

I/128899/2022(1)

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

The Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
Delhi-110032.

Subject: Submission of Annual Report under Solid Waste Management Rules, for the year 2021.

Kindly refer to the subject noted above.

In this connection, I have been directed to enclose herewith the Annual Report under Solid Waste Management Rules for the year 2021 for information and further necessary action please.

DA/as above

Sr. Environmental Engineer (HQ)
For Member Secretary

Endst. No./HSPCB/2022

Dated:

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

1. Sr. Environmental Engineer (IT) HSPCB. He is requested to upload the Annual Report under Solid Waste Management Rules for the year 2021 on the website of the Board.
2. Nodal Officer, E-Sanyojan, HSPCB. He is requested to upload the Annual Report under Solid Waste Management Rules, for the year 2021 on the E-Sanyojan Portal of CPCB.

DA/as above

Signed by Satinder Pal
Date: 09-08-2022 14:44:29
Reason: Approved

Sr. Environmental Engineer (HQ)
For Member Secretary

Form – V

Format of annual report to be submitted by the state pollution control board or pollution control committee committees to the central pollution control board

PART A

1	Name of the State/Union territory	Haryana
2	Name & address of the State Pollution Control	Haryana State Pollution Control Board, C-11, Sector-6, Panchkula, Haryana
3	Number of local bodies responsible for management of solid waste in the State/Union territory under these rules	89
4	No. of authorization application Received	0
5	A Summary Statement on progress made by local body in respect of solid waste management	Annexure-I
6	A Summary Statement on progress made by local bodies in respect of waste collection, segregation, transportation and disposal	Annexure-II
7	A summary statement on progress made by local bodies in respect of implementation of Schedule II	Annexure- III

Part-B

Towns/cities:-

- | | |
|--|----|
| 1) Total number of towns/cities | 89 |
| 2) Total number of ULBs | 89 |
| 3) Number of class I & class II cities/towns | 29 |

Authorization status (names/number):-

- | | |
|-------------------------------------|---|
| 1) Number of applications received | 0 |
| 2) Number of authorizations granted | 0 |
| 3) Authorizations under scrutiny | 0 |

Solid Waste Generation status:-

- | | |
|--|---------|
| 1) Solid waste generation in the state (TPD) | 8766 |
| 2) Collected (TPD) | 6691.13 |
| 3) Treated (TPD) | 4297.4 |
| 4) Land filled/Dumped (TPD) | 2218.18 |

Compliance to Schedule I of SW Rules (Number/names of towns/city):-

- | | |
|-----------------------------------|--------------|
| 1) Good practices in cities/towns | Yes(overall) |
| 2) House-to-house collection | 97.62% |
| 3) Segregation | 70% |
| 4) Storage | Yes(Partial) |
| 5) Covered transportation | 84 |

Processing of SW (Number/names of towns/capacity)

Solid waste processing facilities setup (MC Wise)

Sr. no.	Composting	Vermi composting	Bio gas	RDF / Pelletization
1.	3 Plants in 3 MCs 2800 composting Pits including park pit in 91MCs	10	3	3 Plant Waste to Compost+ RDF in 3 MCs

Processing facility operational

Sr. no.	Composting	Vermi composting	Bio gas	RDF / Pelletization
1.	3 Plants in 3 MCs 2800 composting Pits including park pit in 91 MCs	10	3	3 Plant Waste to Compost+ RDF in 3 MCs

Processing facility under installation / planned

Sr. no.	Composting	Vermi composting	Bio gas	RDF / Pelletization
	<p>Total 13 Integrated Solid Waste Management clusters have been formed in Haryana. Out of 13 clusters, 2 waste to energy clusters namely Sonapat, Panipat and Gurugram- Faridabad WTE are under implementation. Sonapat-Panipat(700 TPD) waste to energy plant is completed on 15, August, 2021 and is operational. Gurugram- Faridabad plant could not be started due to land constrains. Now, EC has been obtained for Gurugram-Faridabad cluster and land is being reclaimed for setting up of a plant. The work of Construction of Plant is started from December, 2021 and likely to be commissioned by December, 2023.</p> <p>Remaining 11 clusters are based on open technology and the selected agency to decide the technology. 4 of which are under approval from committee of Secretary for Infrastructure and tenders for remaining will be invited soon.</p>			

Waste to energy plants (Number / names of towns / capacity)

Sr. no.	Plant location	Status of operation	Power generation (MW)	Remarks
1.	Sonapat	Operational	7	Is started on 15, August 2021 and operational.
2.	Gururgram (Bhandwari)	Under implementation	23	Work is started from Dec, 2021 and likely to be commissioned by December, 2023.

