

DELHI POLLUTION CONTROL COMMITTEE
DEPARTMENT OF ENVIRONMENT, GOVT. OF NCT OF DELHI
5th FLOOR, ISBT BUILDING, KASHMERE GATE, DELHI-110006
visit us at : <http://dpcc.delhigovt.nic.in>

F.No. DPCC/WMC-II/2018/AR/SWM/ 4945-48

Dated: 31-07-2023

To,

Smt. Divya Sinha,
Additional Director & In-charge UPC-II,
Central Pollution Control Board, Parivesh Bhawan,
East Arjun Nagar, Delhi-110032

**Sub: Annual Report in Form V in respect of NCT of Delhi for the Year 2022-2023
on the Implementation of Solid Waste Management Rules, 2016.**

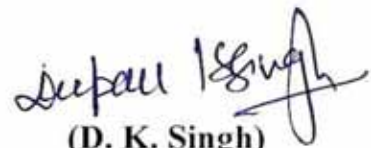
Madam,

Please find enclosed here with Annual Report in Form V in respect of NCT of Delhi for the Year 2022-2023 on the Implementation of Solid Waste Management Rules, 2016.

This issues with the approval of the Member Secretary, Delhi Pollution Control Committee.

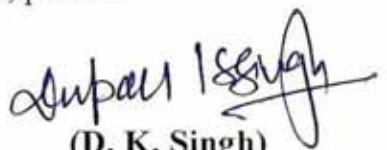
Yours Sincerely,

Enclosure: As Above


(D. K. Singh)
Sr. Env. Engineer (WMC-II)

Copy to:

1. The Secretary, Ministry of Housing and Urban Affairs, Govt. of India, Nirman Bhawan, C Wing, Maulana Azad Road, New Delhi-110011.
2. The Addl. Chief Secretary, Urban Development Department, Govt of NCT of Delhi, 9th Level, Delhi Secretariat, I.P. Estate, Delhi -110002.
3. PS to Chairman, DPCC – For kind information to Chairman, please.


(D. K. Singh)
Sr. Env. Engineer (WMC-II)

FORM V

[See rule 24(3)]

**Annual Report in respect of NCT of Delhi for the Year 2022-2023
on the Implementation of Solid Waste Management Rules, 2016.****PART A**

To,

The Chairman,
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
Delhi - 110032

1	Name of the State / Union territory	NCT of Delhi
2	Name & address of the State Pollution Control Board / Committee	Delhi Pollution Control Committee, 5th Floor, ISBT Building, Kashmere Gate, Delhi-110006
3	Number of local bodies responsible for management of solid waste in the State / Union territory under these rules	3 [MCD, NDMC & DCB]
4	No. of authorisation application received	02 (Waste to Energy Plants at Ghazipur and Tehkhand)
5	A Summary Statement on progress made by local bodies in respect of Solid Waste Management.	<u>Annexure - I</u> attached.
6	A Summary Statement on progress made by local bodies in respect of waste collection, segregation, transportation and disposal	<u>Annexure- II</u> attached
7	A Summary Statement on progress made by local bodies in respect of implementation of Schedule II	<u>Annexure- III</u> attached
	Date : 31.07..2023 Place : Delhi.	 (Dr. K.S. Jayachandran) Member Secretary Delhi Pollution Control Committee

PART B

Towns / Cities	
Total number of towns/cities	1
Total number of ULBs	3
Number of class I & class II cities/towns	1
Authorisation Status (Names/ Number)	
- Number of applications received - Number of authorisations granted - Authorisations under scrutiny	2 2 Nil
Solid Waste Generation Status Solid waste generation in the state (TPD)	11352 TPD of Solid Waste is generated in NCT of Delhi as per the Annual Reports submitted by the Local Bodies. 11352 TPD is collected [100 %] 7352 TPD is processed/ treated [64.76%] 4000 TPD waste is dumped [35.24 %] [Excluding about 341 TPD rejects landfilled at Engineered SLF at Bawana].
Compliance to Schedule I of SWM Rules (Number/Names of Towns/Capacity)	Local Bodies are implementing waste segregation at source, door to door collection, intermediate storage and transport facility with GPS for the transportation of the collected solid waste to the operational Solid Waste Processing / Treatment Facilities or at the 3 existing Landfill / Dumpsites at Bhalaswa, Ghazipur & Okhla in Delhi. New Delhi Municipal Council (NDMC) & Delhi Cantonment Board (DCB) are implementing the provisions of the SWM Rules, 2016 in their areas in a better way. However MCD has to make more efforts and take measures to implement the provisions of the SWM Rules, 2016 in their areas. About 100% collection of Solid Waste including Door to Door Collection and Transportation of Solid Waste in covered vehicles have been reported by the Local Bodies in their Annual Reports. However, it is not true in case of MCD. NDMC has reported that 100% Premises in the area are segregating the waste at source. Delhi Cantonment Board (DCB) has reported that 90% Premises in Civil Area & 60% Premises in Army Area are segregating the waste at source. Timeline for 100 % segregation at source is July, 2023. MCD has reported that 100 % (12 Wards), 80 - 100% (70 Wards), 60-80% (12 Wards), 40-60% (81 Wards), 20-40% (46 Wards), 10-20% (29 Wards). Timeline for 100 % segregation at source is October, 2024.

