in various cities of Haryana. It was further desired that Chairman, HSPCB will hold series of meeting with the concerned officers/SEEs and suggest point of view of HSPCB and solution in such matters. The matter was deliberated by the Chairman of the Board with its officers on 28.8.2023 and after considering various issues in the matter, a committee of the following officers was constituted to study all relevant aspects and it was directed to submit their recommendations at the earliest.

Sr. No.	Name and designation in the Board	Designation in the committee
1	Dr. Babu Ram, Technical Expert	Chairman
2	Sh. Jatinder Pal, SEE	Member
3	Sh. Sanjeev Kumar, SEE	Member
4	Sh. Paramjeet Singh Surjewala, DDA	Member

2.0 Environmental laws and its compliance to be made by the residential projects

The increase in population, development activities, unplanned and unsustainable urban development have led to severe environmental pressure. In order to regulate such unplanned building construction projects/residential projects, these have been covered under EIA notification, 2006. Building construction projects having an area ≥ 20000 sq. mtrs and < 150000 sq. mtrs are covered under category 'B' and these projects are considered for environment clearance under EIA notification dated 14.9.2006 by the State Environment Impact Assessment Authority (SEIAA). The building construction projects, irrespective of area of the project, not containing any category 'A' project and activity, is covered under category 'B' projects, whereas, such projects, containing 'A' category project and activities, are covered under category 'A' projects.

These projects after getting environment clearance as required under EIA notification dated 14.9.2006 from the SEIAA, apply for consent to establish and consent to operate to the State Pollution Control Board under the provisions of section 25/26 of Water Act, 1974. The building construction projects such as residential complex, apartments, township, town houses,

condominiums, educational institutions hostels, multi story buildings, commercial buildings such as office complexes, shopping complex, multiplex, dormitories or any other project discharging only domestic wastewater ≥ 10 KLD are required to install individual sewage treatment plants before discharge of their domestic effluent into sewerage system or any other mode of disposal.

The performance of sewage treatment plants of residential building complex are monitored by the Regional offices of Haryana State Pollution Control Board from time to time. However, during monitoring the performance of STPs, sometime the effluent samples of the treated sewage discharged by these residential projects do not meet with the standards prescribed by the Board, resulting into violation of provisions of the Water Act, 1974 which warrants legal action under the provisions of the section 43/44/47 of Water Act, 1974 alongwith imposition of environment compensation as directed by the Hon'ble National Green Tribunal and also consent to operate under the provision of Water Act, 1974 is not granted by the Board to the residential project. However, untreated wastewater of the residential projects is continued to be discharged and damage the environment. Due to habitation of the project, in which the residents are residing, electrical supply and water supply cannot be disconnected to stop the discharge of untreated sewage for any mode of disposal.

Presently, the Board after refusal of consent/ not granting consent to operate to the project proponent under the provisions of the Water Act, 1974, is launching prosecution under the provision of section 43/44/47 of the Water Act, 1974 against the project proponent and other concerned persons and no remedial steps are taken to stop the damage caused to the environment due to discharge of untreated wastewater of the project and not granting consent to operate to the project proponent. Further damage caused to the environment can be controlled only by operating the sewage treatment plant by the project proponent and the project proponent is granted consent to operate on provisional basis and sewage treatment plant is monitored by HSPCB within the period of provisional consent to operate. But since the residential project has made violation of the provisions of Water Act, 1974, therefore, environment compensation based on the calculation made by CPCB and accepted by Hon'ble National Green Tribunal may be imposed on the project proponent. During sampling, in case, the effluent samples of STP are found beyond the permissible limits, additional prosecution under the provision of Water Act, 1974 may be launched and additional environment compensation may be imposed on the project proponent. During the period of provisional consent to operate, project proponent shall make all compliances as mentioned in the Environment Protection Act, 1986 and Water Act, 1974.

3.0 Consideration of relevant aspects by the Committee

For supporting the said sequences/instances, the cases of the some projects are mentioned as under.

3.1 Mailbo Federation, Gurugram

M/s Mailbo Federation, Gurugram is a building construction project, wherein residents are residing in the complex. The project proponent has made expansion in the project by constructing additional residential buildings without obtaining environment clearance as

required under EIA notification dated 14.9.2006 and consent to establish of HSPCB as required under the provisions of Water Act, 1974. Consent to operate applied by the project proponent under the provisions of Water Act, 1974 has been refused by the Board to the project proponent, resulting in the residents residing in the complex are continuously discharging their wastewater without any treatment and are causing damage to the environment. Though after refusal of consent to operate to the project proponent, prosecution under the provision of section 43/44/47 of the Water Act, 1974 has been launched against the project proponent and other concerned persons and further expansion of the project has been stopped but no remedial steps have been taken to stop the damage caused to the environment by discharging untreated wastewater by the residential project. The further damage to environment can be controlled by way of operation of sewage treatment plant by the project proponent and the project proponent is granted consent to operate on provisional basis and sewage treatment plant is monitored by HSPCB within the period of provisional consent to operate. However, environment compensation based on the calculation made by CPCB and accepted by Hon'ble National Green Tribunal may be imposed. During sampling, in case, the effluent samples are found beyond the permissible limits, additional prosecution under the provision of Water Act, 1974 may be launched and additional environment compensation may be imposed on the project proponent. During the period of provisional consent to operate, project proponent shall make all compliances as mentioned in the Environment Protection Act, 1986 and Water Act, 1974. The Board may take further action in the matter after verifying the compliances made by the project proponent under the said Act.

3.2 M/s Doodh Moti Sagar, Rewari

M/s Doodh Moti Sagar, Rewari is a building construction project, wherein, the residents are residing in the complex. The project proponent and other concerned persons have been put into jail in some other case and presently, no body is available to look after the affairs of residential complex resulting in untreated wastewater of the residential project is discharged and damage is being caused to the environment. STP installed in the residential complex is not in operation and is not meeting with the prescribed norms. Due to habitation in the area and the residents are residing in the complex, it is not possible to disconnect the electricity connection/water supply of the residents. Therefore, in order to protect the environment, there is need to adopt some policy to make the sewage treatment plant in operation and check the performance of sewage treatment plant by HSPCB.

Stoppage of further damage to environment is possible only by operating the sewage treatment plant by Resident Welfare Association (RWA) of the residential project. The said RWA may be directed to operate its sewage treatment plant effectively and also apply for provisional consent to operate under the provisions of the Water Act, 1974, which may be granted by the Board on provisional basis. During the period of provisional consent to operate, HSPCB may analyze the effluent samples of STP of the project and in case, the analysis results are found not meeting with the prescribed norms, additional prosecution under the provisions of the Water Act, 1974 may be launched against the RWA and environment compensation, to be recoverable from the project proponent, may be imposed as per the formula devised by CPCB and accepted by Hon'ble National Green Tribunal. After checking the compliance of all the provisions of the EPA,

1986 and Water Act, 1974 within the validity period of provisional consent to operate, the Board may take further action accordingly.

3.3 M/s TDI, Sonipat

M/s TDI, Sonipat is a building construction project, wherein residents are residing in the complex. The project proponent has established its building construction project comprising of residential complex without environment clearance as required EIA notification dated 14.9.2006. The consent to operate applied by the project proponent under the provision of Water Act, 1974 has been refused by the Board, resulting in the residents residing in the complex are continuously discharging their wastewater without any treatment and is causing damage to the environment. Though after refusal of consent to operate to the project proponent, prosecution under the provision of section 43/44/47 of the Water Act, 1974 has been launched against the project proponent and other concerned persons but no remedial steps have been taken to stop the damage to the environment due to discharge of untreated wastewater of the project.

Stoppage of further damage to environment is possible only by operating the sewage treatment plant by project proponent. The project proponent may be directed to operate its sewage treatment plant effectively and also apply for provisional consent to operated under the provisions of the Water Act, 1974, which may be granted by the Board on provisional basis. During the period of provisional consent to operate, HSPCB may analyze the effluent samples of STP of the project and in case, the analysis results are not within the norms, additional prosecution under the provision of the Water Act, 1974 may be launched against the project proponent and additional environment compensation may also be imposed on the project proponent as per the formula devised by CPCB and accepted by Hon'ble National Green Tribunal. After checking the compliance of all the provisions of the EPA, 1986 and Water Act, 1974 within the validity period of provisional consent to operate, the Board may take further action accordingly.

4.0 Recommendations of the committee

The Board may consider the cases of such residential projects such as apartments, township, town houses, condominiums, student hostels of educational institutions, multi story residential buildings, commercial buildings (shopping complex, multiplex, dormitories) or any other project discharging only domestic wastewater ≥ 10 KLD, where consent to operate is refused by the Board under the provisions of Water Act, 1974 to grant provisional consent to operate for short period of 06 months for the purpose of inspection of the unit by the officers of the Board, continue to operate primary effluent treatment facilities of sewage treatment plant (STP) to reduce pollution load in the environment and upgrading the other components of STP installed by the project proponents/Resident Welfare Associations. Simultaneously, the Board may launch prosecution under section 43/44/47 of said Act against the project proponent/RWA for violation of provisions of Water Act, 1974 and impose environment compensation as per the formula devised by CPCB and approved by Hon'ble National Green Tribunal due to its failure to achieve prescribed standards. For granting short term provisional consent to operate for 06 months, under section 25/26 of the Water Act, 1974, the committee recommends the following criteria which may be followed by the Board.

i) The Project proponent/residential welfare association shall continue to operate its primary effluent treatment units to reduce pollution load in the disposal system and environment.

ii) The project proponent /residential welfare association shall upgrade/remove deficiency in various components of sewage treatment plant and other activities within 04 months and report may be submitted to the Board.

iii) The Board shall monitor the performance of STP of the project and check its all compliances within 01 month.

iv) In case the performance of STP of the project is found adequate and analysis results of the treated sewage are within the norms, the Board may extend its further consent to operate for 01 year and further check the performance of sewage treatment plant on quarterly basis.

v) During the first 06 months, in case the project proponent/resident welfare association/institution fails to achieve the prescribed standards and the performance of STP is found inadequate and fails to comply with other environment compliances, additional prosecution under the provision of Water Act, 1974 shall be launched alongwith imposition of additional amount of environmental compensation on the project proponent/residential complex.

vi) In case the performance of STP of the project is found adequate for 01 year and all the treated wastewater samples of sewage treatment plant collected in a year are found within the norms, the Board may consider to grant consent to operate under the provision of Water Act, 1974 on yearly basis or as per the policy of HSPCB.

vii) The projects established/setup without environment clearance as required under EIA notification dated 14.9.2006 may not be allowed to make any further expansion in the existing project and also may not given any further license /approval by the competent authority to construct any new such project/activity in the State and he may be delicensed from the said activities.

viii) In order to protect the environment, the installation and operation of sewage treatment plant is necessary. However, keeping in view present circumstances of the cases as mentioned above, the committee observed that there is quite possibility that the project proponent may run away from the site without providing such facilities and Resident Welfare Association (RWA) also doesn't take the responsibility for installation and operation of sewage treatment plant and management of other waste, in that case the concerned department, under whose jurisdiction the project falls or as decided by the State Government, may take over the project for getting done the compliance as required under the provisions of environment laws and the expenditure to be incurred for providing such facilities may be recovered from the RWA/Residents/Occupiers of the project.

The Board may consider to adopt a policy/criteria based on the points as mentioned above for grant of short term provisional consent to operate under Water Act, 1974 for 06 months to the residential projects as detailed above, to whom consent to operate is refused by the Board under Water Act, 1974 on the ground of failure of effluent samples of STP of the project or any other reasons.

SANJEEV KUMAR
Digitally signed by SANJEEV KUMAR
Date: 2023.09.06 12:41:13 +05'30'

Sanjeev Kumar, SEE

Paramjit Singh Surjewala, DDA
(Paramjit Singh Surjewala. DDA)

Jatinder Pal, SEE

Dr. Babu Ram, 6.9.2023
Technical Expert, HSPCB

AGENDA ITEM NO. 197.05

ANNUAL REPORT OF THE HARYANA STATE POLLUTION CONTROL BOARD FOR THE YEAR 2022-23.

05/01

Agenda Item: 197.05 **Annual Report of the Haryana State Pollution Control Board for the year 2022-23**

There is a provision in section 39 (2) of the Water Act, 1974 thatEvery State Board shall, during each financial year, prepare, in such form as may be prescribed, an annual report giving full account of its activities under this Act during the previous financial year and forward it to State Government. The Government shall laid down such report before State Legislature. There is corresponding provision in section 35 (2) of the Air Act, 1981.

The Government of Haryana vide notification No. GSR- 125/C.A.6/74/S.64/78 dated 22.12.1978 has issued Haryana (Prevention and Control of Water Pollution) Rules, 1978 (as amended). As per Rule 31, Form 'G' ofAnnual Report has been prescribed in terms of Section 39 of Water Act, 1974.

The Government of Haryana vide notification No. G.S.R. 73/C.A.14/81/S, 54 "83 dated 15.12.1983 issued the Haryana Air (Prevention and Control of Pollution) Rules, 1983 (as amended). As per Rule 27, Form XI for the Annual Report has been prescribed, in terms of Section 35 of the Air Act, 1981.

The contents of Form 'G' for the Annual Report prescribed under the Haryana (Prevention and Control of Water Pollution) Rules, 1978 and Form XI for the Annual Report prescribed under the Haryana Air (Prevention and Control of Pollution) Rules, 1983 are similar and annexed as **Annexure-I.**

As per contents of Form G and Form XI for the Annual Report, information for Annual Report for the period 01.04.2022 to 31.03.2023 was sought from all Branch Incharges in the Head office and all Regional Officers in field and Lab In-charges of HSPCB.

Accordingly, Annual Report of the Haryana State Pollution Control Board for the period 01.04.2022 to 31.03.2023 has been drafted and annexed as **Annexure-II**.

In view of above, the Board may consider Annual Report of the Haryana State Pollution Control Board for the for the period 01.04.2022 to 31.03.2023 and accord approval for the same, so that the same may be submitted to the Government for placing before the State Legislature.

05/02

Annexure - 1

HARYANA GOVERNMENT
ENVIRONMENT DEPARTMENT

Notification

The 22nd December, 1978

No. GSR-125/C.A.6/74/S.64/78.- In exercise of the powers conferred by section 64 of the Water (Prevention and Control of Pollution) Act, 1974, (Parliament Act No. 6 of 1974), the State Government, after consulting the Haryana State Board for the Prevention and Control of Water Pollution, hereby makes the following rules, namely :-

1. Short title and commencement .-These rules may be called the Haryana (Prevention and Control of Water Pollution) Rules, 1978.

They shall come into force at once.

2. Definitions.- In these rules, unless the context otherwise requires,--

(a) "Act" means the Water (Prevention and Control of Pollution) Act, 1974 (Parliament Act No. 6 of 1974);

(b) "Board" means the Haryana State Board for the Prevention and Control of Water Pollution constituted under section 4;

[1][(bb) "capital investment" means the original cost invested and includes investment on land, factory building, office building and machinery and factory whether ownership, on rent, mortgage, or lease basis.]

(c) "Chairman" means the Chairman of the Board;

(d) "Executive Committee" means a committee, constituted under section 9;

(e) "Government" means the Haryana Government in the Administrative Department;

(f) "Member" means a Member of the Board including the Chairman and the Member- Secretary;

(g) "Member-Secretary" means the Member Secretary of the Board;

(h) "section" means a section of the Act;

(i) "State Board Laboratory" means a Laboratory established or recognized as such under sub-section (2) of section 17;

(j) "State Water Laboratory" means a laboratory established or specified as such under sub-section(1) of section 52;

(k) "year" means the financial year commencing on the 1st day of April, and ending on the 31st March of the succeeding calendar year;

(l) The words and expressions used herein but not defined in these rules shall have the same meaning as are assigned to them in the Act.

3. Terms and conditions of the service of the Member of the Board other than Member- Secretary and Government officials. Section 5(8).-(1) Non-official Members of the Board resident in Chandigarh shall be paid an allowance of Rupees thirty per day for each day of [2][attending] the actual meeting of the Board or actual meeting of any Committee constituted under sub-section (1) of section 9.

(2) Non-official members of the Board, not resident in Chandigarh shall be paid an allowance of rupees fifty per day (including daily allowance) for each day of [2][attending] the actual meetings of the Board or for each day of [2][attending] actual meeting of any committee constituted under sub-section (1) of section 9 and also travelling allowance at such rates as is admissible to a grade I officer of the Government.

(3) When the Legislative Assembly is not in session, a Member of the Legislative Assembly who is also a member of the Board shall be entitled to such allowance as are admissible to him for attending an Assembly Session on production of a certificate by the Member that he has not drawn any such allowance for the same journey and halts from any other Government source.

4. Condition of service of the Chairman. Section 5(9).-(i) The Government may appoint any serving Engineer-in-chief or Chief Engineer of the Public Works Department (Public Health Branch) or a retired officer of equivalent status or any other person possessing the qualification prescribed in [2][section] 4(2) (a) of the Act.

(ii) Pay and Allowances of the Chairman.-(a) The Chairman who is serving officer will be entitled to draw pay in his own pay-scale plus usual deputation allowance and other allowances admissible under the Haryana Government rules.

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1. Inserted vide Notification No. G.S.R. 30/C.A.6/74/S.64/68, the 25th March 1988

2. Inserted vide Notification No. G.S.R. 44/C.A.6/74/S.64/86, the 30th May 1986

05/03

Form 'G'
[See rule 31]
Haryana State Board for the Prevention and Control of Water Pollution

Annual Reports for the year _____

1. Introductory.
2. Constitution of the Board including changes therein.
3. Constitution of the Committee by the Board and meeting of the committee constituted by it.
4. Meetings of the Board.
5. Activities of the Board including the various functions performed under section 17 of the Act.
6. Prosecutions launched and convictions secured.
7. Finances and Accounts of the Board.
8. Visits to the Board by experts/important persons etc.
9. Any other important matter dealt with by the Board.

05/04

Annexure-II

ANNUAL REPORT
2022-23

Haryana State Pollution Control Board

05/05

The Haryana State Pollution Control Board acknowledges the commitments, coordination, contribution and all sincere efforts of its employees to protect preserve and improve the quality of environment for a safer, cleaner and greener tomorrow.

05/06

TABLE OF CONTENTS

05/07

05/08

CHAPTER 1: INTRODUCTION

05/09

1.1 Haryana State Pollution Control Board (HSPCB)

Haryana State Pollution Control Board is a statutory authority entrusted with the duty to implement environmental laws and rules within the jurisdiction of the State of Haryana. The Board ensures proper implementation of the statutes, judicial and legislative pronouncements related to environmental protection within the State. The Haryana State Pollution Control Board was constituted under the Water (Prevention and Control of Pollution) Act, 1974 vide Notification No. 86/ (4)(iv)74/33298 dated September 19, 1974 initially for prevention and control of water pollution and for maintaining or restoring wholesomeness of water.

