HARYANA STATE POLLUTION CONTROL BOARD
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No.HSPCB/ **Dated:22.09.2023**

Sub: 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)

Whereas, 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) To 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 --

(i) For the prevention, control or abatement of discharges 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;

Whereas, 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.

Whereas, as per the provisions of rule 3(2) 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. There are following grounds/reasons for fixing stringent 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) and treated grey water through natural treatment system (waste stabilization pond, constructed wetland etc.) for irrigation and other non-potable usages.

i. Significant dilution is not available in river Yamuna and Ghaggar and 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 litres after taking into account the demand of 44.60 Lakh Crore litres and supply of 30.57 Lakh Crore litres. 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/recycle for various usages alongwith 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/recycle the same for other non potable usages.

Whereas, 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.

Whereas, the suggestions given by the departments namely MICADA, Public Health Engineering Department, Development and Panchayats Department, and Aravali Power Co. Pvt. Ltd., Jhajjar on various parameters and their concentration in treated wastewater of STPs, Haryana Pond and Wastewater Management Authority (HPWWMA) on various parameters and their concentration in the treated grey water and 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 5.9.2023 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 (waste stabilization pond, constructed wetland etc) for irrigation and other non potable usage. These finalized standards for discharge of treated waste water of STPs for various usage and treated grey water through natural treatment system for irrigation and other non-potable usages were considered by the Board in its 197th meeting dated 12.09.2023 vide item No. 197.03 and approval of the same was accorded.

Therefore, considering all the aspects and powers conferred under Rule 3 of the Environment (Protection) Rules, 1986 and Section 17 of the Water (Prevention & Control of Pollution) Act, 1974, 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) are prescribed as mentioned in the **Table-1 and Table-2** given below.

Table-1: Standards for the discharge 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
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

Sr. no.	Parameters	Maximum permissible limits
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.

Table-2: Standards for the discharge of treated wastewater 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.

S. No.	Parameters	Standards prescribed by the Board for discharge of treated wastewater of STPs vide order dated 2.7.2020	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

S. No.	Parameters	Standards prescribed by the Board for discharge of treated wastewater of STPs vide order dated 2.7.2020	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
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
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

S. No.	Parameters	Standards prescribed by the Board for discharge of treated wastewater of STPs vide order dated 2.7.2020	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
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.

Further, in exercise of the powers conferred under section 33 A of Water (Prevention & Control of Pollution) Act, 1974, the Haryana State Pollution Control Board issues following directions to all Govt. departments/agencies/organizations responsible for management and treatment of wastewater of STPs with regard to achievement of stringent standards for discharge of treated wastewater of STPs.

i. All the executing departments like Public Health Engineering Department; Urban Local Body; HSVP; GMDA; FMDA; Development & Panchayat Department etc. shall make necessary modification/upgradation or remove any deficiency in the sewage treatment plant within one year so as to achieve the prescribed standards.

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

iii. 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.

iv. 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.

v. The standards prescribed by the Board for discharge of treated wastewater of STPs vide its order dated 2.7.2020 shall be only applicable for the discharge of treated wastewater of those STPs, where there is no chance to use it for irrigation, construction activities, industrial processes, non potable usages, groundwater recharge through ponds, lakes, water storage area, natural or artificial depression.

Dated Panchkula, the
22nd September, 2023

P. Raghavendra Rao,
Chairman

No. HSPCB/ **Dated: 22.09.2023**

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. Chief Executive Officer, FMDA, Faridabad
4. Chief Administrative, HSPVP, Panchkula
5. Executive Vice Chairman, Haryana Pond & Wastewater Management Authority, Panchkula
6. Additional Chief Secretary, PHED, Haryana Chandigarh
7. Additional Chief Secretary, Irrigation Department, Haryana, Chandigarh
8. Additional Chief Secretary, ULBD, Haryana, Chandigarh
9. Principal Secretary, Industries Department, Haryana, Chandigarh
10. Principal Secretary, Town & Country Planning Department, Haryana, Chandigarh
11. Principal Secretary, Development & Panchayats Department, Haryana, Chandigarh

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Sr. Environmental Engineer,
For Chairman

No. HSPCB/ **Dated: 22.09.2023**

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

JATINDERPAL SINGH Digitally signed by JATINDERPAL SINGH Date: 2023.09.22 16:02:27 +05'30'

Sr. Environmental Engineer,
For Chairman