Disposal of Solid Waste (number/names of towns/ capacity):-

- | | |
|--------------------------------|-----------------------------|
| 1) Landfill sites identified | 6 Existing and 12 Proposed. |
| 2) Landfill constructed | 6 |
| 3) Landfill under construction | NIL |
| 4) Landfill in operation | 3 |
| 5) Landfill exhausted | 3 |
| 6) Land filled capped | NIL |

Solid Waste Dumpsites (number/names of towns/capacity):-

- 1) Total number of existing dumpsites:- 77
- 2) Dumpsites reclaimed/capped:- Work of Reclamation of 39 Dumpsites is in Progress
- 3) Dumpsites converted to sanitary landfill:- Nil
- 4) **Monitoring at Waste processing/Landfills sites:-**

Sr. no.	Name of Facilities	Ambient Air	Ground Water	Leachate Quality	Compost Quality	VOCs
1.	Common Municipal Solid Waste Management Facility site at Village	--	Analysis report attached as Annexure-IV	--	--	--

	Bandhwari, Gurugram					
2.	Solid Waste Management Road, Seikhpura, Karnal.	Meerut VPO,	----	Sample of water of Tubewell around dumping ground are collected on regular basis. Analysis report attached as Annexure-V		

Status of Action Plan prepared by Municipalities:-

Total number of Municipalities 89

Number of Action Plan Submitted Progress report of O.A No. 606 2018 has already been submitted.

Annexure-I

Sub: Summary Statement on progress by Local Bodies in respect of Solid Waste Management

1) As per the annual report submitted by Urban Local Bodies (ULB) department, there are 91(2 are newly Constructed) Urban Local Bodies in the State. All these 89 nos. of ULBS have generated about 5838.2 Tonnes per day (TPD) of municipal solid waste, out of which 5813.15 TPD is collected. Out of total collected waste, 3595.02 TPD has been treated and processed and remaining 2218.18 TPD waste has been dumped.

Total 13 Integrated Solid Waste Management clusters have been formed in Haryana. Out of 13 clusters, 2 waste to energy clusters namely Sonapat-Panipat & Gurugram -Faridabad WTE are under implementation. Sonapat-Panipat (700 TPD) waste to energy plant is completed on 15, August, 2021 Gurugram-Faridabad plant could not be started due to land constrains. Now, EC has been obtained for Gurugram-Faridabad cluster and land is being reclaimed for setting up of plant. The work of construction of plant is started from December, 2021 and likely to be completed by December, 2023. Remaining 11 clusters are based on open technology and the selected agency to decide the technology. The detail of proposed cluster is attached as **Table-1**.

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 handcarts/tricycles/ Tractor Trolley / 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.

Presently in the State there are (3 plants in 3 MCs 2800 Composting Pits including park pit in 91 MCs), (10 nos Vermicomposting 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.

Table:- 1

Sr. No	Name of Cluster	ULBs Covered Under Cluster	Waste Capacity (in TPD)
1.	Sonipat-Panipat	Gannaur, Samalkha, Panipat&Sonepat	700
2.	Faridabad-Gurugram	Faridabad &Gurugram	2300
3.	Bhiwani	Bhiwani, Bawanikhera, CharkhiDadri, Loharu, Badhra	155
4.	Sirsa	Sirsa, Rania, Ellenabad, Kalanwali, MandiDabwali	168
5.	Ambala-Yamunanagar	Ambala, Naraingarh, Yamuna Nagar, Radaur, Barara, Sadhura	675
6.	Karnal-Kaithal-Kurukshetra	Indri, NilokheriTarori, KarnalGharaunda, Nissing, Assandh, Thanesar, Shahbad, Ladwa, Kaithal, Kalayat ,Rajound, Cheeka ,Pundri Pehowa, Ismailabad, Siwan	638
7.	Rohtak-Bahadurgarh-Jhajjar	Kalanaur, Meham, Rohtak, Gohana, Bahadurgarh, Kharkhoda, Julana, Jhajjar, Sampla, Beri, Badli, Atemimandi,Kundli	628
8.	Panchkula	Panchkula, Kalka	280
9.	Hisar-Fatehabad	Hisar, Barwala, Hansi, Siwani, Fatehabad, Bhuna, Uklana Mandi, Ratia,Tohana, Jhokal Mandi, Adampur	432
10.	Jind	Jind, Narwana, Safidon, Uchana, Narnaund, Sisai, Bass	181
11.	Rewari	Bawal, Dharuhera, Rewari, Mahendergarh, Kanina, Manesar	407
12.	Punhana	Punhana, F/Jhirka, Hathin, Hodal, Palwal, Sohna, Nuh,Tauru	466
13.	Farukhnagar	Farukh Nagar, Haily Mandi, Pataudi	26