The Haryana State Pollution Control Board (HSPCB) is mandated to implement applicable environmental laws/rules/notifications (Air/ Water) in the State of Haryana. The HSPCB draws up comprehensive plans and advises the State Government on the prevention, control and abatement of pollution. Major activities of the HSPCB comprise the following:

- Implementation of the consent management under the Water Act, 1974 & the Air Act, 1981; and the Environment Protection Act, 1986 and rules framed there under.
- Online monitoring of ambient air quality in major cities of Haryana.
- Monitoring of water quality of rivers Yamuna, Ghaggar & other water bodies.
- Online monitoring of air emissions and effluent discharge from highly polluting Industries and common treatment and disposal facilities.
- Implementation of Solid Waste Management, Biomedical, Hazardous, E-waste, C&D & Plastic Waste Management Rules.
- Implementation of Aravali Notification dated 07.05.1992 issued by the MoEF&CC, Govt. of India.
- Implementation of the Environment Impact Assessment Notification, 2006

HSPCB was also entrusted with additional responsibility of implementing the Water (Prevention and Control of Pollution) Cess Act, 1977 with a view of augmenting the resources of the State Pollution Control Boards but the same has now been abolished with the introduction of Goods and Services Tax Act, 2017. The State Pollution Control Board was also given additional responsibilities under the Air (Prevention and Control of Pollution) Act, 1981 to take appropriate steps for preservation of quality of control of air pollution.

The Board was subsequently given the responsibility of implementing the Environment (Protection) Act, 1986 and Rules and notifications issued there under.

Various environmental Acts and Rules being implemented by the Board are given as under:

1. The Water (Prevention and Control of Pollution) Act, 1974 and Rules made there under.
2. The Air (Prevention and Control of Pollution) Act, 1981 and Rules made there under.

05/10

3. The Environment (Protection) Act, 1986 and the following Rules and notifications made there under:

i. The Hazardous Wastes (Management and Trans boundary Movement) Rules, 2016

ii. The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989

iii. The Biomedical Waste (Management) Rules, 2016

iv. The Plastics Waste (Management) Rules, 2016

v. The Solid Waste (Management) Rules, 2016

vi. The E-waste (Management) Rules, 2016

vii. The Noise Pollution (Regulation and Control) Rules, 2000

viii. The Batteries (Management and Handling) Rules, 2001

ix. Environment Impact Assessment Notification 2006

x. Notification dated 14.09.1999 issued by the MoEF&CC under EPA, 1986 regarding directions for utilization of fly ash generated from coal or ignite based Thermal Power Plants

xi. Notification dated 07.05.1992 issued by the MoEF&CC under EPA, 1986 restricting certain activities in specified area of Aravali Range

1.2 Vision & Aim of HSPCB

- Besides fulfilling the above mandate, the vision & aim of the HSPCB is to bring about a gradual and consistent reduction in the levels of pollution (Air & Water) through strict monitoring, inspections, authorizations & legal interventions.
- HSPCB is committed to achieve a reduction in the levels of pollution (Air & Water) through comprehensive plans (National and State level interventions).

05/11

CHAPTER 2: ABOUT HSPCB

05/12

2.1 Composition of the Board

Section 4 of the Water (Prevention and Control of Pollution) Act, 1974 and section 5 of the Air (Prevention and Control of Pollution) Act, 1981, gives power to the State Government to constitute State Pollution Control Board in their territory. As per the said provisions of the Act, the Board comprises of a Chairman, a Member Secretary and fifteen other members nominated by the State Government. The members of the Board include the representative of the government, local authorities and state - controlled corporations and also persons representing the interests of agriculture, fisheries, industry or trade.

Chairman of the Board during the year 2022-23:

- **Sh. P. Raghavendra Rao, IAS (Retd.)**
- (30.11.2021 onwards)

05/13

2.2 Members of the Board

The Government of Haryana vide order Endst. No. 2/22/2008-1Env. Dated 12.01.2022 constituted Haryana State Pollution Control Board with the official Members, as under:

Chairman

OFFICIAL MEMBERS

1. Additional Chief Secretary to Govt. Haryana, Environment and Climate Change Department
2. Additional Chief Secretary to Govt. Haryana Town and Country Planning and Urban Estates Department
3. Principal Secretary to Govt. Haryana, Urban Local Bodies Department
4. Principal Secretary to Govt. Haryana, Industries and Commerce Department,
5. Principal Secretary to Govt. Haryana, Transport Department

MEMBERS FROM CORPORATION AND COMPANIES

6. Managing Director, Haryana Power Generation Limited
7. Managing Director, Haryana Forest Development Corporation

Member Secretary, Haryana State Pollution Control Board

2.3 Details of Board Meetings held:

Sr. no.	Board's Meeting	Held on
1	191th	08.04.2022
2	192th	22.06.2022
3	193th	20.09.2022
4	194th	15.12.2022
5	195th	14.03.2023

05/14

2.4 Staff Strength of HSPCB (as on 31.03.2023)

Sr. No.	Name of the Post	Sanctioned Strength	Filled up	Vacant	Remarks
Group A					
1	Chairman	01	01	-	
2	Member Secretary	01	01	-	
3	Chief Environmental Engineer	02	-	02	
4	Chief Scientific Officer	02	-	02	
5	Sr. Environmental Engineer	06	06	00	
6	Sr. Scientist	09	00	09	
7	Environmental Engineer	33	18 (2 on deputation)	15	
8	Scientist 'C'	10	00	10	
9	District Attorney	01	-	01	
10	Development Team Leader	01	-	01	
Group B					
1	Sr. Accounts Officer	01	01	-	On deputation from Finance Department, Government of Haryana
2	Accounts Officer	01	-	01	
3	Administrative Officer	01	01		
4	Law Officer	01	01	-	on deputation from Administration of Justice Department, government of Haryana
5	Asstt. Distt. Attorney	03	03	-	on deputation from Administration of Justice Department, government of Haryana
6	Scientist 'B'	40	15	25	Requisition of 11 posts Sent to ACS (ENV.)
7	Asstt. Environmental Engineer	92	33 (3 on deputation)	59	3 AEEs on deputation from Irrigation & Water Resources Deptt,

05/15

Sr. No.	Name of the Post	Sanctioned Strength	Filled up	Vacant	Remarks
8	Software Developer	01	-	01	
9	Tehsildar	01	-	01	
10	Superintendent	04	03	01	
11	Private Secretary	02	01	01	
12	Junior Software Developer	02	-	02	
Group C					
1	Section Officer (Accounts)	01	0	01	
2	Deputy Superintendent	04	01	03	
3	Statistical Assistant	01	-	01	Requisition of one post sent to HSSC vide no. 2934 dated 18.8.21
4	Sr. Scientific Assistant	07	-	07	Requisition of one post sent to HSSC vide no. 2934 dated 18.8.21
5	Jr. Scientific Assistant	10	-	10	Requisition of one post sent to HSSC vide no. 2934 dated 18.8.21
6	Personal Assistant	01	00	01	
7	Jr. Environmental Engineer	25	01	24	Requisition of 24 posts sent to HSSC vide no. 2931 dated 18.8.21
8	Sr. Scale Stenographer	04	-	04	
9	Assistant	46	09	37	
10	Accountant	04	-	04	Requisition of 2 posts sent to HSSC vide no. 2937 dated 18.8.21
11	Junior Scale Stenographer	03	-	03	Requisition of one post sent to HSSC vide no. 2962 dated 18.8.21
13	Accounts Clerk	02	-	02	
14	Steno-Typist	08	01	07	Requisition of 5 posts sent to HSSC vide no. 2963 dated 18.8.21
15	Clerk	46	11	35	Requisition of 27

05/16

Sr. No.	Name of the Post	Sanctioned Strength	Filled up	Vacant	Remarks
					posts sent to HSSC vide no. 2960 dated 18.8.21
16	Driver	17	08	09	Requisition of 9 posts sent to HSSC vide no. 4430 dated 17.06.2022
17	Lab Attendant	10	02	08	Requisition of 2 posts sent to HSSC vide no. 2937 dated 18.8.21
18					
Group D					
1	Daftri	01	-	01	
2	Senior Peon	02	00	02	
3	Peon	51 (30 Regular 21 Outsourced)	20	10	Requisition of 8 posts sent to HSSC vide no. 717 dated 11.2.22 (2 posts kept vacant as they had not joined duty as recommended by HSSC and replacement of other Candidates are under consideration).
4	Mali-cum-Chowkidar	02 (diminishing)	02	-	
5	Field Attendant	22 (10 Regular 12 Outsourced)	04	06	Requisition of 6 posts sent to HSSC vide no. 716 dated 11.2.22
6	Sweeper	01 (diminishing)	01	--	
Total		483 **(33 posts outsourced) Total=450)**	144	306	

05/17

CHAPTER 3: ACTIVITIES & INFRASTRUCTURE

05/18

3.1 Mandated activities of the Board

Section 17 of the Water (Prevention and Control of Pollution) Act, 1974 and Section17 of the Air (Prevention and Control of Pollution) Act, 1981 have clearly prescribed the legally mandated responsibilities of the State Pollution Control Boards which are summarized as below :-

- To plan comprehensive programmer for the prevention, control or abatement of water and air pollution in the state and to secure the execution thereof;
- To advise the State Government on any matter concerning the prevention, control or abatement of water and air pollution;
- To collect and disseminate information relating to water and air pollution, and the prevention, control or abatement thereof;
- To encourage, conduct and participate in investigations and research relating to problems of water pollution and prevention, control or abatement of water pollution;
- To collaborate with the Central Pollution Control Board in organizing training of persons engaged or to be engaged in programs relating to prevention, control or abatement of water and air pollution and to organize mass education programs relating thereto;
- To inspect sewage or trade effluent treatment works and plants installed for the treatment of sewage and trade effluents and to review plans, specifications or other data relating to plants set up for the treatment of water, works for the purification thereof and the system for the disposal of sewage or trade effluents or in connection with the grant of any consent as required by the Water Act & Air Act, or in connection with the grant of any Authorization or registration as required by the Environment (Protection) Act, 1986 and Rules made there under;
- To inspect, at all reasonable times, any control equipment, industrial plant or manufacturing process and to give, by order, such directions, to such persons as it may consider necessary to take steps for the prevention, control or abatement of air pollution;
- To inspect air pollution control area at such intervals as it may think necessary, assess the quality of air there in and take steps for the prevention, control or abatement of air pollution in such areas;
- To lay down, modify or annual effluent standards for sewage and trade effluents and for the quality of receiving waters (not being water in an inter-state stream) resulting from discharge of effluents and to classify waters of the state;
- To lay down, in consultation with the Central Board and having regard to the standards for the quality of air laid down by the Central Board, standards for emission of air pollutants in the atmosphere from industrial plant and automobiles or for the discharge of any air pollutant into the atmosphere from any other source whatsoever not being a ship or an aircraft;

05/19

- To evolve economical and reliable methods of treatment of sewage and trade effluents having regard to the peculiar conditions of soils, climate and water resources of different regions and more specifically the prevailing flow characteristics of water in streams and wells which render it impossible to attain even the minimum degree of dilution;
- To evolve methods of utilization of sewage and suitable trade effluents in agriculture or other utilities;
- To evolve efficient methods of disposal of sewage and trade effluent on land, as are necessary on account of the predominant conditions of scant stream flows that do not provide for major part of the year the minimum degree of dilution;
- To lay down standards of treatment of sewage and trade effluents to be discharged in any particular stream by taking into account the minimum fair weather dilution available in that stream and the tolerance limits of pollution permissible in the water of the stream, after the discharge of such effluents;
- To make, vary or revoke any order for prevention, control or abatement of discharge of waste into streams or wells and requiring any person concerned to construct new systems for the disposal of sewage and trade effluents or to modify, alter or extend any such existing system or to adopt such remedial measures as are necessary to prevent control or abate water pollution;
- To lay down effluent standards to be complied with by persons while causing discharge of sewage or sullage or both, and to lay down, modify or annual effluent standards for the sewage and trade effluent;
- To advice the State Government with respect to the suitability of the any premises or location of any industry, which is likely to cause air pollution or likely to pollute a stream or well;
- To perform such other functions as may be prescribed or as may, from time to time, be entrusted to it by the Central Board or the State Government; and
- To do such other things and to perform such other acts as it may think necessary for the proper discharge of its functions and generally for the purpose of carrying into effect the purpose of the Air Act.

Although the Board's primary responsibility is to implement the environmental regulations within the state of Haryana; but during the last decade, there has been a paradigm shift in the concept of implementing environmental regulations with a judicious mix of command and control regime with economic instruments for controlling pollution, as also, solving various long standing environmental issues through consensus where the Board went beyond its mandated activities and acted as a promoter, providing assistance for controlling pollution in Government Department's projects

05/20

3.2 Infrastructure of the Board

The Board is headed by a Chairman with its head quarters at Panchkula. There are 22 Regional offices of the Board in the State, located at Ambala, Ballabgarh, Bhiwani, Bahadurgarh, Dharuhera, Faridabad, Gurugram (South) at Manesar, Gurugram (North) at Gurugram, Hisar, Karnal, Kaithal, Kurukshetra, Nuh, Panipat, Panchkula, Palwal, Sonepat, Rohtak, Charkhi Dadri, Jind, Mahendergarh and Yamuna Nagar.

Details of Regional Offices, Sub-Regions and area under their jurisdiction

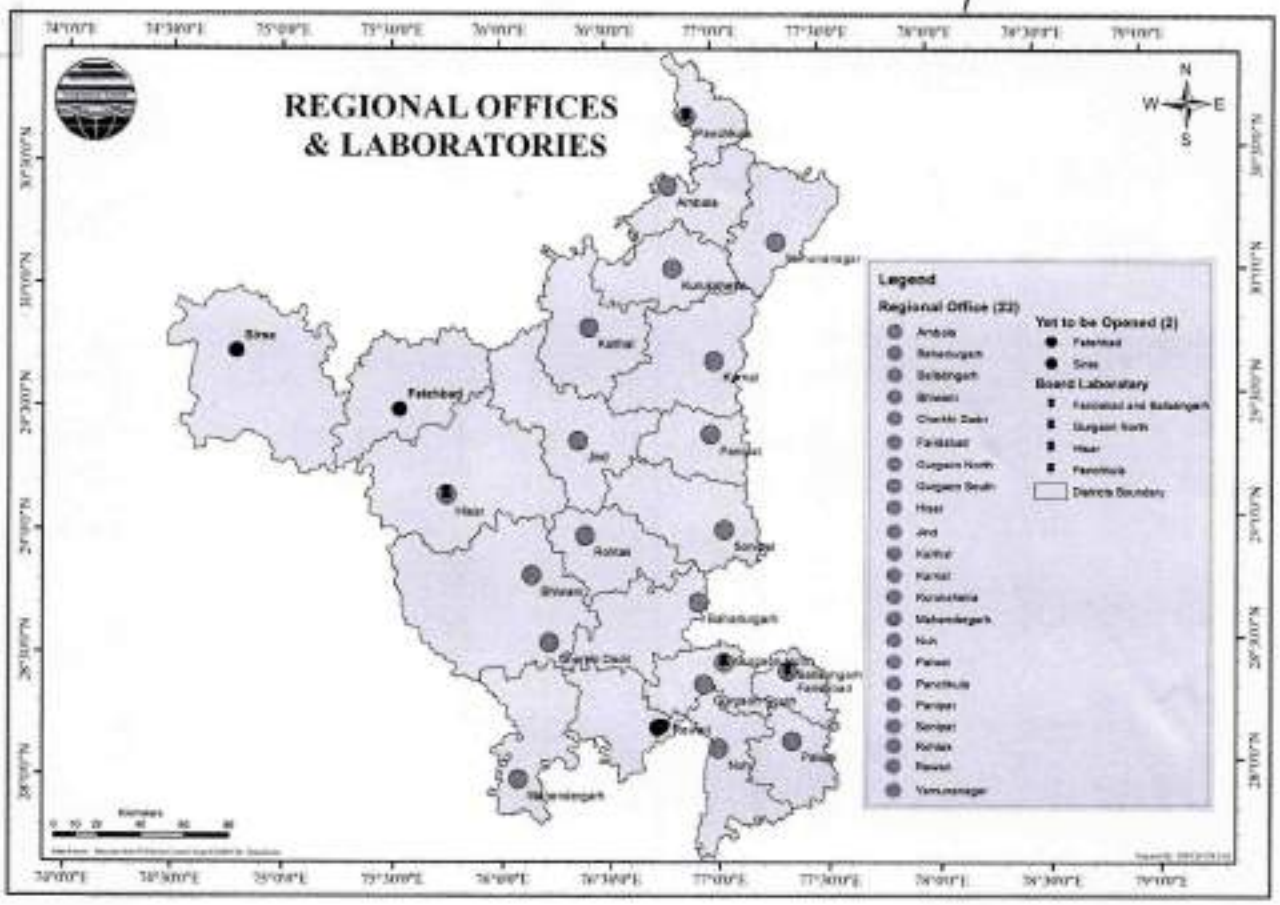
Sr. no.	Name of Region	Name of Sub-Region	Area of Jurisdiction
1.	Panchkula	Panchkula Urban	All sectors of HSVP including Saketri and colonies adjoining the HSVP sectors and industrial Area Phase 1 and Phase 2.
		Panchkula Outer	All area of Panchkula district except those mentioned at serial no.1 i.e. Marhanwala, Kalka, Barwala, Raipur Rani etc.
2.	Rohtak	Rohtak	District Rohtak
3.	Bhiwani	Sub Region-1	(left side of Rohtak to Loharu Road via Charkhi Dadri)
4.	Charkhi Dadri	Sub Region-2	Right side of Rohtak to Loharu Road via Charkhi Dadri.
5.	Kaithal	Kaithal City, Guhla, Kalayat Pundri & Rajound	District Kaithal
6.	Jind	Jind City & Julana, Narwana, Uchana, Safidon	District Jind
7.	Ballabgarh	Sub Region-1	Eastern side of Mathura Road, except Sector -6.
		Sub Region-2	Sector-24, 25 & NIT.
		Sub Region-3	Western Side of Mathura Road
8.	Palwal	Sub Region-1	(left side of Faridabad Border to Mathura Road (NH-2)
		Sub Region-2	(Right side of Faridabad Border to Mathura Road (NH-2)
9.	Nuh	Sub Region-1	(Nuh and Tauru)
		Sub Region-2	(Ferozepur Jhirkaand Punhana)
10.	Ambala	-	Ambala City Ambala Cantt. Naraingarh Barara
11.	Karnal	Sub Region-1	Tehsil Karnal
		Sub Region-2	Tehsil Gharaunda

05/21

		Sub Region-3	Tehsil Assandh, Nissing & Nilokheri
		Sub Region-4	Tehsil Taraori & Indri
12.	Kurukshetra	Pehowa, Thanesar, Shahabad, Ladwa.	District Kurukshetra
13.	Gurugram (North)	Udyog Vihar Old Gurugram New Gurugram	Alwar- Sohna Road to Farrukh Nagar-Jhajjar Road via Subhash Chowk, Hero Chowk and Basai Village- Right side of the road.
14.	Yamuna Nagar	Sub Region-1	Jagadhri
		Sub Region-2	Yamuna Nagar
		Sub Region-3	Outer Jagadhri & Yamuna Nagar
15.	Faridabad	1. NIT 2. Sector-27, Faridabad 3. DLF, Phase-1, Faridabad 4. DLF, Phase-II, Faridabad	Delhi Border to Bata Mor industries along with Mathura Road, DLF, Sector-27-A, B, C & D, Stone crushers of Mohabatabad and Pali Zone, Dhauj Crushing Zone and Mines.
16.	Bahadurgarh	Sub Region-1	Bahadurgarh
		Sub Region-2	Jhajjar
17.	Gurugram (South)	1. IMT Manesar-A 2. IMT Manesar-B 3. Beharampur 4. Sector-37, Gururam	Alwar- Sohna Road to (South Farrukh Nagar- Jhajjar Road via Subhash Chowk, Hero Chowk and Basai Village Left side of the road.
18.	Sonipat	1. Barhi 2. Kundli 3. Rai 4. Sonipat	District Sonepat
19.	Panipat	1. Sector-29, Panipat 2. Model Town Panipat 3. Samalkha	District Panipat
20.	Hisar	Sub Region-1	Hisar
		Sub Region-2	Fatehabad
		Sub Region-3	Sirsa
21.	Dharuhera	Sub Region-1	Rewari & Dharuhera
		Sub Region-2	Bawal
22.	Mahendergarh	-	Mahendergarh

The Board has established four laboratories at Panchkula, Gurugram, Faridabad and Hisar for carrying out the work for analysis of different types of samples of effluent/ water and air emissions of various industries/projects as well as water bodies and ambient air quality.