Processing of MSW (Number/Names of Towns/Capacity)				
Solid Waste Processing Facilities Setup :				
Sl. No.	Composting	Vermi-Composting	Bio-gas/Bio-methanation Plant	RDF / Pelletization
1.	DCB - Composting - 20.175 TPD (One Sorting Cum Composter of 20 TPD and 2 Food Waste Composters of 0.175 TPD (0.125+ 0.05TPD))	Nil	Nil	Nil
2.	MCD - (Composting - Total 1263 TPD) - One Centralised Compost Plant of 700 TPD in the Integrated Facility at Bawana 20 Composters of 1 TPD each- 20 TPD 211 Compost Pits of 543 TPD	Nil	08 Bio-Methanation plants of 05 TPD each at various locations. 40 TPD (Not Operational)	1300 TPD (Ghazipur WTE) 1300 TPD (Bawana WTE) 1950 TPD (at Okhla WTE) 2000 TPD (at Tehkhand WTE)
3.	NDMC- (Composting – 21.8 TPD) 29 Organic Waste Convertors (OWCs)- 15.15 TPD 47 Compost Pits of 6.65 TPD		06 Bio-Gas Plant of 7.5 TPD	Nil
Operational Processing Facilities:				
Sl. No.	Composting including Compost Pits & Organic Waste Convertos	Vermi-Composting	Bio-gas /Bio-methanation Plant	RDF/ Pelletization
	311	Nil	6	4 (with WTEs)
Processing facility under installation / planned:				
S. No.	Composting	Vermi-Composting	Bio-gas/Bio-methanation Plant	RDF/Pelletization
	- Decentralised Compost Plants at New Ashok Nagar & Vishwas Nagar (MCD) of 1 TPD capacity each by October, 2023. 3 Sorting cum Composter Plants of 20 TPD capacity each by July, 2023 (DCB). 8 Organic Waste Convertor (NDMC) of 1 TPD capacity each December, 2023.	-	- Bio-CNG Plant of 300 TPD at Okhla by June, 2024 (MCD) - Compressed Bio Gas (CBG) Plant of 100 TPD at Ghogha Dairy by December, 2024	- One New Waste to Energy Plant at Narela-Bawana of 3000 TPD capacity by December, 2026. - One New Waste to Energy Plant at Ghazipur of 2000 TPD by December, 2027. - Expansion of Waste to Energy Plant at Okhla from 1950 TPD to 2950 TPD by December, 2024.

Waste-to-Energy Plants: (Number/Names of Towns/Capacity)				
Sl. No.	Plant Location	Status of Operation	Power Generation (MW)	Remarks
1.	Okhla	Operational	23	-
2.	Ghazipur	Operational	12	-
3.	Bawana	Operational	24	-
4.	Tehkhand	Operational	25	-