Annexure-II

Sub: Summary Statement on progress made by Local Bodies in respect of waste collection, segregation, transportation and disposal.

As per the status submitted by ULB department, the detail on progress made by Local Bodies in respect of waste collection, segregation, transportation and disposal is given below:

A. Waste Collection

Door to door collection is being done in around 1600(Approx 97.62%) out of 1639 wards and existing waste collection vehicles are being modified into two covered compartments for collection of waste in segregated manner. Freshly, ordered vehicles will have two covered compartments for collection of wet and dry waste in a segregated manner. A Separate basket/bin is kept in waste collection vehicle/ tricycle for segregated collection of domestic hazardous waste.

Urban local bodies are doing collection of domestic, trade and institutional food/ biodegradable waste from the doorstep or from the community bin on a daily basis. Large containers kept in the fruit and vegetable markets and removed during night time or non-peak hours by the local body.

B. Transportation

Local bodies are using covered containerized handcarts/tricycles/ Tractor Trolley/Refuse Compactor or other similar means for the primary collection of waste stored at various sources of waste generation. Existing waste collection vehicles are being modified into two covered compartments for collection of waste in segregated manner. Freshly, ordered vehicles will have two covered compartments for collection of wet and dry waste in a segregated manner. For secondary transportation of solid waste from the Primary Collection Centre (PCC) to the designated processing plant site or sanitary landfill site, "Dumper Placers with twin bin containers" is provided.

C. Segregation

Out of 1639 wards, source segregation has been achieved in 1140 wards (Approx. 70%) till June, 2022 and for coverage in remaining wards rigorous IEC campaign is being organized across the State in all ULBs.

D. Disposal

Rejects and residues collected from the above mentioned processes are disposed in dumping sites and further proposed to be processed for energy recovery. Presently, there are (3 plants in 3 MCs 2800 Composting Pits including park pits in 91 MCs), (10 nos. Vermi Composting Facilities), (3 nos Bio Gas Plant) and (3 plant waste to compost +RDF in 3 MCs).

Annexure-III

Sub: Summary Statement on progress made by Local Bodies in respect of implementation of Schedule-II.

Presently there are (3 plants in 3 MCs 2800 Composting Pits including park pits in 91 MCs), (10 no.s Vermi Composting Facilities), (3 nos Bio Gas Plant) and (3 plant waste to compost +RDF in 3 MCs) in the State of Haryana. The approach adopted by the state is broadly categorized under two heads,

a. Decentralized Approach (Town/City Wise)

b. Integrated Centralized Waste Processing Approach (Cluster Wise)

Decentralized Approach is being adopted with an objective to create an atmosphere which impacts the ideology and mind set of people as to how important is their role in ensuring effective and efficient waste management with minimal resources and which is self-driven.

As part of this approach presently around 2800 Compost pits including park pits have been constructed across all the ULBs Also 88 Material Recovery Facilities have been set up and the target is to reach 91 MRF, within a span of next 3 months with each ULB having at-least 1(One) MRF Apart from setting up Compost pits, Vermi Composting facility, Bio-methanation plant, windrow composting at existing dumpsite is being currently practiced. Also, in Karnal city alone approx. 2000 Household composting pits have been recorded.

All the ULBs have also ensured that all the Bulk Waste Generators are identified and have started processing their wet waste, this resulted in overall reduction in volume of wet waste being sent for disposal.

The nos pertaining to Compost pits, Household composting, Wet Waste Processing through Vermi-Composting, Windrow composting and bio-methanation and dry waste recovery, reuse and recycling through MRFS are continuously increasing and all the efforts are being made to improve the Solid Waste Management Scenario in time bound manners.