05/22



3.3 Functional Structure of the Board

The Board functions through its Engineering Wing, Scientific Wing, Legal Wing, Administration Wing, Accounts Wing and Information Technology Cell. The Engineering sub wings are headed by Senior Environmental Engineers and are mainly involved in implementing various environmental statutes in the State of Haryana, including monitoring work and redressing public complaints.

The Scientific wing, headed by Senior Scientists, looks after the Board's four Laboratories and are also involved in various environmental monitoring projects as well as in the implementation of various environmental statues. The Legal wing, headed by the District Attorney, is looking after the legal aspects and representing the Board at different Courts of law. The Administrative wing is managing the administrative and personnel matters of the Board. The Accounts wing manages the accounts and finance related matters of the Board.

05/23

CHAPTER 4: ACTION AGAINST DEFAULTING UNITS

05/24

4.1 Action against Defaulting Units

Closure Action

The Board is taking closure action under section 33-A of the Water (Prevention & Control of Pollution) Act, 1974, under section 31-A of the Air (Prevention & Control of Pollution) Act, 1981 & under section 5 of the Environment (Protection) Act, 1986 against units which are not meeting the standards prescribed under the EPA Rules, 1986 for discharge of pollutants or fail to obtain consent from the Board under the Water Act, 1974/Air Act, 1981 or fail to comply with the directions issued by the Board or Government, as the case may be, from time to time, under different environmental Acts.

The details of Closure Orders (as on 31.03.2023) issued against the defaulting units due to non-compliance under the above said Acts is given as under :-

Region	No. of units issued closure order under EP Act, 1986	No. of units issued closure order under Water Act, 1974	No. of units issued closure order under Air Act, 1981	No. of units issued closure order jointly under Water & Air Acts	Total No. units issued closure order
Ambala	4	0	0	31	35
Bahadurgarh	0	0	10	52	62
Ballabgarh	0	12	69	26	107
Charkhi Dadri	0	0	14	1	15
Bhiwani	0	0	36	2	38
Dharuhera/Rewari	1	0	0	20	21
Mahendergarh	1	0	11	10	22
Faridabad	0	0	0	59	59
Gurugram (N)	0	0	0	0	0
Gurugram (S)	0	0	6	42	48
Hisar	0	0	2	66	68
Kaithal	1	0	75	9	85
Karnal	4	0	13	22	39
Kurukshetra	2	0	0	41	43
Nuh	0	1	4	15	20
Palwal	0	1	1	23	25
Panchkula	0	0	1	40	41
Panipat	0	2	4	31	37
Sonepat	0	0	1	37	38
Yamuna Nagar	8	0	0	22	30
Total	21	16	247	549	833

05/25

Legal Action

The Board is the taking legal action under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981 and the Environment (Protection) Act, 1986 against industrial units / projects violating the above said Acts/ Rules, by filing cases in the Special Environment Courts.

i. **Detail of Prosecution Cases (filed, pending & decided as on 31.03.2023) in Special Environment Court**

Under EP Act

Region	No. of prosecution pending on 31.03.2022 under EP Act	No. of prosecution filed during 2022-23 under EP Act	No. of prosecution decided		No. of pending prosecution as on 31.03.2023	Reason for decision against Board		
			In favor of Board	Against Board		Dismissed in default	Expiry of accused	Any other
Ambala	1	0	0	0	1	0	0	0
Bahadurgarh	0	0	0	0	0	0	0	0
Ballabgarh	0	0	0	0	0	0	0	0
Charkhi Dadri	2	0	0	0	2	0	0	0
Bhiwani	0	2	1	0	1	0	0	0
Dharuhera/Rewari	3	0	0	0	3	0	0	0
Mahendergarh	0	0	0	0	0	0	0	0
Faridabad	5	0	0	0	5	0	0	0
Gurugram (N)	33	2	22	7	6	0	0	7
Gurugram (S)	63	1	0	44	20	0	0	44
Hisar	2	0	0	0	2	0	0	0
Kaithal	0	0	0	0	0	0	0	0
Karnal	6	0	1	0	5	0	0	0
Kurukshetra	1	0	1	0	0	0	0	0
Nuh	0	0	0	0	0	0	0	0
Palwal	0	0	0	0	0	0	0	0
Panchkula	4	0	1	0	3	0	0	0
Panipat	0	0	0	0	0	0	0	0
Sonepat	6	0	0	0	6	0	0	0
Yamuna Nagar	4	3	1	0	6	0	0	0
Total	**130**	**8**	**27**	**51**	**60**	**0**	**0**	**51**

05/26

Under the Water Act

Region	No. of prosecution pending on 30.03.2022 under Water Act	No. of prosecution filed during 2022-23 under Water Act	No. of prosecution decided		No. of pending prosecution as on 31.03.2023	Reason for decision against Board		
			In favor of Board	Against Board		Dismissed in default	Expiry of accused	Any other
Ambala	6	0	0	0	6	0	0	0
Bahadurgarh	1	3	0	0	4	0	0	0
Ballabgarh	24	5	0	1	28	0	0	1
Charkhi Dadri	0	0	0	0	0	0	0	0
Bhiwani	0	0	0	0	0	0	0	0
Dharuhera/Rewari	1	5	1	0	5	0	0	1
Mahendergarh	0	0	0	0	0	0	0	0
Faridabad	26	0	0	1	25	0	0	1
Gurugram (N)	10	1	1	0	10	0	0	0
Gurugram (S)	3	0	0	0	3	0	0	0
Hisar	8	2	0	0	10	0	0	0
Kaithal	0	2	0	0	2	0	0	0
Karnal	7	1	1	0	7	0	0	0
Kurukshetra	5	0	0	0	5	0	0	0
Nuh	0	0	0	0	0	0	0	0
Palwal	1	1	0	0	2	0	0	0
Panchkula	22	0	0	3	19	0	0	3
Panipat	21	2	0	0	23	0	0	0
Sonepat	3	0	0	0	3	0	0	0
Yamuna Nagar	2	01	0	0	3	0	0	0
Total	**140**	**23**	**3**	**5**	**155**	**0**	**0**	**5**

05/27

Under the Air Act

Region	No. of prosecution pending on 30.03.2022 under Air Act	No. of prosecution filed during 2022-23 under Air Act	No. of prosecution decided		No. of pending prosecution as on 31.03.2023	Reason for decision against Board		
			In favor of Board	Against Board		Dismissed in default	Expiry of accused	Any other
Ambala	0	0	0	0	0	0	0	0
Bahadurgarh	1	0	0	0	1	0	0	0
Ballabgarh	4	0	0	0	4	0	0	0
Charkhi Dadri	39	7	0	0	46	0	0	0
Bhiwani	0	0	0	0	0	0	0	0
Dharuhera/Rewari	0	0	0	0	0	0	0	0
Mahendergarh	15	6	0	4	17	0	1	3
Faridabad	1	0	1	0	0	0	0	0
Gurugram (N)	0	0	0	0	0	0	0	0
Gurugram (S)	1	0	0	0	1	0	0	0
Hisar	0	2	0	0	2	0	0	0
Kaithal	0	0	0	0	0	0	0	0
Karnal	4	1	0	0	5	0	0	0
Kurukshetra	0	0	0	0	0	0	0	0
Nuh	0	0	0	0	0	0	0	0
Palwal	3	3	0	0	6	0	0	0
Panchkula	1	0	0	1	0	0	0	1
Panipat	4	1	1	1	3	0	0	1
Sonepat	1	1	0	0	2	0	0	0
Yamuna Nagar	2	0	0	0	2	0	0	0
Total	**76**	**21**	**2**	**6**	**89**	**0**	**1**	**5**

05/28

Under the Water & Air Act

Region	No. of prosecution pending on 31.03.2022 under Water & Air Act	No. of prosecution filed during 2022-23 under Water & Air Act	No. of prosecution decided		No. of pending prosecution as on 31.03.2023	Reason for decision against Board		
			In favor of Board	Against Board		Dismissed in default	Expiry of accused	Any other
Ambala	44	0	0	0	44	0	0	0
Bahadurgarh	3	0	0	0	3	0	0	0
Ballabgarh	32	4	0	2	34	0	1	1
Charkhi Dadri	0	0	0	0	0	0	0	0
Bhiwani	0	0	0	0	0	0	0	0
Dharuhera/Rewari	1	2	0	0	3	0	0	0
Mahendergarh	0	2	0	0	2	0	0	0
Faridabad	3	2	0	0	5	0	0	0
Gurugram (N)	40	31	23	6	42	0	0	6
Gurugram (S)	6	5	0	1	10	0	0	1
Hisar	0	0	0	0	0	0	0	0
Kaithal	0	0	0	0	0	0	0	0
Karnal	11	8	01	0	18	0	0	0
Kurukshetra	1	1	0	1	1	0	0	1
Nuh	1	1	0	0	2	0	0	0
Palwal	0	0	0	0	0	0	0	0
Panchkula	2	0	1	0	1	0	0	0
Panipat	17	4	1	1	19	0	0	1
Sonepat	20	1	1	0	20	0	0	0
Yamuna Nagar	42	12	04	0	50	0	0	0
Total	**223**	**73**	**31**	**11**	**254**	**0**	**1**	**10**

05/29

ii. Details of Cases in the Hon'ble National Green Tribunal

Region	No. of cases pending on 31.03.2022 where Board is respondent	No. of new cases filed during 2022-23 where Board is respondent	No. cases disposed of during 2022--23	No. cases during 2022-23 wherein direction issue to board.	No. cases during 2022-23 wherein directions complied	No. cases durin g 2022-23 wherein directions not complied	No. of pending cases as on 31.03.20 23
Ambala	0	0	0	0	0	0	0
Bahadurgarh	0	0	0	0	0	0	0
Ballabgarh	1	2	3	1	1	0	0
Bhiwani	2	0	2	2	2	0	0
Charkhi Dadri	1	0	0	1	1	0	1
Dharuhera/ Rewari	1	4	3	2	2	0	2
Mahendergarh	4	0	1	1	1	0	3
Faridabad	2	2	0	0	0	0	4
Gurugram (N)	7	0	0	0	0	0	7
Gurugram (S)	7	0	7	0	0	0	0
Hisar	2	5	2	2	2	0	5
Kaithal	2	0	2	0	0	0	0
Karnal	0	0	0	0	0	0	0
Kurukshetra	1	0	0	1	1	0	1
Nuh	5	1	4	4	4	0	2
Palwal	16	9	9	9	9	0	16
Panchkula	1	4	1	1	1	0	4
Panipat	0	1	0	0	0	0	1
Sonepat	8	4	9	1	1	0	3
Yamuna Nagar	7	6	7	6	6	0	6
Total	**67**	**38**	**50**	**31**	**31**	0	**55**

05/30

iii. Details of Cases in the Hon'ble Punjab & Haryana High Court (filed, pending & decided as on 31.03.2023)

Region	No. of cases pending on 31.03.2022 in which Board is party	No. of new cases filed against Board during 2022-23	No. of new cases filed by Board during 2022-23	No. of cases decided		No. of pending cases as on 31.03.2023
				In favor of Board	Against Board	
Ballabgarh	5	4	0	3	0	6
Bhiwani	8	0	0	1	0	7
Gurugram(South)	17	5	0	0	3	19
Gurugram(North)	29	0	0	0	0	29
Hisar	2	0	1	2	0	1
Karnal	6	3	0	1	0	8
Sonipat	13	2	0	4	0	11
Yamuna Nagar	17	1	0	0	0	18
Rewari	0	0	0	0	0	0
Mahendergarh	7	0	0	1	0	6
Bhadurgarh	3	0	0	0	0	3
Faridabad	4	6	0	0	0	10
Panchkula	6	4	0	3	0	7
Kurukshetra	1	0	0	1	0	0
Nuh	0	2	0	1	0	1
Panipat	7	2	1	4	0	6
Charkhi Dadri	1	0	0	0	0	1
Palwal	0	0	0	0	0	0
Kaithal	5	0	0	0	0	5
Ambala	4	0	0	0	0	4
Total	**135**	**29**	**2**	**21**	**3**	**142**

05/31

iv. Details of Cases in the Hon'ble Supreme Court of India, New Delhi (filed, pending & decided as on 31.03.2023)

Region	No. of cases pending on 31.03.2022 in which Board is party	No. of new cases filed during 2022-23 in which Board is party	No. of new cases filed by Board during 2022-23	No. of cases decided		No. of pending cases as on 31.03.2023
				In favor of Board	Against Board	
Ballabgarh	0	0	0	0	0	0
Bhiwani	0	0	0	0	0	0
Gurugram(South)	2	0	0	0	0	2
Gurugram(North)	4	2	0	0	2	4
Hisar	0	0	0	0	0	0
Karnal	0	1	0	1	0	0
Sonipat	4	1	0	1	0	4
Yamuna Nagar	0	0	0	0	0	0
Rewari	0	4	0	0	0	4
Mahendergarh	1	0	0	0	0	1
Bhadurgarh	0	0	0	0	0	0
Faridabad	4	3	0	2	0	5
Panchkula	0	0	0	0	0	0
Kurukshetra	0	0	0	0	0	0
Nuh	0	0	0	0	0	0
Panipat	0	0	0	0	0	0
Charkhi Dadri	0	0	0	0	0	0
palwal	0	0	0	0	0	0
Kaithal	0	0	0	0	0	0
Ambala	0	0	0	0	0	0
Total	**15**	**11**	**0**	**4**	**2**	**20**

05/32

CHAPTER 5: GROSSLY & HIGHLY POLLUTING INDUSTRIES

05/33

5.1 Grossly Polluting Industries (GPIs) during the year 2022-2023

Industries discharging effluents into a water course and

(a) Handling hazardous substances, or

(b) Effluent having BOD load of 100 Kg per day or more, or

(c) a combination of (a) and (b),

have been categorized as grossly polluting units by the Central Pollution Control Board (CPCB). In 1993-94, the CPCB initiated identification of industries along the rivers to control the discharge of untreated effluent into rivers, directly or indirectly.

Directions were issued by the CPCB under Section 18(1) (b) of the Water Act, 1974, to all the State Pollution Control Boards/ Pollution Control Committees on July 14, 1997, for inventorization of GPIs to ensure compliance of environmental standards on priority and initiating action against defaulting Grossly Polluting Industries.

The status of Grossly Polluting Industries in Haryana, as per the said criteria, is as below:

Region	No. of the Grossly polluting Industries	Compliance Status		Action taken against non-complying units			
		Complying	Non Complying	Closure	Prosecution	Closure & Prosecution	Closed on its own
Ballabgarh	41	39	2	0	0	0	2
Bhiwani	1	1	0	0	0	0	0
Gurugram(South)	155	155	0	0	0	0	0
Gurugram(North)	26	25	1	1	0	0	0
Hisar	0	0	0	0	0	0	0
Karnal	60	58	2	1	0	0	1
Sonipat	124	122	2	0	2	0	0
Yamuna Nagar	128	128	0	0	0	0	0
Rewari	12	12	0	0	0	0	0
Mahendergarh	0	0	0	0	0	0	0
Bhadurgarh	86	86	0	0	0	0	0
Faridabad	32	22	10	3	0	3	4
Panchkula	4	4	0	0	0	0	0
Kurukshetra	6	4	2	0	0	0	2
Nuh	0	0	0	0	0	0	0
Panipat	340	339	01	0	1	0	0
Charkhi Dadri	0	0	0	0	0	0	0
palwal	8	8	0	0	0	0	0
Kaithal	4	4	0	0	0	0	0
Ambala	14	13	1	1	0	0	0
Total	**1041**	**1020**	**21**	**6**	**3**	**3**	**9**

05/34

5.2 Highly Polluting 17 Category Industries during the year 2022-2023

MoEF&CC issued a notification on January 16, 1991 to ensure compliance of environmental standards in highly polluting industries. MoEF&CC formulated 15 point programme for priority action.

The CPCB initially selected 18 Categories of major polluting industries but after discussion 17 Categories of highly polluting industries were finalized for regular follow up through the CPCB. These categories are Aluminium Smelting, Basic Drugs & Pharmaceuticals Manufacturing, Chlor Alkali/ Caustic Soda, Cement, Copper Smelting, Dyes and Dye Intermediate, Distillery, Fertilizer, Integrated Iron & Steel, Leather Processing including Tanneries, Oil Refinery, Pesticide Manufacturing, Pulp & Paper, Petrochemicals, Sugar, Thermal Power Plants and Zinc Smelting.