Disposal of Solid Waste (Number/Names of Towns/Capacity): - Landfill sites identified - Landfill constructed - Landfill under construction - Landfill in operation - Landfill exhausted - Landfill capped	01 Existing Operational Engineered SLF at Bawana. Another Engineered SLF is under construction at Tehkhand for which Environmental Clearance has already been given by MoEF&CC on 29.10.2020 and Consent to Establish has been issued by DPCC. 01 Engineered SLF at Bawana already constructed & operational. One Engineered SLF at Tehkhand is under construction & expected to be commissioned by Sept, 2023. Engineered SLF at Bawana. None However, all 3 non-engineered and unscientific MSW Dumpsites at Okhla, Ghazipur and Bhalswa have already been exhausted. Nil
Solid Waste Dumpsites (Number/Names of Towns/Capacity): - Total number of existing dumpsites - Dumpsites reclaimed / capped - Dumpsites converted to sanitary landfill	3 Remediation of Legacy Waste at Okhla, Ghazipur and Bhalswa Dumpsites is being carried out as per the directions of the Hon'ble National Green Tribunal including order dated 17.07.2019 in OA No. 519 / 2019 in the matter of News item published in "The Times of India" Authored by Jasjeev Gandhiok & Paras Singh Titled "Below mountains of trash lie poison lakes" and OA No. 386/2019 in the matter of "Centre for Wildlife and Environment Litigation" Vs Union of India &Ors." Nil

Monitoring at Waste Processing / Landfill Sites						
Sl. No.	Name of Facilities	Ambient Air	Ground Water	Leachate Quality	Compost Quality	VOCs

Monitoring of Operational Waste to Energy Plants (WTE Plants) in Delhi :

As per the orders dated 09.10.2017 of Hon'ble National Green Tribunal in OA No. 22/2013 (T_{HC}) & 27.09.2018 in OA No. 640/2018 (earlier OA No. 22/2013) in the matter of Sukhdev Vihar Residents Welfare Association Vs GNCTD and Ors., joint inspections of all the above mentioned 3 operational WTEs in Delhi were being carried out by a team consisting of representatives of CPCB, DPCC, MOEF&CC and IIT, Delhi once in four months.

Monitoring of the stack emissions and Ambient Air Quality was also carried out by CPCB during the joint inspections in the past and reports were submitted by CPCB to the Hon'ble NGT from time to time.

Online Continuous Emission Monitoring System (OCEMS) has been installed by all the 4 operational Waste to Energy Plants in Delhi and the same are also connected to the server of CPCB & DPCC.

Based on the Compliance Reports of Waste to Energy Plants in Delhi submitted by CPCB to Hon'ble NGT in the abovementioned cases, DPCC imposed total Environmental Compensation of Rs. 40 Lakh on the then 3 operational WTEs in Delhi. The said amount of Environmental compensation was received from 3 WTEs.

As per the Directions u/s 5 of the Environment (Protection) Act, 1986 issued by CPCB vide letter dated 05.04.2021 to DPCC regarding Periodic Monitoring and Status Report of Waste to Energy Plants in Delhi, DPCC has engaged Laboratories empaneled with MoEF&CC for carrying out monitoring of Waste processing Facilities in Delhi. Three Waste to Energy Plants in Delhi, at Okhla, Bawana & Ghazipur were monitored in the month of in 2022. Fourth WtE Plant at Tehkhand has also commissioned and will be monitored .

Analysis Reports of DPCC for Ground Water Quality near the 3 Dumpsites at Okhla, Ghazipur & Bhalaswa and one Engineered SLF at Bawana for the monitoring conducted in December, 2021 are collectively enclosed as **Annexure – IV.**

Status of Action Plan prepared by Municipalities	
• Total number of municipalities • Number of Action Plan submitted	3 Action Plans submitted by the Local Bodies in Delhi. Separate Action Plan for Bio-mining of Legacy Waste at 3 Dumpsites (Ghazipur, Bhalaswa & Okhla) also submitted by MCD.

MCD has to operationalize the approved Waste to Energy Plants and close down open dhalaos at the earliest. Also, MCD has to expedite and complete the bio-mining at the three dumpsites as per stipulated timelines.

A Summary Statement on Progress made by Local Bodies in respect of Solid Waste Management