The Integrated Centralized Waste Processing Approach

As per action plan submitted by ULB department. Government of Haryana has adopted cluster based integrated approach for Solid Waste Management. The Integrated Centralized Waste Processing Approach (Cluster Wise) is being adopted as a long-term approach within an overall objective to setup regional Waste to Energy & Waste to Compost + RDF processing facilities and Secured Sanitary landfills for scientific disposal of Solid Waste. This approach is more coveted considering the constraints posed by the decentralized approach and its sustainability over long run.

As part of this approach, total 13 Cluster have been formed covering all the ULBs. Two (2) Clusters are Waste to Energy having average solid waste quantum more than 500 TPD and remaining Eleven (11) are Open technology cluster. Also, under this approach the projects will be set up on PPP mode and single agency/concessionaire will be responsible for Door to Door Collection

transportation, processing and disposal of Solid Waste for a concession period of 22 years.

Currently 2 Waste to Energy Cluster Projects namely Sonapat-Panipat and Gurugram-Faridabad have been awarded and construction of Sonapat-Panipat Cluster (700 TPD) Waste to Energy project is completed on 15, August, 2021. The Environmental Clearance of Gurugram-Faridabad (2300 TPD) Waste to Energy Projects has been granted and application has been submitted for obtaining Consent to Establish (CTE) for same. The construction of the plant is started from December, 2021. Once commissioned these two projects alone will cater to (Approx. 60%) processing of entire waste being generated in the state i.e. approx. 5000 TPD. Remaining 11 clusters are based on open technology and the selected agency to decide the technology.

Also, there are two existing operational centralized waste to compost processing facilities in the State i.e. Rohtak (150 TPD) & Karnal (150 TPD). Under this approach these plants will be upgraded and expanded to cater the future waste generation requirements.

The sites have been identified and procured for all the clusters and the tendering process is under progress. The Overall targeted schedule for successfully awarding and commissioning rest 11 Clusters is December 2023.