The status of Highly Polluting 17 Category Industries in Haryana, is as below

(as on 31.03.2023)

Region	No. of the Highly polluting Industries	Compliance Status		Action taken against non-complying units			
		Complying	Non Complying	Closure	Prosecution	Closure & Prosecution	Closed on its own
Ballabgarh	2	2	0	0	0	0	0
Bhiwani	3	3	0	0	0	0	0
Gurugram(South)	2	2	0	0	0	0	0
Gurugram(North)	1	1	0	0	0	0	0
Hisar	3	3	0	0	0	0	0
Karnal	60	58	2	2	0	0	0
Sonipat	42	42	0	0	0	0	0
Yamuna Nagar	4	4	0	0	0	0	0
Rewari	1	1	0	0	0	0	0
Mahendergarh	0	0	0	0	0	0	0
Bhadurgarh	25	25	0	0	0	0	0
Faridabad	1	1	0	0	0	0	0
Panchkula	6	5	1	1	0	0	0
Kurukshetra	5	5	0	0	0	0	0
Nuh	0	0	0	0	0	0	0
Panipat	10	10	0	0	0	0	0
Charkhi Dadri	2	2	0	0	0	0	0
Palwal	1	1	0	0	0	0	0
Kaithal	1	1	0	0	0	0	0
Ambala	6	6	0	0	0	0	0
Total	**175**	**172**	**3**	**3**	**0**	**0**	**0**

05/35

CHAPTER 6: AWARENESS PROGRAMMES

05/36

6.1 Awareness Programmes during the year 2022-2023

Awareness programmes were organized at different places in the state of Haryana for creating awareness on various environmental issues.

The details of awareness programmes organized, Region-wise, is as under:-

Regional Office	No. of Awareness Programmes Organized
Ballabgarh	7
Bhiwani	10
Gurugram(South)	4
Gurugram(North)	4
Hisar	9
Karnal	32
Sonipat	4
Yamuna Nagar	1
Rewari	5
Mahendergarh	4
Bhadurgarh	4
Faridabad	7
Panchkula	29
Kurukshetra	8
Nuh	4
Panipat	6
Charkhi Dadri	2
Palwal	0
Kaithal	5
Ambala	5
Total	**150**

05/37

CHAPTER 7: WATER & AIR POLLUTION CONTROL DEVICES

05/38

7.1 ETPs, STPs & CETPs

Effluent Treatment Plants (ETPs), Sewage Treatment Plants (STPs) & Common Effluent Treatment Plants (CETPs)

All the polluting industrial units/ projects generating trade effluent and domestic effluent (more than 10 KLD) are required to install ETPs/STPs before commissioning and thereafter, maintain and operate the same regularly and effectively, to ensure compliance of prescribed environmental standards.

Detail of new ETPs/STPs installed in industrial units/projects (as on 31.03.2023)

Region	No. of new ETP/STP installed		
	ETP	STP	Both ETP & STP
Ballabgarh	25	1	0
Bhiwani	0	0	0
Gurugram(South)	32	15	2
Gurugram(North)	21	13	0
Hisar	32	10	5
Karnal	43	0	0
Sonipat	60	07	03
Yamuna Nagar	13	0	0
Rewari	9	8	5
Mahendergarh	1	2	0
Bhadurgarh	54	16	0
Faridabad	9	2	1
panchkula	24	7	2
Kurukshetra	03	00	02
Nuh	5	2	2
Panipat	48	6	0
Charkhi Dadri	0	1	1
Pawal	50	39	27
Kaithal	10	4	14
Ambala	33	4	37
Total	**472**	**137**	**101**

05/39

Detail of Industries/ Projects Modified/Upgraded ETPs/STPs (as on 31.03.2023)

Region	No. of Industries Modified ETP	No. of Industries Modified STP	No. of Industries Modified STP & ETP Both
Ballabgarh	0	0	0
Bhiwani	0	0	0
Gurugram(South)	13	3	0
Gurugram(North)	0	0	0
Hisar	1	0	0
Karnal	0	0	0
Sonipat	2	1	2
Yamuna Nagar	02	0	0
Rewari	0	0	0
Mahendergarh	0	0	0
Bhadurgarh	1	0	0
Faridabad	3	0	0
panchkula	1	5	0
Kurukshetra	0	0	0
Nuh	0	0	0
Panipat	0	0	0
Charkhi Dadri	0	0	0
Palwal	6	11	1
Kaithal	0	1	1
Ambala	0	0	0
Total	**29**	**21**	**4**

Detail of new STPs installed in various towns (as on 31.03.2023)

Region	No. of new STPs installed	No. of towns where new STPs installed	Capacity
Ballabgarh	1	1	30 KLD
Karnal	3	3	02 MLD STP at Kachhwa, 02 MLD STP at Kohand & 08 MLD STP at Kambopura(12 MLD)
Mahendergarh	1	1	5.0 MLD
Panchkula	1	1	6.5
Panipat	2	1	18
Kaithal	2	2	6.5 MLD
Ambala1	1	1	5 MLD
Total	**11**	**10**	**73 MLD**

05740

Detail of new CETPs installed in industrial clusters/estates (as on 31.03.2023)

Region	No. of new CETPs installed	Location	Capacity
Hisar	1	M/s HSIIDC Industrial Estate, SIRSA	1.5 MLD
Yamuna Nagar	1	3 MLD CETP at HSIIDC, Manakpur, Jagadhri	3 MLD
Kaithal	1	HSIIDC, Narwana	1.5 MLD

05141

7.2 Air Pollution Control Devices (APCDs) during the year 2022-23

All the polluting industrial units/projects having source of air emissions are required to install APCDs before commissioning and thereafter, maintain and operate the same regularly and effectively for controlling the particulate matter and gaseous emissions generated from the stacks attached with the source of pollution and fugitive emissions generated from the process to ensure compliance of prescribed environmental standards.

Detail of Industrial units/projects Installed /Modified APCDs (as on 31.03.2023)

Region	No. of industries installed new APCM	No. of industries modified APCM
Ballabgarh	28	0
Bhiwani	0	0
Gurugram(South)	0	0
Gurugram(North)	0	0
Hisar	25	0
Karnal	42	0
Sonipat	149	0
Yamuna Nagar	19	0
Rewari	5	0
Mahendergarh	0	0
Bhadurgarh	46	0
Faridabad	4	0
Panchkula	12	0
Kurukshetra	3	1
Nuh	1	7
Panipat	231	231
Charkhi Dadri	0	0
Palwal	0	0
Kaithal	12	0
Ambala	8	0
Total	**585**	**239**

05/42

7.3 Online Continuous Effluent & Emission monitoring System (CEMS) during the year 2022-23

A continuous emission monitoring system (CEMS) is the total equipment necessary for the determination of a gas or particulate matter concentration or emission rate using pollutant analyzer measurements and a conversion equation, graph, or computer program to produce results in units of the applicable emission.

Continuous monitoring of emissions and effluents is done from the discharge points of industrial units. The analysers are installed on stacks/ chimneys and at the outlets of Effluent Treatment Plants/ Sewage Treatment Plants. The analysers continuously generate data at intervals of one second to few minutes.

In order to track release of pollutants through air emissions and effluent discharge from industries with high pollution potential, the Central Pollution Control Board (vide its letter No. B-29016/04/06PCI-1/5401 dated 05.02.2014) issued directions under section 18(1) b of the Water and the Air Act to the State Pollution Control Boards/ Committees for directing the 17 categories of highly polluting industries (such as Pulp & Paper, Distillery, Sugar, Tanneries, Power Plants, Iron & Steel, Cement, Oil Refineries, Fertilizer, Chloral Alkali Plants, Dye & Dye Intermediate Units, Pesticides, Zinc, Copper, Aluminum, Petrochemicals and Pharma Sector, etc.,), Common Effluent Treatment Plants (CETP),Sewage Treatment Plants (STPs), Common Bio Medical Waste and Common Hazardous Waste Incinerators; for installation of online effluent quality and emission monitoring systems. Grossly Polluting Industries (GPI) under Ganga Basin and common treatment/ facility units were also directed to install online monitoring devices.

Parameters to be monitored

a. For effluent - pH, BOD, COD, TSS, Flow, Chromium, Ammoniacal Nitrogen, Fluoride, Phenol, Cyanide, Temperature, and Arsenic
b. For emissions -PM, Fluoride, NOx, SO2, Cl2, HCl and NH3. The relevant parameters for each category of industries are provided on the CPCB website.

05/43

Details of installation of Online Continuous Effluent & Emission monitoring System (OCEMS) during the year 2022-2023

Region	No. of Industries required to install OCEMS	No. of Industries installed OCEMS	No. of Industries Not installed OCEMS	Action taken against non-complying units				
				Closure	Prosecution	Closure & Prosecution	Closed on its own	Under process (Specify reason)
Ballabgarh	82	82	0	0	0	0	0	0
Bhiwani	16	16	0	0	0	0	0	0
Gurugram(South)	167	167	0	0	0	0	0	0
Gurugram(North)	84	84	0	0	0	0	0	0
Hisar	31	31	0	0	0	0	0	0
Karnal	95	95	0	0	0	0	0	0
Sonipat	120	112	8	0	0	0	8	0
Yamuna Nagar	25	25	0	0	0	0	0	0
Rewari	32	32	0	0	0	0	0	0
Mahendergarh	6	6	0	0	0	0	0	0
Bhadurgarh	89	89	0	0	0	0	0	0
Faridabad	35	34	1	0	0	0	1	0
Panchkula	13	13	0	0	0	0	0	0
Kurukshetra	14	14	0	0	0	0	0	0
Nuh	15	15	0	0	0	0	0	0
Panipat	161	161	0	0	0	0	0	0
Charkhi Dadri	2	2	0	0	0	0	0	0
Palwal	27	27	0	0	0	0	0	0
Kaithal	67	67	0	0	0	0	0	0
Ambala	27	27	0	0	0	0	0	0
Total	**1108**	**1099**	**9**	**0**	**0**	**0**	**9**	**0**

05/44

CHAPTER 8: SAMPLE TESTING

05/45

8.1 Status of Sampling during the year 2022-2023

The Board has established four laboratories at Panchkula, Gurugram, Faridabad and Hisar for carrying out the work for analysis of different types of samples of effluent/ water and air emissions of various industries/projects as well as water bodies and ambient air quality.

The details of sample testing carried out by laboratories of the HSPCB are as under;-

i. Effluent Discharge

Laboratory	No. of sample received during 2022-23	No. of sample tested	No. of sample passed	No. of sample failed	No. of sample pending for testing
Faridabad	2876	2876	2579	297	0
Hisar	138	138	138	0	0
Gurugram	263	263	191	72	0
Punchkula	4367	4367	3807	560	0
Total	**7644**	**7644**	**6715**	**929**	**0**

ii. Air Emission

Laboratory	No. of sample received during 2022-23	No. of sample tested	No. of sample passed	No. of sample failed	No. of sample pending for testing
Faridabad	887	887	825	4	0
Hisar	447	447	446	1	0
Gurugram	413	413	379	34	0
Punchkula	1234	1234	1233	1	0
Total	**2981**	**2981**	**2883**	**40**	**0**

05/46

CHAPTER 9: CONTINUOUS AMBIENT AIR QUALITY MONITORING

05/47

9.1 General

With increase in air pollution levels across the country, revised national ambient air quality standards for twelve parameters were notified in the year 2009 by the MoEF&CC, which include gaseous emissions like sulphur dioxide, nitrogen dioxide, ozone, lead, carbon monoxide, ammonia, benzene, benzo (a), arsenic, nickel and particulate matters of size less than 10 microns and 2.5 micron etc. As per revised norms, residential, rural and industrial areas have the same standards.

The revised ambient air quality standards provide a legal framework for the control of air pollution and protection of public health with a provision for any citizen to approach the court for better air quality. In India, these norms are governed by the Central Pollution Control Board (CPCB) and implemented by the State Pollution Control Boards/ Pollution Control Committees.

Continuous ambient air quality monitoring include installation of Fixed Continuous Ambient Air Quality Monitoring System as per CPCB/ SPCB guidelines, comprising of gas and BTX analyzers, dust analyzers, weather monitors and associated auxiliary items including PC based data acquisition systems with suitable software to link up with the State Pollution Control Board and the Central Pollution Control Board.

05/48

9.2 Continuous Ambient Air Quality Monitoring Report

The Haryana State Pollution Control Board has set up 29 Continuous Ambient Air Quality Monitoring Stations at most of the District Head Quarters in the State. Continuous data of ambient air quality being monitored at these stations is being displayed at prominent places in these towns and also connected to the main server of the Board and CPCB. This has facilitated generation of Ambient Air Quality data on continuous basis for better management of air quality.

Continuous Ambient Air Quality Monitoring Report has been tabulated for the cities of Manesar, Bhiwani, Bahadurgarh, Palwal, Ballabhgarh, Sonepat, Mewat, Dharuhera, Panipat, Yamuna Nagar, Mahendergarh, Kurukshetra, Jind, Fatehabad, Karnal, Ambala, Hisar, Sirsa, Kaithal, Gurgaon, Rohtak, Panchkula and Faridabad. The data has been presented in the form of tables.

The table highlights the monthly average of air pollutants, wherein rows represents the period and the columns represent the unit of measurement of the pollutant. The pollutants highlighted in columns are Particulate Matter (PM2.5), Nitrogen Di-oxide (NO2), Nitrogen Oxide (Nox) and Ozone (O3), Carbon Monoxide (CO), Nitric Oxide (NO) and Sulphur Di-oxide (SO2) and Benzene

05/49

1. Continuous Ambient Air Quality Monitoring Station at Bahadurgarh

Monitoring Location : Arya Nagar, Bahadurgarh - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	NO	NO2	NOx	NH3	SO_2	CO	O_3	$PM_{2.5}$	PM_{10}
	µg/m³	µg/m³	ppb	µg/m³	µg/m³	mg/m3	µg/m³	µg/m³	µg/m³
Apr-22	13.71	35.27	25.01	43.14	28.10	0.73	40.21	117.41	282.58
May-22	17.14	40.63	37.78	60.40	8.90	0.66	39.89	85.63	221.81
Jun-22	17.90	40.13	40.16	64.54	18.39	0.62	39.82	80.99	180.92
Jul-22	21.22	21.71	28.44	43.52	2.96	0.35	32.15	36.32	67.94
Aug-22	18.67	11.31	20.93	35.69	7.15	0.25	30.99	31.84	67.16
Sep-22	23.57	15.61	25.60	40.66	10.34	0.46	41.16	43.11	78.23
Oct-22	23.94	19.90	27.64	44.90	7.99	0.66	26.11	96.76	167.71
Nov-22	16.44	24.04	29.66	58.20	10.52	0.90	43.32	126.74	195.83
Dec-22	10.73	13.61	22.65	62.26	9.74	0.74	60.19	96.80	154.07
Jan-23	11.33	17.65	28.17	65.07	9.58	0.60	39.89	90.96	134.94
Feb-23	17.51	23.56	39.77	55.42	4.63	0.74	47.24	72.22	127.20
Mar-23	27.15	36.77	55.44	34.50	12.78	0.73	60.28	58.90	105.55
Minimum	**10.73**	**11.31**	**20.93**	**34.50**	**2.96**	**0.25**	**26.11**	**31.84**	**67.16**
Maximum	**27.15**	**40.63**	**55.44**	**65.07**	**28.10**	**0.90**	**60.28**	**126.74**	**282.58**
Average	**18.28**	**25.02**	**31.77**	**50.69**	**10.92**	**0.62**	**41.77**	**78.14**	**148.66**

05/50

2. Continuous Ambient Air Quality Monitoring Station at Ballabgarh

Monitoring Location : Nathu Colony, Ballabgarh - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	15.34	18.99	26.32	13.61	29.24	1.65	6.03	73.24	216.80
May-22	6.94	3.37	7.22	9.90	9.77	1.07	10.01	58.18	124.61
Jun-22	7.62	17.63	22.91	21.01	7.88	0.95	29.80	63.33	145.40
Jul-22	7.52	18.33	22.70	52.52	6.15	0.89	13.29	23.39	55.90
Aug-22	14.89	15.16	31.65	16.34	4.22	0.98	10.97	22.46	75.53
Sep-22	12.16	13.31	22.56	12.75	3.38	1.09	29.74	30.79	101.19
Oct-22	9.27	11.56	7.49	21.09	4.94	1.75	18.17	53.70	114.57
Nov-22	6.58	4.98	5.08	6.51	4.60	4.60	8.23	124.04	260.55
Dec-22	6.93	5.00	5.08	6.98	4.07	4.59	6.50	115.51	211.98
Jan-23	6.45	5.10	5.28	6.18	4.14	4.29	4.73	77.29	157.02
Feb-23	6.01	4.98	5.17	6.05	6.75	1.60	5.14	56.72	123.58
Mar-23	6.01	4.94	5.92	6.03	8.26	1.45	8.93	45.99	105.14
Minimum	**6.01**	**3.37**	**5.08**	**6.03**	**3.38**	**0.89**	**4.73**	**22.46**	**55.90**
Maximum	**15.34**	**18.99**	**31.65**	**52.52**	**29.24**	**4.60**	**29.80**	**124.04**	**260.55**
Average	**8.81**	**10.28**	**13.95**	**14.91**	**7.78**	**2.08**	**12.63**	**62.05**	**141.02**

DS/.51

3. Continuous Ambient Air Quality Monitoring station at Bhiwani

Monitoring Location : H.B. Colony, Bhiwani - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	3.74	16.11	11.38	25.51	15.06	0.73	63.50	104.63	207.96
May-22	13.78	42.73	33.28	29.04	10.95	0.56	38.86	89.72	181.22
Jun-22	6.57	16.56	13.89	25.51	11.32	0.51	55.10	81.12	156.69
Jul-22	6.54	9.47	7.39	18.77	11.92	0.46	58.12	32.86	58.93
Aug-22	5.35	12.45	6.12	17.58	15.06	0.44	63.72	30.34	59.19
Sep-22	4.54	13.21	5.90	14.47	15.38	0.47	59.09	39.39	59.11
Oct-22	4.13	23.19	12.02	15.07	12.22	0.75	37.19	76.30	112.86
Nov-22	3.51	30.79	15.72	18.58	11.52	1.13	26.41	115.64	150.69
Dec-22	10.10	27.07	17.69	23.78	12.36	1.46	39.84	86.10	107.96
Jan-23	7.07	23.87	13.46	19.90	7.73	1.45	38.65	79.65	152.66
Feb-23	7.01	22.82	12.93	11.41	11.10	0.92	41.12	61.73	134.54
Mar-23	7.07	19.83	11.47	10.48	9.63	0.76	36.68	62.90	128.44
Minimum	**3.51**	**9.47**	**5.90**	**10.48**	**7.73**	**0.44**	**26.41**	**30.34**	**58.93**
Maximum	**13.78**	**42.73**	**33.28**	**29.04**	**15.38**	**1.46**	**63.72**	**115.64**	**207.96**
Average	**6.62**	**21.51**	**13.44**	**19.18**	**12.02**	**0.80**	**46.52**	**71.70**	**125.85**