1. Municipal Corporation of Delhi (MCD)

A. General Information

- Area – 1366.89 sq. km
- Population – 192 lakh
- No. of wards – 250
- No. of Households – 43 lakh
- No. of Non Residential Premises – 76353
- No. of Dhalaos – 575
- No. of FCTS – 286
- Segregation at Source (100 % by October, 2024) – 100 % (12 Wards), 80 - 100% (70 Wards), 60-80% (12 Wards) 40-60% (81 Wards), 20-40% (46 Wards), 10-20% (29 Wards)
- Mobile Transfer Stations / Refuse Collectors / Compactors – 291
- No of Bins placed – 7405 (1.1 m³ each) (cleared on daily basis) [Green Bins-2201, Blue Bins-1702 & Black Bins-615]
- Motorised Vehicles – 89 %
- Containerised Tricycle Handcart – 11 %
- Lifting of MSW – 100 % Mechanical lifting(Through Front End Loaders / Top Loaders/ Refuse Compactors)
- Method of Primary Collection – Auto Tipper, Manual Rickshaw, E- Rickshaw, 3 Wheelers
- Sweeping of Streets – Manual Sweeping of Roads through 57500 No of Safai Karamcharis (84 %). Mechanised Street sweeping of 60 feet above ROW through 52 No of Mechanised Road Sweeping Machines (16 %).
- Length of Roads / Streets /Lanes/ Bylanes to be cleaned – 15582 kilometers (in terms of 12 feet road width) (Street sweeping 100 % on Daily basis)
- Means Used for Collection & Transportation of MSW – Tractors – 26, JCB / Loader – 21, Hook Loaders 160, Auto Tippers-2446, Bins Washer-58, Wheel Barrows-4076 Cycle Rickshaw/Tricycle-414,E-Rickshaw-278, 3Wheelers-87

B. Solid Waste Generation

- 11000 TPD (0.5 kg/day/capita)
- (100 % Collection & Transportation of MSW on daily basis)

C. Existing Processing/Treatment Facilities

- Total Waste Processed /Treated -- 7000 TPD (63.63% of total MSW generated, through PPP)
- Centralised Compost Plant – One No. of Compost Plant of 700 TPD Capacity in the Integrated MSW Facility at Bawana.
- Existing Waste to Energy Plant – 04 Nos. of 6550 TPD Capacity at Bawana (1300 TPD), Okhla(1950TPD),Tehkhand(2000TPD)& Ghazipur(1300 TPD)
- Engineered Sanitary Landfill (SLF) – One SLF is operational at Bawana.
- Bio-Methanation Plants – 8 of 5 TPD capacity each at Roshanara Bagh, (Commissioned but Not in Operation) MVID Hospital, Sarita Vihar, Dwarka Sector 14, Punjabi Bagh Nursery, Masood Pur in Vasant Kunj, Geeta Colony & Shastri Park
- Local Composting Units – 231 Nos. of 563 TPD Capacity (543 + 20 TPD). (including 211 Compost Pits & 20 1 TPD Composters)
- Material Recover Facilities (MRFs) –156 Nos.of 253 TPD Capacity (Manual & Semi Automatic)

D. Proposed Waste Processing / Treatment Facilities

- **New Waste to Energy Plant at Narela-Bawana of 3000 TPD Capacity.** Timeline for completion is December, 2026.
- **New Waste to Energy Plant at Ghazipur of 2000 TPD Capacity.** Timeline for completion is December, 2027.
- **Expansion of Existing Waste to Energy Plant at Okhla from 1950 TPD to 2950 TPD.** Timeline for completion is December, 2024.
- **Two Decentralised Composters Plants of 01 TPD each** at Vishwas Nagar and New Ashok Nagar to be commissioned by October, 2023.
- **One Bio-CNG Plant of 300 TPD Capacity at Okhla.** Timeline for completion is June, 2024.
- **One Compressed Bio-Gas Plant of 100 TPD** at Ghogha Dairy. Timeline for completion is December, 2024.
- **Two Decentralised Composters Plants of 01 TPD each** at Vishwas Nagar and New Ashok Nagar to be commissioned by October, 2023.
- **Three Bio-CNG Plants** at Nangli Dairy (215 TPD) proposed to be completed by **Sept, 2023**, Goyla Dairy (215 TPD) proposed to be completed by **December, 2023**, Ghogha Dairy (290 TPD) proposed to be completed by **December, 2023** (These are mainly for the Waste generated from Dairies and not included in total MSW Generation of 11000 TPD)
- **One Engineered Sanitary Landfill (SLF) at Tehkhand** is under construction (Timeline – Sept, 2023)

E. Remediation of Legacy Waste (Old Dumped Solid Waste)

Bhalaswa Dumpsite is having an area of 78.47 Acres with approximate height of 65 metres in July, 2019 and was having 8 Million Tons of legacy waste. The estimated cost to clear the legacy waste is Rs. 75 Crores as per NGT order dated 17.07.2019. 18 Trommels were operational for Bio-Mining of Legacy Waste at Bhalaswa Dumpsite in March, 2023. 31.69Lakh MT of legacy waste was Biomined till 04.04.2023 (39.61 %).