Annexure-V

Karnal																																								
Sr.No.	Analysis Report No.	Date of collection	Weather	Colour & Intensity	Odor	pH (6.5 to 8.5 limit)	Conductivity	BOD	COD	Ammonia (0.5 limit)	Total Dissolved Solids (500 - 2000 limit)	Total Suspended Solids	Total Hardness (200-600)	Fluoride (1.0 limits)	Boron	Chloride (250 limits)	Sulphate (200-400)	Calcium (75 limits) (200)	Magnesium (30) (100)	Nickel (0.02)	Copper (0.05-1.5 limits)	Chromium (0.05 limits)	Zinc (5-15)	Lead (0.05 limits)	Iron (0.3 limits)	Total caoliform	Faecal Coliform	Nitrate-N (45 limits)	TKN	Total Fixed Solids	Turbidity (1 limit) (5 limit)	Total Alkalinity (200 limits)	P- Alkalinity	Phosphate	Sodium	Potassium	Remarks			
1 Tubewell at MSW Site, Meeruth Road, Karnal Latitude 29.64330 and Longitude 77.04775																																								
	945 dt. 28.04.2021	20.04.2021		Colourless	Odourless	7.75	1440		BDL(DL=1)	4	784	BDL(DL=5)	642	0.11		54	1.86	182.4	45.198							0.439			0.12			Nil	98	Nil					Non-Complying (T. Hardness)	
	1629 dt. 22.07.2021	13.07.2021		Colourless	Odourless	8.16	1310	2.8	16		712	12	398	BDL(DL=0.5)	BDL(DL=0.5)	12	9.32	112	28.674								270	100	BDL(DL=0.5)			BDL(DL=1)	84	BDL(DL=5)	0.71	10	BDL (DL=1)		Complying	
	2880 dt. 15.11.2021	02.11.2021		Colourless	Odourless	8.02	1297	2.8	12		710	6	240	0.58		90	107.28	67.2	17.496											N.D		N.D	72	N.D	68	12		Complying	
	3737 dt. 31.01.2022	17.01.2022		Colourless	Odourless	7.28	507	3	16		272	7	220	0.47	ND	22	14.32	62.4	15.552												0.1		N.D		0.1		8.2	1.9		Complying
2 Tubewell of Shiv Mandir, Village Jadauli, Karnal Latitude 29.7287 and Longitude 77.12164																																								
	946 dt. 28.04.2021	20.04.2021		Colourless	Odourless	7.77	1442	1.4	8		780	BDL(DL=5)	658	0.14		62	ND	186.4	46.656							0.358			0.16			Nil	102	Nil					Non-Complying (Total Hardness)	
	163 dt. 22.07.2021	22.07.2021		Colourless	Odourless	8.1	1315	1.8	12		722	8	378	BDL(DL=0.5)	BDL(DL=0.5)	10	7.06	106	27.2016								260	130	BDL(DL=0.5)			BDL(DL=1)	72	BDL(DL=5)		BDL(DL=5)	BDL (DL=1)		Complying	
	2881 dt. 15.11.2021	02.11.2021		Colourless	Odourless	8.06	1294	2.4	8		708	7	146	0.59		84	96.41	41.6	10.206											N.D		N.D	76	N.D		72	14		Complying	
	3738 dt. 31.01.2022	17.01.2022		Colourless	Odourless	7.3	532	2.8	12		288	8	234	0.42	ND	24	20.12	66.4	16.524													N.D		N.D	0.002	6.8	1.7		Complying	
3 Tubewell of HSIIDC, Sec-3, Karnal																																								
	947 dt. 28.04.2021	20.04.2021		Colourless	Odourless	7.76	1434	2.2	12		776	BDL(DL=2)	782	0.33		64	ND	220.8	55.89							0.439			0.18			Nil	92	Nil					Non-Complying (Total Hardness and	
	1631 dt. 22.07.2021	13.07.2021		Colourless	Odourless	8.2	1322	BDL(DL=1)	BDL(DL=5)		732	7	386	0.81	BDL(DL=0.5)	8	8.64	104	28.674								480	170	BDL(DL=0.5)			BDL(DL=1)	BDL(DL=5)				12	BDL (DL=1)		Complying
	2882 dt. 15.11.2021	02.11.2021		Colourless	Odourless	8.05	1287	2.8	16		702	BDL(DL=5)	168	0.8		78	103.2	48	11.664											N.D		N.D	N.D				74	16		Complying
	3739 dt. 31.01.2022	17.01.2022		Colourless	Odourless	7.27	530	1.8	8		280	8	240	0.37	ND	20	17.29	67.2	17.496										Absent	N.D		N.D	N.D			4.8	1.2		Complying	
4 Ground Water of Old Bus Stand, Karnal																																								
	948 dt. 28.04.2021	20.04.2021		Colourless	Odourless	7.78	1430	BDL(DL=1)	4		780	BDL(DL=5)	722	0.29		52	ND	203.2	52.002							0.413			0.16			Nil	94	Nil					Non-Complying (Total Hardness and	
	1632 dt. 22.07.2021	13.07.2021		Colourless	Odourless	8.14	1282	1.6	8		698	6	392	BDL(DL=0.5)	BDL(DL=0.5)	10	7.22	110.4	28.188							390	110	BDL(DL=0.5)				98	BDL(DL=5)	BDL(DL=0.4)	12	BDL (DL=1)		Complying		
	2883 dt. 15.11.2021	02.11.2021		Colourless	Odourless	8.14	1267	BDL (DL=1)	6		690	BDL(DL=5)	200	0.65		72	107.4	56	14.58											N.D		N.D	68	N.D		65	13		Complying	
	3740 dt. 31.01.2022	17.01.2022		Colourless	Odourless	7.34	529	1.4	8		288	7	268	0.42	N.D	28	21.23	75.2	19.44											N.D		N.D	62	N.D		5.6	1.4		Complying	
5 Ground Water of New Bus Stand, Karnal																																								
	949 dt. 28.04.2021	20.04.2021		Colourless	Odourless	7.62	1440	1.5	8		784	BDL(DL=5)	684	0.22		88	ND	194.4	48.114							0.337			0.1			Nil	104	Nil					Non-Complying (Total Hardness)	
	1633 dt. 22.07.2021	13.07.2021		Colourless	Odourless	8.12	1310	2.5	12		724	9	380	BDL(DL=0.5)	BDL(DL=0.5)	8	8.56	107.2	27.216							330	140	BDL(DL=0.5)				82				10	BDL (DL=1)		Complying	
	2884 dt. 15.11.2021	02.11.2021		Colourless	Odourless	8.08	1268	BDL (DL=1)	8		692	BDL(DL=5)	138	0.65		86	102.09	39.2	9.72											N.D		N.D	72	N.D		69	15		Complying	
	3741 dt. 31.01.2022	17.01.2022		Colourless	Odourless	7.27	532	2.4	12		282	9	210	0.36	N.D	24	14.78	59.2	15.066											N.D		N.D	N.D	N.D	3.4	0.7		Complying		