05/52

4. Continuous Ambient Air Quality Monitoring Station at Charkhi Dadri

Monitoring Location : Mini Secretariat, Charkhi Dadri - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	NO	NO2	NOx	NH3	SO_2	CO	O_3	$PM_{2.5}$	PM_{10}
	µg/m³	µg/m³	ppb	µg/m³	µg/m³	mg/m3	µg/m³	µg/m³	µg/m³
Apr-22	13.77	37.80	28.21	69.69	6.08	0.66	15.35	118.02	243.71
May-22	8.51	21.37	16.17	29.69	8.56	0.68	15.39	102.25	234.93
Jun-22	8.06	12.19	10.27	21.12	9.79	0.54	15.37	63.56	181.49
Jul-22	5.55	11.25	11.57	15.68	8.34	0.42	15.35	71.23	77.45
Aug-22	7.50	8.23	10.61	16.57	8.36	0.46	15.35	31.71	73.09
Sep-22	5.64	10.04	7.17	17.41	8.36	0.52	15.35	39.85	82.34
Oct-22	8.11	11.36	10.21	20.50	12.99	0.78	15.30	87.76	155.77
Nov-22	8.04	17.64	12.74	24.03	6.79	1.06	15.36	113.86	204.06
Dec-22	10.95	24.96	19.49	29.93	5.61	1.12	15.37	100.06	183.55
Jan-23	10.96	21.29	16.96	33.88	6.61	0.93	15.41	95.44	169.56
Feb-23	6.69	27.90	18.35	40.67	7.81	0.81	15.35	84.12	171.60
Mar-23	6.61	22.19	14.41	40.84	6.96	0.71	15.37	74.38	119.70
Minimum	**5.55**	**8.23**	**7.17**	**15.68**	**5.61**	**0.42**	**15.30**	**31.71**	**73.09**
Maximum	**13.77**	**37.80**	**28.21**	**69.69**	**12.99**	**1.12**	**15.41**	**118.02**	**243.71**
Average	**8.37**	**18.85**	**14.68**	**30.00**	**8.02**	**0.72**	**15.36**	**81.85**	**158.10**

05/53

5. Continuous Ambient Air Quality Monitoring Station at Dharuhera

Monitoring Location : Municipal Corporation Office, Dharuhera - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	12.00	21.00	30.01	10.01	10.58	0.67	41.52	97.08	324.20
May-22	12.00	21.01	30.00	10.00	5.48	0.61	38.27	88.80	302.86
Jun-22	12.00	21.00	30.01	10.01	8.14	0.48	25.56	67.85	221.00
Jul-22	12.01	21.02	30.01	10.01	4.26	0.41	15.55	47.82	92.77
Aug-22	12.01	21.00	29.99	9.99	2.30	0.37	15.50	42.74	103.86
Sep-22	4.92	17.80	19.57	35.62	7.42	0.98	24.76	30.59	59.57
Oct-22	12.00	21.00	29.99	10.00	9.52	0.83	23.90	113.74	249.86
Nov-22	12.00	21.01	29.99	9.99	10.95	0.99	26.66	156.52	293.85
Dec-22	13.44	21.47	30.23	12.06	6.67	1.00	21.71	129.02	238.81
Jan-23	27.68	26.95	32.53	33.62	2.52	1.11	24.09	148.55	245.68
Feb-23	27.62	26.92	32.42	33.47	3.36	0.83	21.27	117.25	243.48
Mar-23	26.70	26.45	32.76	32.37	6.13	0.69	22.66	77.06	172.36
Minimum	**4.92**	**17.80**	**19.57**	**9.99**	**2.30**	**0.37**	**15.50**	**30.59**	**59.57**
Maximum	**27.68**	**26.95**	**32.76**	**35.62**	**10.95**	**1.11**	**41.52**	**156.52**	**324.20**
Average	**15.37**	**22.22**	**29.79**	**18.10**	**6.45**	**0.75**	**25.12**	**93.09**	**212.36**

0954

6. Continuous Ambient Air Quality Monitoring Report at Jind

Monitoring Location : Police Lines, Jind - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	5.32	10.77	19.50	19.85	22.29	0.75	41.04	87.59	209.35
May-22	10.62	14.39	21.88	21.12	19.83	0.97	58.65	96.44	203.28
Jun-22	3.55	7.54	16.92	17.94	7.56	1.17	30.57	66.13	156.65
Jul-22	3.54	7.77	17.48	18.53	8.72	0.88	12.89	33.84	47.24
Aug-22	3.56	7.73	17.46	18.68	15.21	0.87	15.11	32.81	50.23
Sep-22	3.53	7.76	17.32	18.50	10.88	0.99	11.97	36.51	61.84
Oct-22	7.29	19.17	15.90	31.79	20.99	1.29	9.57	86.76	129.12
Nov-22	5.98	18.44	13.92	20.13	18.27	1.18	10.92	156.86	199.76
Dec-22	10.57	37.70	26.74	29.16	15.72	1.38	8.26	110.23	136.23
Jan-23	6.26	37.76	26.77	29.16	9.20	1.22	7.06	82.93	102.14
Feb-23	2.58	37.31	26.49	28.97	16.98	1.27	12.62	63.47	84.65
Mar-23	2.74	38.00	27.04	29.24	14.22	1.11	12.89	39.09	56.88
Minimum	**2.58**	**7.54**	**13.92**	**17.94**	**7.56**	**0.75**	**7.06**	**32.81**	**47.24**
Maximum	**10.62**	**38.00**	**27.04**	**31.79**	**22.29**	**1.38**	**58.65**	**156.86**	**209.35**
Average	**5.46**	**20.36**	**20.62**	**23.59**	**14.99**	**1.09**	**19.29**	**74.39**	**119.78**

057.55

7. Continuous Ambient Air Quality Monitoring Station at Karnal

Monitoring Location : Sector-12, Karnal - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	25.50	33.21	37.78	33.62	19.11	0.68	20.67	64.95	147.74
May-22	4.71	20.72	14.53	22.53	15.13	0.65	32.89	95.31	206.48
Jun-22	3.28	5.02	3.00	32.16	9.83	0.64	33.04	79.17	191.46
Jul-22	3.26	13.89	2.89	13.00	17.37	0.65	26.05	57.69	132.72
Aug-22	3.26	13.89	2.89	13.00	17.16	0.65	26.05	57.69	132.72
Sep-22	5.08	3.88	16.03	34.38	21.93	0.48	11.11	25.69	92.77
Oct-22	5.04	6.19	7.86	14.53	11.12	0.93	19.29	62.60	127.09
Nov-22	5.85	10.94	13.52	40.37	13.18	1.15	37.78	90.62	154.61
Dec-22	7.00	5.00	15.00	34.00	16.78	0.88	40.05	90.53	126.48
Jan-23	7.45	5.84	19.50	37.23	11.89	0.81	40.08	70.06	100.20
Feb-23	8.62	7.99	31.05	45.58	6.57	0.69	45.68	52.61	94.50
Mar-23	8.64	7.99	31.01	45.57	6.78	0.54	18.02	24.81	66.80
Minimum	**3.26**	**3.88**	**2.89**	**13.00**	**6.57**	**0.48**	**11.11**	**24.81**	**66.80**
Maximum	**25.50**	**33.21**	**37.78**	**45.58**	**21.93**	**1.15**	**45.68**	**95.31**	**206.48**
Average	**7.31**	**11.21**	**16.25**	**30.50**	**13.90**	**0.73**	**29.23**	**64.31**	**131.13**

057 56

8. Continuous Ambient Air Quality Monitoring Station at Manesar

Monitoring Location : Sector-2 IMT, Manesar - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	10.06	5.07	7.02	12.70	17.81	0.66	64.79	127.85	205.62
May-22	22.03	14.07	23.23	25.20	9.46	0.49	42.67	109.39	205.70
Jun-22	22.73	14.52	24.44	21.88	13.40	0.38	13.68	77.17	151.56
Jul-22	32.31	11.92	30.15	24.85	9.90	0.40	29.61	38.58	70.35
Aug-22	21.13	7.71	19.70	16.63	7.62	0.34	12.00	39.73	75.04
Sep-22	18.80	4.48	8.15	8.42	8.22	0.59	14.34	47.49	91.76
Oct-22	50.97	37.17	48.36	74.14	8.41	0.76	14.15	100.72	180.79
Nov-22	87.09	64.34	98.29	158.16	9.45	0.89	11.70	112.60	222.82
Dec-22	69.72	49.56	77.67	143.61	7.82	0.91	13.41	111.85	206.00
Jan-23	68.50	33.32	67.95	111.33	4.25	0.87	16.37	130.23	181.40
Feb-23	49.47	37.88	56.51	106.37	4.44	0.62	13.07	74.88	152.87
Mar-23	57.34	29.14	63.08	169.32	8.70	0.54	23.83	62.85	119.93
Minimum	**10.06**	**4.48**	**7.02**	**8.42**	**4.25**	**0.34**	**11.70**	**38.58**	**70.35**
Maximum	**87.09**	**64.34**	**98.29**	**169.32**	**17.81**	**0.91**	**64.79**	**130.23**	**222.82**
Average	**42.51**	**25.77**	**43.71**	**72.72**	**9.12**	**0.62**	**22.47**	**86.11**	**155.32**

057

9. Continuous Ambient Air Quality Monitoring Station at Mewat

Monitoring Location : General Hospital, Mandikhera (Mewat) - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	20.33	10.23	17.18	55.42	10.03	0.82	19.98	37.30	96.11
May-22	20.32	10.23	17.25	55.35	8.34	0.68	19.93	42.52	122.87
Jun-22	20.33	10.25	17.17	55.29	13.71	0.94	19.96	24.37	82.24
Jul-22	20.33	10.27	17.21	55.52	11.88	1.52	19.98	20.76	30.76
Aug-22	10.00	15.02	19.99	47.12	15.87	0.25	30.05	30.89	65.33
Sep-22	9.92	14.88	20.03	46.96	19.36	0.51	21.15	25.33	57.26
Oct-22	11.54	11.29	17.54	49.71	11.13	11.79	20.10	31.13	102.34
Nov-22	13.24	13.03	18.21	52.12	9.77	0.76	20.02	26.98	228.87
Dec-22	13.20	13.04	18.16	52.16	5.88	0.91	19.97	19.47	120.45
Jan-23	13.25	12.98	18.24	52.08	5.73	1.07	20.04	25.15	135.61
Feb-23	13.18	12.96	18.19	52.12	13.95	0.67	19.90	16.59	83.10
Mar-23	13.23	13.06	18.22	52.13	20.01	0.53	20.00	22.33	71.55
Minimum	**9.92**	**10.23**	**17.17**	**46.96**	**5.73**	**0.25**	**19.90**	**16.59**	**30.76**
Maximum	**20.33**	**15.02**	**20.03**	**55.52**	**20.01**	**11.79**	**30.05**	**42.52**	**228.87**
Average	**14.91**	**12.27**	**18.12**	**52.16**	**12.14**	**1.70**	**20.92**	**26.90**	**99.71**

05/58

10. Continuous Ambient Air Quality Monitoring Station at Natrnaul

Monitoring Location : Shastri Nagar, Narnaul - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	14.36	36.78	26.52	18.87	4.47	0.35	9.14	72.99	159.12
May-22	8.66	30.35	22.95	15.42	4.57	0.26	10.91	68.15	171.33
Jun-22	4.26	22.59	18.72	13.42	4.35	0.18	8.55	33.14	110.22
Jul-22	4.30	22.65	18.71	36.27	4.09	0.14	7.27	26.59	43.91
Aug-22	4.28	30.35	18.55	36.04	4.04	0.09	6.93	26.20	41.90
Sep-22	4.29	22.67	18.67	36.24	4.05	0.16	8.90	29.31	44.11
Oct-22	10.23	19.04	21.89	26.90	3.27	0.38	5.97	64.57	120.05
Nov-22	7.39	14.98	20.09	23.92	4.02	0.49	5.34	79.57	163.29
Dec-22	10.23	19.04	21.89	26.90	3.27	0.38	5.97	64.57	120.05
Jan-23	7.40	15.01	19.96	24.02	6.49	0.51	*	70.50	121.19
Feb-23	25.66	35.19	36.32	113.66	4.73	1.02	28.71	125.00	231.48
Mar-23	7.39	14.95	20.04	23.93	4.42	0.34	17.15	51.08	101.26
Minimum	**4.26**	**14.95**	**18.55**	**13.42**	**3.27**	**0.09**	**5.34**	**26.20**	**41.90**
Maximum	**25.66**	**36.78**	**36.32**	**113.66**	**6.49**	**1.02**	**28.71**	**125.00**	**231.48**
Average	**9.04**	**23.63**	**22.03**	**32.96**	**4.31**	**0.36**	**10.44**	**59.30**	**118.99**

05/59

11. Continuous Ambient Air Quality Monitoring Station at Palwal

Monitoring Location : Shyam Nagar, Palwal - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	NO	NO2	NOx	NH3	SO_2	CO	O_3	$PM_{2.5}$	PM_{10}
	µg/m³	µg/m³	ppb	µg/m³	µg/m³	mg/m3	µg/m³	µg/m³	µg/m³
Apr-22	19.16	31.17	29.76	8.94	8.78	2.53	19.12	41.35	194.24
May-22	10.08	19.43	16.88	6.90	0.88	4.75	30.25	47.63	167.07
Jun-22	8.86	17.85	15.27	9.23	0.54	2.77	25.95	37.94	141.70
Jul-22	7.99	9.60	11.29	17.15	0.44	6.22	38.47	28.31	68.77
Aug-22	7.67	8.81	10.59	15.80	0.36	2.11	31.43	27.30	71.69
Sep-22	7.23	9.74	13.21	18.25	0.51	2.75	25.58	29.37	85.77
Oct-22	8.93	23.33	29.37	36.87	0.79	2.73	6.38	36.05	124.32
Nov-22	6.88	5.91	12.77	4.14	0.51	10.56	10.03	29.86	83.51
Dec-22	9.01	19.03	25.04	34.90	0.75	7.60	10.02	51.09	111.76
Jan-23	9.00	18.99	25.04	35.00	0.53	7.93	18.89	42.09	79.62
Feb-23	9.00	19.00	25.02	34.99	0.45	5.31	16.40	41.96	73.64
Mar-23	9.00	19.00	25.00	34.98	0.45	6.91	31.41	33.53	65.33
Minimum	**6.88**	**5.91**	**10.59**	**4.14**	**0.36**	**2.11**	**6.38**	**27.30**	**65.33**
Maximum	**19.16**	**31.17**	**29.76**	**36.87**	**8.78**	**10.56**	**38.47**	**51.09**	**194.24**
Average	**9.40**	**16.82**	**19.94**	**21.43**	**1.25**	**5.18**	**21.99**	**37.21**	**105.62**

•57 60

12. Continuous Ambient Air Quality Monitoring Station at Panipat

Monitoring Location : Sector-18, Panipat - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	13.76	13.97	23.69	10.65	38.70	0.72	43.68	95.25	251.93
May-22	15.38	29.09	14.30	12.88	50.04	0.87	39.26	50.88	171.85
Jun-22	23.95	4.14	27.54	9.82	24.91	1.42	34.38	52.19	194.65
Jul-22	23.83	4.46	28.01	10.01	10.06	0.52	32.05	29.74	82.41
Aug-22	24.06	4.00	27.98	10.01	27.95	2.13	31.97	25.33	79.72
Sep-22	24.05	4.01	28.04	10.01	24.03	0.47	32.08	25.17	78.57
Oct-22	23.68	3.99	27.50	9.98	26.31	0.83	32.04	56.93	196.02
Nov-22	23.99	4.01	28.00	9.95	15.41	0.95	32.05	55.63	252.62
Dec-22	24.01	4.00	28.01	9.98	10.00	2.75	32.00	31.51	161.01
Jan-23	25.96	4.59	30.03	11.41	14.56	1.83	34.31	42.55	290.14
Feb-23	23.2	3.83	25.95	12.47	9.97	0.7	31.97	16.17	165.14
Mar-23	23.92	3.96	27.36	10.11	9.89	0.47	31.69	18.17	110.13
Minimum	**13.76**	**3.83**	**14.30**	**9.82**	**9.89**	**0.47**	**31.69**	**16.17**	**78.57**
Maximum	**25.96**	**29.09**	**30.03**	**12.88**	**50.04**	**2.75**	**43.68**	**95.25**	**290.14**
Average	**22.48**	**7.00**	**26.37**	**10.61**	**21.82**	**1.14**	**33.96**	**41.63**	**169.52**

057 61

13. Continuous Ambient Air Quality Monitoring Station at Rohtak

Monitoring Location : MD University, Rohtak - HSPCB							
Monitoring Conducted By: Environment SA India Pvt. Ltd							
Months	**PM2.5**	**CO**	**NO**	**NO2**	**NOX**	**O3**	**SO2**
	µg/m3	**mg/m3**	**µg/m3**	**µg/m3**	**ppb**	**µg/m3**	**µg/m3**
Apr-22	108.41	0.24	17.45	62.89	44.19	37.71	20.35
May-22	121.12	0.42	13.17	43.24	29.48	47.68	31.76
Jun-22	90.42	0.36	11.42	50.21	32.29	42.65	15.79
Jul-22	34.46	0.30	12.57	37.24	26.43	29.28	14.37
Aug-22	25.39	0.25	10.28	35.69	24.10	29.20	11.16
Sep-22	31.77	0.32	22.91	36.54	34.88	28.95	10.18
Oct-22	65.75	0.55	23.78	34.44	36.29	33.17	9.90
Nov-22	111.97	0.63	27.39	43.56	43.40	39.16	14.54
Dec-22	90.52	0.57	24.49	40.83	40.37	39.08	10.10
Jan-23	83.04	0.49	16.46	42.70	33.45	39.16	6.61
Feb-23	64.14	0.55	15.59	32.23	27.07	39.03	9.23
Mar-23	45.66	0.47	7.89	25.67	18.13	39.06	13.45
Minimum	**25.39**	**0.24**	**7.89**	**25.67**	**18.13**	**28.95**	**6.61**
Maximum	**121.12**	**0.63**	**27.39**	**62.89**	**44.19**	**47.68**	**31.76**
Average	**72.72**	**0.43**	**16.95**	**40.44**	**32.51**	**37.01**	**13.96**

57.62

14. Continuous Ambient Air Quality Monitoring Station at Sonipat

Monitoring Location : Murthal, Sonipat - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May-22	5.22	17.30	14.51	38.33	6.47	0.88	25.15	53.43	272.12
Jun-22	5.26	17.41	14.68	38.63	*	*	24.96	50.22	209.95
Jul-22	5.26	17.39	14.64	38.55	15.41	*	24.98	22.49	94.61
Aug-22	5.24	17.33	14.57	38.36	15.61	0.28	25.09	22.14	94.24
Sep-22	5.25	17.35	14.60	38.53	15.62	0.41	27.49	21.96	92.36
Oct-22	4.93	19.78	15.98	42.84	15.63	0.63	25.30	64.68	178.30
Nov-22	6.01	24.01	16.01	45.01	15.64	0.85	24.77	105.91	260.82
Dec-22	6.01	24.00	16.00	45.00	15.62	0.77	71.79	59.30	226.91
Jan-23	25.96	4.59	30.03	11.41	14.56	1.83	34.31	42.55	290.14
Feb-23	1.40	30.69	16.97	39.02	21.25	0.74	63.88	53.12	125.52
Mar-23	6.65	31.59	17.29	51.53	17.19	0.50	24.67	35.52	109.82
Minimum	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Maximum	**25.96**	**31.59**	**30.03**	**51.53**	**21.25**	**1.83**	**71.79**	**105.91**	**290.14**
Average	**6.43**	**18.45**	**15.44**	**35.60**	**13.91**	**0.69**	**31.03**	**44.28**	**162.90**

05/63

15. Continuous Ambient Air Quality Monitoring Station at Faridabad

Monitoring Location : Sector 11, Faridabad - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	10.03	14.99	29.95	10.05	13.84	1.18	5.22	172.26	236.57
May-22	9.82	15.19	29.46	10.01	4.94	2.27	12.90	127.68	199.04
Jun-22	9.60	14.50	28.92	9.59	6.71	2.37	5.02	130.66	152.37
Jul-22	11.09	16.39	31.15	11.76	4.22	0.93	10.08	87.63	80.39
Aug-22	19.44	26.99	43.68	24.31	1.88	0.80	10.41	52.58	102.38
Sep-22	19.98	24.98	44.97	25.01	3.94	0.57	4.51	38.76	124.62
Oct-22	19.57	25.30	43.80	24.66	21.91	1.20	15.68	118.76	230.55
Nov-22	20.00	25.02	45.02	24.98	10.17	2.35	4.53	184.59	297.82
Dec-22	20.02	25.00	45.00	24.99	18.07	2.41	3.58	153.40	250.52
Jan-23	22.03	24.99	45.00	25.01	19.02	1.59	3.62	144.08	277.22
Feb-23	20.00	24.99	45.01	25.01	20.89	1.18	6.86	103.53	218.74
Mar-23	20.01	25.01	45.02	24.99	14.28	0.99	13.99	82.03	184.96
Minimum	**9.60**	**14.50**	**28.92**	**9.59**	**1.88**	**0.57**	**3.58**	**38.76**	**80.39**
Maximum	**22.03**	**26.99**	**45.02**	**25.01**	**21.91**	**2.41**	**15.68**	**184.59**	**297.82**
Average	**16.80**	**21.95**	**39.75**	**20.03**	**11.66**	**1.49**	**8.03**	**116.33**	**196.26**

05 64

16. Continuous Ambient Air Quality Monitoring Station at Faridabad

Monitoring Location : Sector 30, Faridabad - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	25.02	29.98	40.04	34.99	39.89	1.45	15.25	63.60	312.82
May-22	23.31	29.78	36.63	28.22	16.81	0.72	19.88	59.56	276.71
Jun-22	16.58	14.73	28.39	17.25	4.01	0.94	20.69	57.88	234.66
Jul-22	15.01	10.00	30.01	20.00	1.43	0.84	3.76	30.99	94.23
Aug-22	14.90	13.38	31.04	18.09	3.27	0.95	10.24	34.06	79.81
Sep-22	28.02	11.90	39.07	17.12	6.22	0.63	10.62	33.84	107.67
Oct-22	60.16	29.20	84.21	30.74	38.06	1.03	20.24	84.82	152.22
Nov-22	55.07	26.13	81.32	28.68	15.51	1.81	21.74	95.85	196.70
Dec-22	49.65	24.25	73.88	31.21	33.54	1.89	20.18	99.83	273.81
Jan-23	28.18	25.00	53.06	30.95	37.72	1.68	17.23	159.60	350.39
Feb-23	20.02	24.99	44.99	35.25	22.58	1.27	22.63	98.67	179.90
Mar-23	19.99	25.00	44.98	35.25	22.23	1.43	16.50	77.53	148.31
Minimum	**14.90**	**10.00**	**28.39**	**17.12**	**1.43**	**0.63**	**3.76**	**30.99**	**79.81**
Maximum	**60.16**	**29.98**	**84.21**	**35.25**	**39.89**	**1.89**	**22.63**	**159.60**	**350.39**
Average	**29.66**	**22.03**	**48.97**	**27.31**	**20.11**	**1.22**	**16.58**	**74.69**	**200.60**

05/65

17. Continuous Ambient Air Quality Monitoring Station at Faridabad

Monitoring Location : New Industrial Town, Faridabad - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	2.42	9.52	7.85	3.72	11.59	0.28	6.16	46.99	174.71
May-22	9.58	18.81	21.24	8.22	23.91	0.63	11.46	74.55	189.42
Jun-22	6.87	10.70	12.20	5.12	24.57	0.51	9.20	56.99	232.89
Jul-22	5.22	9.97	12.59	5.66	66.82	0.55	8.20	44.95	125.10
Aug-22	5.66	13.35	14.26	4.94	25.31	0.50	10.67	27.17	102.56
Sep-22	10.48	12.81	16.78	5.46	23.52	0.64	11.55	38.25	122.13
Oct-22	18.44	18.76	28.02	7.75	26.35	1.61	10.25	86.77	274.24
Nov-22	21.80	21.90	31.05	21.79	6.52	1.20	13.48	127.48	362.87
Dec-22	23.83	29.27	37.28	26.07	5.57	1.19	17.05	131.68	366.96
Jan-23	35.66	19.41	46.19	19.71	7.05	1.17	17.16	117.59	365.30
Feb-23	22.46	20.41	29.65	26.83	5.90	0.84	19.73	83.92	257.49
Mar-23	21.93	14.27	23.89	21.04	3.28	0.54	20.36	37.46	106.93
Minimum	**2.42**	**9.52**	**7.85**	**3.72**	**3.28**	**0.28**	**6.16**	**27.17**	**102.56**
Maximum	**35.66**	**29.27**	**46.19**	**26.83**	**66.82**	**1.61**	**20.36**	**131.68**	**366.96**
Average	**15.36**	**16.60**	**23.42**	**13.03**	**19.20**	**0.81**	**12.94**	**72.82**	**223.38**

05 66

18. Continuous Ambient Air Quality Monitoring Station at Gurugram

Monitoring Location : Sector-51, Gurugram - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	22.06	38.07	29.73	61.50	13.66	1.17	23.05	125.14	322.59
May-22	5.77	26.61	18.31	59.74	12.80	0.68	36.62	84.59	245.04
Jun-22	9.42	20.92	15.64	45.23	2.80	0.53	26.52	79.34	245.64
Jul-22	8.38	14.28	12.58	45.22	3.70	0.50	30.04	52.65	90.06
Aug-22	7.34	7.93	8.59	55.38	6.74	0.43	20.72	40.89	92.95
Sep-22	10.65	4.85	10.71	70.42	6.19	0.60	29.46	67.55	128.05
Oct-22	26.00	16.75	25.75	71.41	6.22	1.22	30.19	141.62	272.90
Nov-22	50.14	27.97	50.78	119.96	4.61	1.69	38.72	167.76	310.66
Dec-22	41.42	36.61	50.87	131.45	7.02	1.57	33.27	146.37	271.04
Jan-23	30.70	33.15	42.41	107.06	4.74	1.37	25.19	145.26	268.98
Feb-23	24.54	35.19	35.64	113.65	4.73	1.02	28.71	125.00	231.48
Mar-23	17.68	30.22	29.26	97.61	3.88	0.77	29.14	92.18	170.70
Minimum	**5.77**	**4.85**	**8.59**	**45.22**	**2.80**	**0.43**	**20.72**	**40.89**	**90.06**
Maximum	**50.14**	**38.07**	**50.87**	**131.45**	**13.66**	**1.69**	**38.72**	**167.76**	**322.59**
Average	**21.17**	**24.38**	**27.52**	**81.55**	**6.42**	**0.96**	**29.30**	**105.69**	**220.84**

19. Continuous Ambient Air Quality Monitoring Station at Gurugram

Monitoring Location : Vikas Sadan - HSPCB							
Monitoring Conducted By: Environment SA India Pvt. Ltd							
Months	**PM2.5**	**CO**	**NO**	**NO2**	**NOX**	**O3**	**SO2**
	µg/m3	**mg/m3**	**µg/m3**	**µg/m3**	**ppb**	**µg/m3**	**µg/m3**
Apr-22	113.23	1.19	6.25	11.71	18.78	22.85	5.44
May-22	97.07	1.16	10.11	10.35	17.52	38.35	9.81
Jun-22	109.06	1.11	13.22	11.74	18.43	40.45	11.86
Jul-22	*	*	*	*	*	*	*
Aug-22	*	*	*	*	*	*	*
Sep-22	*	*	*	*	*	*	*
Oct-22	96.45	0.75	21.72	19.58	31.23	23.89	13.11
Nov-22	161.90	1.05	23.64	16.29	45.89	26.60	33.00
Dec-22	137.31	1.01	23.48	23.02	50.96	35.34	12.33
Jan-23	129.68	0.99	16.33	26.93	41.35	55.40	17.61
Feb-23	111.26	1.34	19.77	32.28	48.95	68.24	21.86
Mar-23	53.83	1.05	24.80	40.95	56.13	58.26	33.47
Minimum	**53.83**	**0.75**	**6.25**	**10.35**	**17.52**	**22.85**	**5.44**
Maximum	**161.90**	**1.34**	**24.80**	**40.95**	**56.13**	**68.24**	**33.47**
Average	**112.20**	**1.07**	**17.70**	**21.43**	**36.58**	**41.04**	**17.61**

05768

20. Continuous Ambient Air Quality Monitoring Station at Gurugram

Monitoring Location : Teri Gram, Gurugram – HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	9.97	19.43	32.10	51.91	5.88	0.75	27.41	115.34	286.86
May-22	7.70	14.46	22.12	37.53	5.25	0.59	17.64	86.52	258.07
Jun-22	5.38	14.22	20.21	43.38	4.67	0.51	18.17	76.75	235.81
Jul-22	5.93	16.05	15.69	40.44	7.89	0.46	10.54	31.66	149.69
Aug-22	3.99	29.36	20.84	49.78	3.30	0.44	18.99	28.96	118.09
Sep-22	3.58	37.55	23.37	54.41	6.88	0.52	49.09	46.28	143.13
Oct-22	6.72	33.62	22.99	59.57	10.83	0.73	22.04	104.77	206.92
Nov-22	37.05	31.78	46.73	87.96	5.71	0.98	19.19	149.92	289.74
Dec-22	41.36	23.39	45.40	76.03	6.06	1.03	9.19	146.35	257.99
Jan-23	19.12	15.14	23.42	43.56	9.22	0.97	9.95	139.00	270.70
Feb-23	9.69	9.09	12.06	73.40	8.59	0.72	17.07	123.53	257.10
Mar-23	9.89	9.57	12.93	60.32	7.37	0.56	25.99	71.32	156.80
Minimum	**3.58**	**9.09**	**12.06**	**37.53**	**3.30**	**0.44**	**9.19**	**28.96**	**118.09**
Maximum	**41.36**	**37.55**	**46.73**	**87.96**	**10.83**	**1.03**	**49.09**	**149.92**	**289.74**
Average	**13.36**	**21.14**	**24.82**	**56.52**	**6.81**	**0.69**	**20.44**	**93.37**	**219.24**

05/69

21. Continuous Ambient Air Quality Monitoring Station at Kaithal

Monitoring Location : Rishi Nagar, Kaithal – HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	11.63	44.34	35.25	27.24	17.26	0.65	15.47	82.40	224.28
May-22	1.03	2.42	2.98	10.28	11.19	0.61	44.14	72.28	186.84
Jun-22	1.02	2.38	2.98	10.45	9.47	0.41	25.93	62.59	179.92
Jul-22	1.00	2.41	2.99	10.46	15.03	0.40	51.78	32.61	50.89
Aug-22	1.18	2.41	3.02	10.52	25.74	0.32	30.29	37.52	61.36
Sep-22	1.03	2.40	3.01	10.11	14.58	0.33	25.37	32.28	70.91
Oct-22	1.82	3.34	4.03	10.79	11.20	0.73	28.53	76.17	147.00
Nov-22	6.76	12.34	11.86	19.63	16.21	1.71	54.25	125.41	215.65
Dec-22	7.03	10.44	11.97	19.80	15.13	1.04	33.98	91.01	154.03
Jan-23	7.02	10.39	12.01	20.17	15.59	1.08	20.77	81.68	132.93
Feb-23	6.98	10.33	11.95	19.80	19.42	0.70	24.81	68.19	134.23
Mar-23	6.97	10.43	12.06	19.92	18.89	0.56	36.24	44.82	90.95
Minimum	**1.00**	**2.38**	**2.98**	**10.11**	**9.47**	**0.32**	**15.47**	**32.28**	**50.89**
Maximum	**11.63**	**44.34**	**35.25**	**27.24**	**25.74**	**1.71**	**54.25**	**125.41**	**224.28**
Average	**4.46**	**9.47**	**9.51**	**15.76**	**15.81**	**0.71**	**32.63**	**67.25**	**137.42**

05/70

22. Continuous Ambient Air Quality Monitoring Station at Kurukshetra

Monitoring Location : Sector-7, Kurukshetra – HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	3.52	43.04	25.14	29.28	16.89	0.51	88.39	96.93	219.90
May-22	1.64	20.47	13.94	30.81	11.26	0.52	97.04	87.68	161.72
Jun-22	1.75	20.02	13.63	28.41	9.35	0.40	65.95	80.21	158.77
Jul-22	1.95	13.72	8.92	18.67	4.73	0.32	42.69	31.74	50.68
Aug-22	2.22	15.03	9.68	8.74	5.70	0.35	25.70	31.74	58.00
Sep-22	4.27	20.79	13.99	15.52	8.34	0.39	34.76	37.81	65.90
Oct-22	13.90	23.99	25.43	16.50	11.05	0.73	34.90	81.54	130.18
Nov-22	17.47	53.03	41.68	33.82	14.72	0.98	44.99	111.25	178.00
Dec-22	8.10	47.36	32.46	50.84	12.41	1.04	37.14	91.54	146.47
Jan-23	5.25	22.69	17.27	20.87	11.19	0.81	28.43	82.07	131.32
Feb-23	6.84	40.04	25.65	15.75	18.34	0.71	55.46	72.61	116.17
Mar-23	3.64	23.81	17.31	22.93	23.91	0.46	54.38	46.81	75.13
Minimum	**1.64**	**13.72**	**8.92**	**8.74**	**4.73**	**0.32**	**25.70**	**31.74**	**50.68**
Maximum	**17.47**	**53.03**	**41.68**	**50.84**	**23.91**	**1.04**	**97.04**	**111.25**	**219.90**
Average	**5.88**	**28.67**	**20.43**	**24.34**	**12.32**	**0.60**	**50.82**	**71.00**	**124.35**

05/71

23. Continuous Ambient Air Quality Monitoring Station at Sirsa

Monitoring Location : F-Block, Sirsa – HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	6.22	31.47	24.95	48.36	16.35	0.52	76.11	53.72	189.00
May-22	6.38	28.33	23.95	45.02	18.37	0.53	72.44	66.47	223.41
Jun-22	6.32	30.00	24.49	45.22	20.69	0.39	67.87	60.32	202.01
Jul-22	7.12	29.59	25.57	42.86	20.16	0.33	75.78	22.14	45.66
Aug-22	4.31	25.78	19.18	33.10	20.86	0.28	60.56	25.24	55.79
Sep-22	1.30	12.43	7.51	42.26	20.18	0.37	63.82	26.15	78.44
Oct-22	3.55	21.43	14.05	41.17	20.27	0.58	75.76	43.17	126.24
Nov-22	7.12	29.68	25.47	42.08	21.28	1.08	69.06	108.62	198.38
Dec-22	6.06	30.64	24.32	43.16	20.16	1.00	63.81	75.34	133.93
Jan-23	1.33	32.24	17.75	42.78	20.68	0.91	62.80	63.98	114.58
Feb-23	1.41	30.6	16.93	38.89	20.94	0.74	63.4	53.08	125.53
Mar-23	1.49	18.59	14.48	81.35	21.06	0.68	56.13	32.02	81.38
Minimum	**1.30**	**12.43**	**7.51**	**33.10**	**16.35**	**0.28**	**56.13**	**22.14**	**45.66**
Maximum	**7.12**	**32.24**	**25.57**	**81.35**	**21.28**	**1.08**	**76.11**	**108.62**	**223.41**
Average	**4.38**	**26.73**	**19.89**	**45.52**	**20.08**	**0.62**	**67.30**	**52.52**	**131.20**

05/72

24. Continuous Ambient Air Quality Monitoring Station at Panchkula

Monitoring Location : Sector-6, Panchkula - HSPCB							
Monitoring Conducted By: Environment SA India Pvt. Ltd							
Months	**PM2.5**	**CO**	**NO**	**NO2**	**NOX**	**O3**	**SO2**
	µg/m3	**mg/m3**	**µg/m3**	**µg/m3**	**ppb**	**µg/m3**	**µg/m3**
Apr-22	100.23	0.30	9.29	26.03	23.92	17.91	45.59
May-22	84.40	0.46	8.47	24.57	22.77	12.86	5.31
Jun-22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jul-22	20.04	0.99	7.67	23.62	20.99	13.39	5.96
Aug-22	26.05	0.38	7.66	23.51	21	14.39	6.24
Sep-22	26.36	0.6	7.64	23.5	21.04	15.56	6.54
Oct-22	41.97	0.63	7.26	23.48	20.28	19.03	6.88
Nov-22	62.97	0.45	6.71	21.86	19.91	22.42	7.1
Dec-22	79.25	0.39	7.96	23.32	21.67	24.54	7.03
Jan-23	77.13	0.88	8.46	22.04	20.23	22.26	7.22
Feb-23	47.65	1.38	8.62	21.63	19.78	20.82	9.53
Mar-23	41.06	1.65	8.26	20.90	20.12	21.06	7.47
Minimum	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Maximum	**100.23**	**1.65**	**9.29**	**26.03**	**23.92**	**24.54**	**45.59**
Average	**50.59**	**0.68**	**7.33**	**21.20**	**19.31**	**17.02**	**9.57**

05/73

25. Continuous Ambient Air Quality Monitoring Station at Yamuna Nagar

Monitoring Location : Gobind Pura, Yamuna Nagar - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	4.51	31.33	19.72	43.77	18.28	0.80	51.30	95.37	250.95
May-22	4.92	21.85	15.27	23.58	14.85	0.68	34.27	95.24	212.26
Jun-22	3.33	5.26	2.93	32.87	9.80	0.66	33.89	79.59	201.88
Jul-22	3.40	14.47	3.01	13.81	19.88	0.67	26.84	56.53	130.01
Aug-22	2.34	3.77	4.50	30.00	8.57	0.50	29.30	49.39	107.22
Sep-22	3.67	2.10	5.13	14.67	8.03	0.52	26.32	62.37	116.33
Oct-22	7.16	3.91	8.26	14.24	8.18	0.78	32.87	53.97	146.60
Nov-22	2.96	4.19	4.67	16.01	8.00	0.96	31.14	85.31	188.20
Dec-22	4.02	6.31	5.26	16.68	15.39	1.02	16.91	98.46	192.09
Jan-23	4.72	25.25	19.94	103.31	27.79	0.83	14.53	94.39	165.07
Feb-23	3.57	5.91	5.52	22.29	40.03	0.78	21.96	76.23	165.34
Mar-23	7.14	10.00	8.67	13.44	29.68	0.56	18.35	49.94	116.69
Minimum	**2.34**	**2.10**	**2.93**	**13.44**	**8.00**	**0.50**	**14.53**	**49.39**	**107.22**
Maximum	**7.16**	**31.33**	**19.94**	**103.31**	**40.03**	**1.02**	**51.30**	**98.46**	**250.95**
Average	**4.31**	**11.20**	**8.57**	**28.72**	**17.37**	**0.73**	**28.14**	**74.73**	**166.05**

05/74

26. Continuous Ambient Air Quality Monitoring Station at Ambala

Monitoring Location : Patti Mehar, Ambala – HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	NO	NO2	NOx	NH3	SO_2	CO	O_3	$PM_{2.5}$	PM_{10}
	µg/m³	µg/m³	ppb	µg/m³	µg/m³	mg/m3	µg/m³	µg/m³	µg/m³
Apr-22	3.01	27.19	16.45	35.11	4.78	0.50	38.86	69.47	179.21
May-22	4.14	15.81	12.54	20.00	7.96	0.54	36.68	60.74	152.37
Jun-22	4.19	15.52	11.28	15.29	5.25	0.38	31.22	60.70	147.14
Jul-22	7.43	10.81	13.04	19.22	4.61	0.40	31.48	33.37	55.43
Aug-22	8.79	7.81	12.84	28.50	8.55	0.50	35.00	55.03	104.87
Sep-22	3.12	2.30	4.62	38.13	4.63	0.49	34.13	71.32	130.08
Oct-22	5.68	6.71	16.78	45.39	5.02	0.78	28.63	73.37	120.83
Nov-22	4.49	8.01	7.63	41.81	4.18	1.25	15.83	101.03	161.25
Dec-22	4.43	8.54	7.97	43.03	8.52	1.39	18.00	76.49	118.44
Jan-23	*	*	*	*	*	*	*	*	*
Feb-23	*	*	*	*	*	*	*	*	*
Mar-23	*	*	*	*	*	*	*	*	*
Minimum	**3.01**	**2.30**	**4.62**	**15.29**	**4.18**	**0.38**	**15.83**	**33.37**	**55.43**
Maximum	**8.79**	**27.19**	**16.78**	**45.39**	**8.55**	**1.39**	**38.86**	**101.03**	**179.21**
Average	**5.03**	**11.41**	**11.46**	**31.83**	**5.95**	**0.69**	**29.98**	**66.83**	**129.96**

05/75

27. Continuous Ambient Air Quality Monitoring Station at Fatehabad

Monitoring Location : Huda Sector, Fatehabad - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	**NO**	**NO2**	**NOx**	**NH3**	**SO_2**	**CO**	**O_3**	**$PM_{2.5}$**	**PM_{10}**
	µg/m³	**µg/m³**	**ppb**	**µg/m³**	**µg/m³**	**mg/m3**	**µg/m³**	**µg/m³**	**µg/m³**
Apr-22	7.02	22.31	17.83	30.15	20.88	0.70	67.96	94.02	211.04
May-22	8.00	24.02	20.03	35.02	7.66	0.42	55.87	93.11	225.84
Jun-22	8.00	23.97	20.01	34.98	7.00	0.31	51.20	83.46	198.38
Jul-22	8.01	24	20.06	34.93	14.9	0.59	25.65	32.71	68.68
Aug-22	*	*	*	*	*	*	*	*	*
Sep-22	*	*	*	*	*	*	*	*	*
Oct-22	*	*	*	*	*	*	*	*	*
Nov-22	*	*	*	*	*	*	*	*	*
Dec-22	*	*	*	*	*	*	*	*	*
Jan-23	*	*	*	*	*	*	*	*	*
Feb-23	*	*	*	*	*	*	*	*	*
Mar-23	*	*	*	*	*	*	*	*	*
Minimum	**7.02**	**22.31**	**17.83**	**30.15**	**7.00**	**0.31**	**25.65**	**32.71**	**68.68**
Maximum	**8.01**	**24.02**	**20.06**	**35.02**	**20.88**	**0.70**	**67.96**	**94.02**	**225.84**
Average	**7.76**	**23.58**	**19.48**	**33.77**	**12.61**	**0.50**	**50.17**	**75.82**	**175.98**

05/76

28. Continuous Ambient Air Quality Monitoring Station at Hisar

Monitoring Location : Urban Estate-II, Hisar - HSPCB									
Monitoring Conducted By: Environment SA India Pvt. Ltd									
Months	NO	NO2	NOx	NH3	SO_2	CO	O_3	$PM_{2.5}$	PM_{10}
	µg/m³	µg/m³	ppb	µg/m³	µg/m³	mg/m3	µg/m³	µg/m³	µg/m³
Apr-22	2.03	47.10	24.01	93.96	6.50	0.85	42.56	91.30	238.05
May-22	2.70	39.88	21.59	79.95	7.09	0.79	34.47	96.35	237.34
Jun-22	1.43	30.60	12.41	61.19	8.03	0.41	42.36	61.61	174.08
Jul-22	0.50	23.88	7.08	47.95	5.46	0.35	40.34	35.82	68.27
Aug-22	0.57	27.45	6.95	54.83	4.74	0.33	67.32	37.10	68.68
Sep-22	0.50	34.98	4.99	70.05	6.12	0.38	59.88	42.05	80.14
Oct-22	0.59	34.58	5.27	68.54	14.28	0.68	60.02	90.82	157.65
Nov-22	*	*	*	*	*	*	*	*	*
Dec-22	*	*	*	*	*	*	*	*	*
Jan-23	*	*	*	*	*	*	*	*	*
Feb-23	*	*	*	*	*	*	*	*	*
Mar-23	*	*	*	*	*	*	*	*	*
Minimum	**0.50**	**23.88**	**4.99**	**47.95**	**4.74**	**0.33**	**34.47**	**35.82**	**68.27**
Maximum	**2.70**	**47.10**	**24.01**	**93.96**	**14.28**	**0.85**	**67.32**	**96.35**	**238.05**
Average	**1.19**	**34.07**	**11.76**	**68.07**	**7.46**	**0.54**	**49.57**	**65.01**	**146.31**

05/77

29. Continuous Ambient Air Quality Monitoring Station at Faridabad

Monitoring Location : Faridabad - HSPCB							
Monitoring Conducted By: Eco Tech Pvt. Ltd.							
Months	CO	SO_2	NO	NO_2	NOX	O3	RSPM
	mg/m^3	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	PPb	$\mu g/m^3$	$\mu g/m^3$
Apr-22	*	8.7	7.7	6.6	13.2	53.3	88
May-22	*	8.1	5	3.5	7.2	46.9	74
Jun-22	*	8.38	*	*	*	27.49	*
Jul-22	*	8.22	*	*	*	11.56	31
Aug-22	*	9.31	*	*	*	62.97	29
Sep-22	*	9.60	*	*	*	38.17	35
Oct-22	*	12.85	16.22	12.66	28.88	40.64	117
Nov-22	*	9.97	11.52	8.88	20.43	28.44	179
Dec-22	2.44	9.60	10.29	9.00	18.84	17.81	179
Jan-23	2.0	10.2	8.00	5.00	13.00	14.00	193
Feb-23	1.6	8.9	7.00	6.00	14.00	23.00	111
Mar-23	1.7	6.2	8.00	7.00	14.00	18.00	81
Minimum	1.6	6.2	5	3.5	7.2	11.56	29
Maximum	2.44	12.85	16.22	12.66	28.88	53.3	193
Average	2.02	9.53	10.61	8.08	18.04	32.43	111

05/78

CHAPTER 10: CONSENT UNDER THE WATER ACT, 1974 & AIR ACT, 1981

05/79

10.1 Categorization of Industrial Units/Projects during the year 2022-23

The Board re-categorized industrial sectors/projects under Red, Orange, Green and White categories for the purpose of consent management under the Water Act, 1974 &the Air Act, 1981 on the basis of direction issued by the Central Pollution Control Board vide letter dated 07.03.2016.

According to new categorization, Red, Orange and Green category of industries/projects are covered under the consent management, whereas White category industries/projects are exempted from the consent management, in view of less pollution potential in these industries. However, White category units/projects are required to provide the pollution control devices, wherever required and comply with the standards prescribed for discharge of pollutants under the Environment (Protection) Rules, 1986.

The status of industries/projects covered under the Red, Orange and Green categories is given as under:-

Region	Red	Orange	Green	White	Total
Ballabgarh	414	445	131	0	990
Bhiwani	23	707	78	0	808
Gurugram(South)	19	39	34	44	136
Gurugram(North)	266	391	58	15	730
Hisar	103	908	167	0	1178
Karnal	142	556	107	254	1059
Sonipat	410	1275	447	93	2225
Yamuna Nagar	200	1237	95	0	1532
Rewari	151	297	78	6	532
Mahendergarh	16	238	7	0	261
Bhadurgarh	315	1484	259	0	4389
Faridabad	142	248	70	1	461
Panchkula	130	481	159	25	795
Kurukshetra	26	262	91	00	379
Nuh	42	222	14	0	278
Panipat	404	292	144	0	840
Charkhi Dadri	19	433	13	0	465
Palwal	62	91	32	0	185
Kaithal	73	593	244	0	910
Ambala	60	395	122	2	579
Total	**3017**	**10594**	**4681**	**440**	**18732**

05/80

Consent to Establish under the Water Act, 1974 & the Air Act, 1981 during the year 2022-23

All the industrial units/ projects covered under the Red, Orange and Green categories require prior Consent to Establish from the Board for their establishment or any extension or addition thereto. The status of Consent to Establish under the Water Act, 1974 &the Air Act, 1981 is given as under:-

Region	Applications pending as on 31.03.2022	Applications received during 2022-23	Total Applications received	Decided	
				Granted	Refused
Ballabgarh	0	142	142	116	26
Bhiwani	0	80	80	58	22
Gurugram(South)	0	345	345	231	114
Gurugram(North)	0	152	152	106	46
Hisar	0	196	196	116	80
Karnal	0	227	227	164	63
Sonipat	0	458	458	336	122
Yamuna Nagar	0	113	113	86	27
Rewari	0	116	116	75	41
Mahendergarh	0	152	152	88	64
Bhadurgarh	0	399	399	323	76
Faridabad	0	68	68	42	26
Panchkula	0	90	90	60	30
Kurukshetra	04	29	33	20	13
Nuh	0	54	54	29	25
Panipat	0	198	198	156	42
Charkhi Dadri	0	1	1	1	0
Palwal	0	78	78	55	23
Kaithal	0	140	140	89	51
Ambala	0	77	77	40	37
Total	**4**	**3115**	**3119**	**2191**	**928**

05781

Consent to operate under the Water Act, 1974 & the Air Act, 1981 during the year 2022-23

All the industrial units/projects covered under the Red, Orange and Green category require prior Consent to Operate from the Board before starting even trial production and renewal of Consent to Operate before expiry of previous consent.

The status of Consent to Operate under the Water Act, 1974 & the Air Act, 1981, is given as under:-

Region	Applications pending as on 31.03.2022	Applications received during 2022-23	Total Applications received	Decided	
				Granted	Refused
Ballabgarh	0	313	313	290	23
Bhiwani	0	383	383	313	70
Gurugram(South)	0	441	441	375	66
Gurugram(North)	0	440	440	305	135
Hisar	0	614	614	448	166
Karnal	0	465	465	307	158
Sonipat	0	748	748	617	131
Yamuna Nagar	0	591	591	485	106
Rewari	0	352	352	239	113
Mahendergarh	0	0	0	0	0
Bhadurgarh	0	1117	1117	939	178
Faridabad	0	250	250	161	89
Panchkula	0	297	297	232	65
Kurukshetra	10	55	65	41	24
Nuh	0	103	103	80	23
Panipat	0	308	308	236	72
Charkhi Dadri	0	22	22	22	0
Palwal	0	149	149	117	32
Kaithal	0	0	0	0	0
Ambala	0	313	313	155	158
Total	**10**	**6961**	**6971**	**5362**	**1609**

057 82

CHAPTER 11: HAZARDOUS & OTHER WASTE RULES, 2016

05/83

11.1 Authorization under Hazardous & Other Waste Rules, 2016 during the year 2022-23

All the industrial units/projects covered under the Hazardous & Other Waste (Management & Trans-boundary Movement) Rules, 2016, require authorization from the Board.

The status of authorization under the Hazardous & Other Rules, 2016 is given as under:-

Region	Applications pending as on 31.03.2022	Applications received during 2022-23	Total Applications received	Decided	
				Granted	Refused
Ballabgarh	0	258	258	192	66
Bhiwani	0	33	33	23	10
Gurugram(South)	0	345	345	251	94
Gurugram(North)	0	334	334	218	116
Hisar	0	74	74	34	40
Karnal	0	98	98	47	51
Sonipat	0	430	430	314	116
Yamuna Nagar	0	60	60	32	28
Rewari	0	91	91	69	22
Mahendergarh	0	3	3	2	1
Bhadurgarh	0	401	401	276	125
Faridabad	0	143	143	100	43
Panchkula	0	65	65	57	8
Kurukshetra	0	20	20	10	10
Nuh	0	25	25	17	8
Panipat	0	139	139	98	41
Charkhi Dadri	0	3	3	3	0
Palwal	0	57	57	40	17
Kaithal	0	57	57	29	28
Ambala	0	59	59	37	22
Total	**0**	**2695**	**2695**	**1849**	**846**

057 84

11.2 Status of units registered for recycling/re-processing of Hazardous Waste during the year 2022-2023

Region	Total no. of Authorized		Total Quantity
	Recycler	Utilizer	
Ballabgarh	2	6	8
Hisar	28	0	72620.3 MTA
Karnal	10	06	Recycler – 90390.44 MTA Utilizer - 14140.6 MTA
Sonipat	17	2	Recycler – 3951.239 MTA Utilizer - 150 MTA
Yamuna Nagar	10	0	65550.80
Rewari	2	0	12500 MTA 2697 MTA
Bhadurgarh	3	0	13200 MTA 141456 MTA 279419 MTA
Panchkula	10	0	37858 MTA and 4800 KLA
Kurukshetra	01	00	9.0 TPA
Palwal	2	0	0
Kaithal	21	26	34367
Ambala	2	2	5477 MTA
Total	**108**	**42**	

057 85

11.3 Status of units authorized as traders for import of Hazardous Waste

Every trader desirous of importing other wastes such as Metal scrap, paper waste etc. as listed in Part D of Schedule III of Hazardous & Other Waste (M&TM) Rules, 2016, may make an application in Form 16 to the State Pollution Control Board for their authorization which is granted on one time basis and the registered traders are required to submit details of such imports and particulars of the actual users along with quantities to the concerned State Pollution Control Board or Pollution Control Committee on a quarterly basis.

The details of units authorized as Traders for import of other waste, listed in Part-D of Schedule-III on behalf of the Actual users is as under:

Region	No. of units authorized as Traders for import of other waste listed in Part-D of Schedule-III on behalf of the Actual users
Ballabgarh	40
Bhiwani	00
Gurugram(South)	00
Gurugram(North)	2
Hisar	11
Karnal	0
Sonipat	12
Yamuna Nagar	11
Rewari	6
Mahendergarh	0
Bhadurgarh	24
Faridabad	2
Panchkula	0
Kurukshetra	0
Nuh	0
Panipat	3
Charkhi Dadri	0
Palwal	8
Kaithal	4
Ambala	1
Total	**124**

05/86

CHAPTER 12: E-WASTE RULES, 2016

05/87

12.1 E-waste (Management) Rules, 2016

The E-waste (Management) Rules, 2016 have been notified by the Ministry of Environment, Forest & Climate Change, Govt. of India with the primary objective to channelize the E-waste generated in the country for environmentally sound recycling which is largely controlled by the un-organized sector who are adopting crude practices that results in higher pollution and less recovery, thereby causing wastage of precious resources and damage to the environment.

Electronic waste or e-waste may be defined as discarded computers, office electronic equipment, entertainment device, electronics, mobile phones, television sets, and refrigerators. This includes used electronics which are destined for reuse, resale, salvage, recycling, or disposal as well as re-usable (working and repairable electronics) and secondary scrap (copper, steel, plastic, etc.). Broadly, it consists of ferrous and non-ferrous metals, plastics, glass, wood and plywood, printed circuit boards, ceramics, rubber and other items. The presence of elements like lead, mercury, arsenic, cadmium, selenium, hexavalent chromium, and flame retardants, beyond threshold quantities, make the e-waste hazardous in nature.

The management of e-waste consists of collection, segregation, refurbishing, dismantling and recycling for recovery of metals, plastic and glass material. The Central Pollution Control Board has issued guidelines for environmentally sound collection, processing, dismantling and recycling of e-waste. The dismantlers and recyclers of e-wastes are required to register their units with the State Pollution Control Boards.

12.2 Detail of units Registered for Dismantling & Recycling of E-Waste during the year 2022-2023

05/88

Region	Total no. of Authorized		Total Authorized Quantity (MT)	
	Recycler	Dismantler	Recycling	Dismantling
Ballabgarh	3	4	52.77	3.77
Bhiwani	1	0	4	0
Gurugram(South)	4	13	15123343	8350
Gurugram(North)	0	1	0	1
Hisar	0	0	0	0
Karnal	01	0	58000	0
Sonipat	3	3	10547.165	10037.5
Yamuna Nagar	0	1	0	1
Rewari	0	0	0	0
Mahendergarh	0	0	0	0
Bhadurgarh	1	5	5000	17440
Faridabad	1	1	0	5796
Panchkula	0	1	0	3600
Kurukshetra	00	01	00	600
Nuh	0	01	0	2.22
Panipat	4	3	29680	30820
Charkhi Dadri	0	1	0	0
Palwal	0	0	0	0
Kaithal	1	0	4	0
Ambala	0	3	0	679.612
Total	**19**	**38**	**15226630.935**	**77331.102**

057 89

CHAPTER 13: BIO-MEDICAL WASTE RULES, 2016

13.1 General

Bio-medical Waste (Management) Rules, 2016 were notified by the Ministry of Environment & Forests (MoEF&CC) which apply to all persons who generate, collect, receive, store, transport, treat, dispose or handle bio-medical waste in any form. The 'prescribed authority' for enforcement of the provisions of these rules in respect of all the health care facilities located in State is the State Pollution Control Board.

13.2 Status of Authorization under Bio Medical Waste Rules, 2016 during the year 2022-2023

Region	Applications pending as on 31.03.2022	Applications received during 2022-23	Total Applications received	Decided	
				Granted	Refused
Ballabgarh	0	120	120	63	57
Bhiwani	0	69	69	48	21
Gurugram(South)	3	28	31	28	03
Gurugram(North)	0	315	315	267	48
Hisar	0	273	273	216	57
Karnal	0	118	118	89	29
Sonipat	0	95	95	45	50
Yamuna Nagar	0	96	96	65	31
Rewari	0	135	135	74	61
Mahendergarh	0	51	51	26	25
Bhadurgarh	0	105	105	61	44
Faridabad	0	183	183	94	89
Panchkula	0	104	104	78	26
Kurukshetra	13	63	76	37	39
Nuh	0	26	26	11	15
Panipat	0	81	81	46	35
Charkhi Dadri	0	15	15	15	0
Palwal	0	37	37	5	32
Kaithal	0	118	118	89	29
Ambala	0	128	128	82	46
Total	**16**	**2160**	**2176**	**1439**	**737**

05/91

13.3 Service Providers authorized under Bio Medical Waste Rules, 2016 during the year 2022-2023

The list of service providers authorized under the Bio Medical Waste Rules, 2016 for treatment & disposal of bio medical waste in Common Waste Treatment & Disposal Facility is given as under:-

Region	Sr. No.	Name & Address of the Unit	Capacity (Kg/Hr.)
Bhiwani	1.	Maruti Bio-Medical Waste Plant VPO- Hetampura, Distt. Bhiwani	Incinator = 100 Kg/h Auto Clave = 30 Kg/h Shredder = 100 KG/h Any other: i.e. Shedder, ETP = 05 KLD
Gurugram(South)	2.	M/s BIOTIC WASTE LTD , PLOT NO 725, PACE CITY 2, SECTOR 37, GURGAON, HARYANA	20 Ton
Hisar	3.	Synergy Waste Management Pvt. Ltd., 168, Sec-27-28, HUDA Ind. Area, Hisar	Incinerator: 401.4 KG/day Autoclave: 2016.6KG/day Shredder: 147.7 KG/day
	4.	Invision Enviro Services, Vill. Phulkan, Distt. Sirsa	Incinerator: 143.6 KG/day Autoclave: 73.77 KG/day Shredder: 65.7 KG/day
	5.	Surya Waste Management, Sahuwala Road, Vill. Chadiwal, Distt. Sirsa	Incinerator: 48.4 KG/day Autoclave: 25 KG/day Shredder: 19.31 KG/day
Karnal	6.	Haat Supreme Wastech (P) Ltd., Vill. Bajida Jattan, Karnal	Incinerator- 1680 Kg/day Autoclave – 325 Kg/day Shredder- 1200 Kg/day Any other: i.e. ETP – 600 Ltr/hr
Bhadurgarh	7.	M/s S.D. Bio Medical Waste Management Co. Vill-Baland, Distt. Rohtak	Incinerator: 1(100 kg/h) Autoclave: 1(50 kg/batch) Deep 0 Burial: 0 Any other: Shredder-1 (50-60 kg/h) Sharp encapsulation-1 (250 block/moth) ETP-1 (2.5 KLD)
Faridabad	8.	Golden Eagle Waste Management Company, Village Jasana Tigaon Road Jasana, Faridabad	100 kg/hr
Panchkula	9.	M/s Ess Kay Hygienic Services, Located at VPO Bagwala, Tehsil Barwala, District-Panchkula	150Kg/hr.

Charkhi Dadri	10.	M/s Maruti Bio-Medical Waste Plant VPO- Hetampura, Distt. Bhiwani	Incinator = 100 Kg/h Auto Clave = 30 Kg/h Shredder = 100 KG/h Any other: i.e. Shedder, ETP = 05 KLD
Kaithal	11.	M/s Divya Waste Management, Village Kandela, Distt. Jind, Haryana	100 Kg/Hr. (Incinator)
Ambala	12.	M/s Rudraksh Enviro Care Pvt., Limited, Village Barogh, Tehsil Naraingarh, Distt. Ambala	Incinerator- 1280 Kg/day Autoclave – 392 Kg/day Shredder- 250 Kg/ hr Any other: i.e. ETP –3.3 KL/day

05/93

CHAPTER 14: BATTERIES RULES, 2001

14.1 General

05794

Battery or accumulator, means any source of electrical energy generated by direct conversion of chemical energy and includes disposable primary (Alkaline/Mercury/Silver oxide/Zinc Carbon) batteries or rechargeable secondary (Lead Acid/Lithium Ion/Lithium Metal/Nickel Cadmium) batteries or any other battery which is a source of electrical energy and contains (or may produce attend of its life) potassium hydroxide or sodium hydroxide or ammonium chloride or zinc chloride or sulfuric acid or pressurized sulfur dioxide gas or thinly chloride or magnesium bromide or magnesium perchlorate or mercury or zinc or cadmium or nickel or lithium chloride or any other hazardous material as defined in the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. The Batteries (Management and Handling) Amendment Rules,2001, apply to every manufacturer, importer, re-conditioner, assembler, dealer, recycler, auctioneer, consumer and bulk consumer involved in the manufacture, processing, sale, purchase and use of batteries or components thereof..

14.2 Status of dealers & their status of Authorization / Registration during the year 2022-2023

Region	Number of Units registered
Ballabgarh	0
Bhiwani	0
Gurugram(South)	0
Gurugram(North)	13
Hisar	0
Karnal	1
Sonipat	2
Yamuna Nagar	6
Rewari	0
Mahendergarh	0
Bhadurgarh	45
Faridabad	0
Panchkula	0
Kurukshetra	8
Nuh	0

05/95

Panipat	0
Charkhi Dadri	0
Palwal	0
Kaithal	21
Ambala	0
Total	96

05/96

CHAPTER 15: PLASTIC WASTE RULES, 2016

15.1 General

Plastic has multiple uses and their physical and chemical properties lead to commercial success. However, indiscriminate disposal of plastic waste has become a major threat to the environment. In particular, the plastic carry bags are the biggest contributors of littered waste and every year, millions of plastic bags end up in the environment vis-a-vis soil, water bodies, water courses, etc and it takes an average of one thousand years to decompose them. Therefore, to address the issue of scientific plastic waste management, the Plastic Waste (Management) Rules, 2016 were notified by the Ministry of Environment, Forest & Climate Change, Govt. of India, which includes plastic waste management.

15.2 Status of implementation of Plastic Waste Rules, 2016 during the year 2022-2023

Sr. no.	Description		
1	Estimated plastic waste generation tons per Annum	129866.74 TPA	
2	No. of Plastic manufacturing units (including multilayer, compostable plastic units).	Plastic units	107
		Compostable plastic units	6
		Multilayer Plastic units	57
4	No. of violations and action action taken on non-compliance of provisions of PWM Rules, 2016 as amended (Rule 12)	18023 Challans done amounting Rs. 1,54,21,000/- from April , 2022 to March 2023.	

57/98

CHAPTER 16: SOLID WASTE MANAGEMENT RULES, 2016

16.1 Solid Waste

05/99

Solid-waste management is the collection, treatment, and disposal of solid material that is discarded after it has served its purpose or is no longer useful. Improper disposal of municipal solid waste can create insanitary conditions, and these conditions, in turn, can lead to pollution of the environment and to outbreaks of vector-borne disease—that is, diseases spread by rodents and insects. The tasks of solid-waste management present complex technical challenges. They also pose a wide variety of administrative, economic, and social problems that must be managed and solved.

With the ever increasing population and urbanization, the waste management has emerged as a huge challenge in the country. Not only the waste has increased in quantity, but the characteristics of waste have also changed tremendously over a period, with the introduction of so many new gadgets and equipment.

Urban local bodies in the state of Haryana are doing collection of domestic, trade and institutional food/ biodegradable waste from the doorstep or from the community bin on daily basis. Local bodies are using containerized handcarts/tricycles/ Tractor Trolly / Refuse Compactor or other similar means for the primary collection of waste stored at various sources of waste generation. The solid waste thus collected from households and other sources is transported to Primary Collection Centre (PCC), where the waste would be primarily segregated i.e. recyclables sorted out by the workers and stored separately. For secondary transportation of solid waste from the Primary Collection Centre (PCC) to the designated processing plant site or sanitary landfill site/ dumping sites, "Dumper Placers with twin bin containers" are provided.

Presently in the State, there are (3 plants in 3 MCs 2500 Composting Pits in 76 MCs), (10 nos. Vermi Composting Facilities), (3 nos Bio Gas Plant) and (3 plant waste to compost +RDF in 3 MCs.). Rejects and residues collected from the above mentioned processes are disposed in dumping sites and further proposed to be processed for energy recovery.

16.2 Status of implementation of Solid Waste Management Rules, 2016

S. No.	Particulars	Remarks
1.	Total number of local bodies responsible for management of Solid Waste in the State	88
2.	Number of ULBD obtained authorization under MSW Rules, 2016	0
3.	Quantity of Solid Waste generated (TPD)	5629
4.	Quantity of waste treated (TPD)	3961
5.	Status of processing / treatment facilities installed/under installation/ planned	• Total 13 integrated Solid Waste Management clusters have been formed in Haryana. Out of 13 clusters, 1 waste to energy/plant under Sonepat-Panipat clusters has been started. One cluster namely i.e. Gurugram – Faridabad which is based on Waste to energy (WtE) technique, is under implementation. This plant is expected to be completed by 31.12.2024. Remaining 11 clusters are based on open technology. Out of 11 clusters, agencies have been selected for 3 clusters namely Bhiwani, Sirsa and Karnal - Kaithal – Thanesar which are based on Waste to Compost (WtC) technique. The agencies have started the work of collection & Transportation in the ULBs of the clusters. • Urban local bodies are doing collection of domestic, trade and institutional food/ biodegradable waste from the doorstep or from the community bin on daily basis. Local bodies are using containerized handcrats/tricycles/ Tractor Trolly/ Refuse compactor or other similar means for the primary collection of waste stored at various sources of waste generation. The solid waste thus collected from households and other sources is transported to Primary Collection Centre (PCC)., where the waste would be primarily segregated i.e. recyclables shall be sorted out by the workers and stored separately. For secondary transportation of solid waste from the Primary Collection Centre (PCC) to the designated processing plant site or sanitary landfill site/dumping sites. " Dumper Placers with twin bin containers are provided.

6.	Number of facilities obtained Environmental Clearance under EIA Notification 2006	03 (Sonepat-Panipat, Gurugram Faridabad & Karnal-Kaithal-Thanesar cluster)
7.	Number of facilities obtained CTE from HSPCB	2 (Sonepat-Panipat, & Karnal-Kaithal-Thanesar cluster)
8.	Number of facilities obtained CTO from HSPCB	1 (Sonepat-Panipat)
9.	Number of facilities obtained authorization under MSW Rules, 2016	Nil

CHAPTER 17: REDRESSAL OF PUBLIC COMPLAINTS

17.1 Status of Public Complaints received and disposed off during the year 2022-2023

Region	No. of complaints received through				No. of complaints disposed off				No. of pending complaints			
	Hard copy	CM Window	Other online portals	Total	Hard copy	CM Window	Other online portals	Total	Hard copy	CM Window	Other online portals	Total
Ballabgarh	0	11	7	18	0	11	7	18	0	0	0	0
Bhiwani	10	22	09	41	10	18	07	35	0	4	2	6
Gurugram(South)	15	15	18	48	14	11	18	43	01	4	0	5
Gurugram(North)	3	23	34	60	3	23	33	59	0	0	1	1
Hisar	23	87	09	119	23	87	09	119	0	0	0	0
Karnal	32	53	12	97	32	53	12	97	0	0	0	0
Sonipat	11	27	17	55	11	27	17	55	0	0	0	0
Yamuna Nagar	5	56	8	69	5	56	8	69	0	0	0	0
Rewari	0	21	22	43	0	21	22	43	0	0	0	0
Mahendergarh	0	6	6	12	0	6	6	12	0	0	0	0
Bhadurgarh	22	23	30	75	22	23	30	75	0	0	0	0
Faridabad	59	15	132	206	59	11	129	199	0	4	3	7
Panchkula	0	3	0	3	0	2	0	2	0	01	0	1
Kurukshetra	00	09	26	35	00	09	26	35	00	00	00	00
Nuh	10	40	0	50	10	35	0	45	0	5	0	5
Panipat	48	68	87	203	48	68	87	203	0	0	0	0
Charkhi Dadri	0	5	2	7	0	5	2	7	0	0	0	0
Palwal	0	14	0	14	0	10	0	10	0	4	0	4
Kaithal	7	28	6	41	7	28	6	41	0	0	0	0
Ambala	10	9	2	21	10	8	2	20	0	1	0	1
Total	255	535	427	1217	254	512	421	1187	1	23	6	30

05/104

CHAPTER 18: PUBLIC HEARING UNDER EIA NOTIFICATION

18.1 General

Public hearings are held as part of the public inquiry process required under the EIA Notification dated 14.9.2006. This provides interested parties with the opportunity to explain on written submissions and to discuss, inquire issues in a public forum. Persons present at the venue are granted a opportunity to seek information or clarification of the project from the project proponents requiring environmental clearance and all the views and concerns expressed by the participants are recorded and reflected in the proceedings of the public hearing which are considered by the Authorities while deciding the case of granting Environmental Clearance to the project proponents under EIA Notification dated 14.09.2006. Any organization or person can participate in the process of public hearing, either to speak for submission or simply to observe the proceedings.

18.2 Details of the Public Hearings organized by the Board during the year 2022-2023

Name of the Region	Number of projects where public Hearing organized
Ballabgarh	0
Bhiwani	2
Gurugram(South)	0
Gurugram(North)	0
Hisar	1
Karnal	1
Sonipat	1
Yamuna Nagar	2
Rewari	0
Mahendergarh	2
Bhadurgarh	0
Faridabad	1
Panchkula	3
Kurukshetra	1
Nuh	0
Panipat	2
Charkhi Dadri	1
Palwal	2
Kaithal	2
Ambala	4
Total	25

05/106

CHAPTER 19: RIGHT TO INFORMATION ACT, 2005

05/107

19.1 General

The Right to Information Act (RTI) requires every public authority to computerize their records for wide dissemination and to proactively ascertain categories of information so that the citizens need minimum recourse to request for information formally.

The HSPCB has provided relevant information on the website of the Board i.e. www.hspcb.gov.in in compliance of section 4 of RTI Act, 2005.

19.2 Details of Applications received and disposed as on 31.03.2023

a) By Regional Offices of the Board

Region	No. of applications			Amount of fee collected(₹)	Amount of fee collected on account of additional documents (₹)
	Received	Disposed off	Under Process		
Ballabgarh	69	69	00	350	0
Bhiwani	53	52	01	160	1908
Gurugram(South)	85	85	00	110	0
Gurugram(North)	99	99	0	320	0
Hisar	110	107	03	540	250
Karnal	51	51	0	200	600
Sonipat	58	58	0	390	0
Yamuna Nagar	71	71	0	1320	0
Rewari	51	51	0	130	0
Mahendergarh	60	60	0	330	0
Bhadurgarh	32	32	0	10	0
Faridabad	130	130	0	420	320
Panchkula	57	57	0	0	420
Kurukshetra	23	23	00	100	00
Nuh	44	44	0	150	0
Panipat	75	75	0	1110	50
Charkhi Dadri	4	2	2	40	0
Palwal	45	45	0	130	0
Kaithal	62	62	0	40	0
Ambala	24	24	0	150	0
Total	1203	1197	6	6000	3548

b) By Head Office of the Board

Total 237 applications under the Right to information Act, 2005 were received in Head Office during the year 2022-23, out of which 3 application were rejected as per provision of the Act. 234 applications were disposed off upto 31.03.2023 during the year 2022-23. ₹1780/- was collected as fee for RTI applications, whereas ₹5522/- was collected on account of charges for providing additional documents to the applicants.

05/108

CHAPTER 20: INCOME & EXPENDITURE STATEMENT (UNAUDITED)

05/109

20.1 Details of Expenditure & Receipts (unaudited) for the Financial Year 2022-23

Details of Expenditure (unaudited) for the Financial Year 2022-23

Sr. No.		Head of Account	Expenditure (01.4.2022 to 31.3.2023)
		Expenditure	**(In Crore)**
(A)		**SALARIES**	
1	(i)	Pay and Allowances Technical/Scientific Staff & Ministerial Staff	29.49
2	(i)	Medical Expenses Technical/Scientific Staff & Ministerial Staff	0.60
3	(i)	Travelling Allowance Technical/Scientific Staff & Ministerial Staff	0.20
		Sub Total =	**30.29**
(B)		**OFFICE EXPENSES**	
1		Office Expenses	13.47
2		Legal Expenses	0.64
3		Furniture and fixture	0.50
4		Machinery and Equipments	0.53
5		Computerisation of Office	0.73
6		Purchase of Vehicles	0.79
7		Income Tax	0.00
(C)		**Strengthening of existing laboratory and setting up of additional laboratory/Library Books**	1.00
	i)	Purchase of CAAQMS	0.00

(D)	**Equipment for Ambient Air Monitoring & stack monitoring Kit**	0.00
(E)	**Development /Extension Activities (advertisement publicity on environment awareness, research & development, Seminar training)**	2.69
(F)	**Financial Assistance for Environmental Improvement Projects.**	0.25
(G)	**Construction of Building/ Purchase of Land.**	36.59
	Grant in Aid from CPCB	
(H)	**Grant in Aid (General) control of pollution**	2.49
	Grand in Aid from CPCB	
(I)	**5 Continuous Ambient Air Quality Monitoring Station (CAAQMS)(O&M)**	1.04
	Grant in Aid from CPCB	
(J)	**Expansion of Real Time Ambient Noise Network in Identified Cities**	0.00
	Sub Total =	**60.72**
(J)	**LOANS AND ADVANCES**	
	Loans and Advances to Staff	0.06
	Sub Total =	**0.06**
(K)	**C.M Relief Fund(Donation)**	**0.00**
	Grand Total =(A+B+C+D+E+F+G+H+I+J+K)	**91.06**

Details of Receipts (unaudited) for the Financial Year 2022-23

Sr. No.	Head of Accounts	Receipt (01.4.2022 to 31.3.2023)
	RECEIPTS/INCOME	(Rs. In Crore)
1	Samples Testing Fee	1.93
2	Consent Fee (Water)	28.06
3	Consent Fee (Air)	32.63
4	NOC Fees	8.61

5	Public Hearing		0.30
6	Misc Receipts		
	i) Forfeiture of performance security		0.07
7	Authorization fee/Recognition fee/Appeal fee/Right to Information fee/Misc. receipt		0.35
8	Cess Receipts (from G.O.I.)		0.30
9	Interest on deposits		40.00
10	Grant-in-Aid from Central Pollution Control Board/NAMP/State		0.00
11	**Grant in Aid from CPCB** 5 continuous Ambient Air Quality Monitoring Station(CAAQMS)	0.00	
12	**Grant in Aid from CPCB** Grant in Aid (General) control of Pollution		0.00
	Total (Sr. No.1 to 12)		112.25