Okhla dumpsite is having an area of 62.74 Acres with approximate height of 60 metres in July, 2019 and was having 6 Million Tons of legacy waste. The estimated cost to clear the legacy waste is Rs. 50 Crores as per NGT order dated 17.07.2019. 09 Trommels were operational for Bio-Mining of Legacy Waste at Okhla Dumpsite in March, 2023. 26.95 Lakh MT of legacy waste was bio-mined till 04.04.2023 (44.91 %).

Ghazipur Dumpsite is having an area of 75.08 Acres with approximate height of 65 metres in July, 2019 and was having 14 Million Tons of legacy waste. The estimated cost to clear the legacy waste is Rs. 125 Crores as per NGT order dated 17.07.2019. 22 Trommels were operational for Bio-Mining of Legacy Waste at Ghazipur Dumpsite in March, 2023. 17.72 Lakh MT of legacy waste was bio-mined till 04.04.2023 (12.65 %).

Timeline for 100% Remediation of Legacy waste from above mentioned three Dumpsite is May, 2024

Status of Bio-Mining of Legacy Waste at 3 Dumpsites at Okhla, Ghazipur & Bhalaswa (As on 30.06.2023)

Dumpsite	Quantity of Legacy Waste Dumped (July, 2019) (Lakh Ton)	Total Quantity of Legacy Waste Bio Mined (As on 30.06.2023) (Lakh Ton)	Legacy Waste (Volumetric Assessment* through Drone in June, 2022) (Lakh Ton) *Above ground level	Quantity of fresh MSW dumped from July 2022 to 30.06.2023 (Lakh Ton)	Total Quantity of Legacy Waste Bio-mined from July 2022 to 30.06.2023 (Lakh Ton)	Balance Quantity of Waste at Dumpsite (Lakh Ton)	No. of Trommels Operational	Timeline for 100% Remediation
Bhalaswa	80	38.015	73	8.45	13.025	68.425	20	May-24
Ghazipur	140	20.04	85	6.57	8.8	82.77	22	May-24
Okhla	60	31.18	45	6.48	12.96	38.52	11	May-24
Total	280	89.235	203	21.5	34.785	189.715	53	

MCD has awarded integrated work for 30 Lakh MT (extendable upto 45 Lakh MT) for each dumpsite @ Rs. 745 per MT under SBM 2.0

2. New Delhi Municipal Council (NDMC)

A. General Information

- Area – 42.67 sq. km
- Population – 2.57 lakh (Fixed Population) + 15 Lakh Floating Population
- No. of Circles – 14
- No. of Households – 47401
- No. of Non Residential Premises – 4532 [including 4349 Commercial Shops & 34 Hotels & Restaurants]
- No. of Dhalaos – Nil
- Segregation at Source - 100% (in all 14 Circles)
- Motorised Vehicle - 100 %
- No of Bins placed – Nil [Binless Area, No secondary storage facilities]
- Lifting of MSW – 100 % Mechanical lifting (From Iron Bin Trollys for Horticulture
- Sweeping of Streets / Roads – 1298 Kilometers through Mechanised Road Sweeping Machines
- Means Used for Collection & Transportation of MSW – Auto Tippers – 36 for D2D & 10 for C&D, 14 Open Tipper Truck for Horticulture Waste, 19, 790 Wheel Barrow Tricycles , 4 JCBs & 5 Hook Loaders)(100 % MSW transported daily) (100 % Collection & Transportation of MSW on daily basis)
- Own Manpower Deployed - 187 Safai Karmcharis have been deployed for cleaning & sweeping work.

- B. Solid Waste Generation – 287.034 TPD (Daily 100 % Collection, Transportation & Processing of MSW)

C. Existing Processing/Treatment Facilities

- Total Waste Processed /Treated -- 287.034 TPD (100 %)
- Through Existing Waste to Energy Plant at Okhla having capacity of 1950 TPD [NDMC & DCB share is 400 TPD] & Other Decentralised Processing Facilities in NDMC Area
- Bio-Gas Plants – 6 with total capacity of 7.5 TPD
- Local Composting Units – 47 Nos. of 6.65 TPD Capacity
- Organic Waste Composters - 29 Nos of 15.15 TPD Capacity
- Material Recover Facilities (MRFs) – 03 Nos. of 14 TPD Capacity

D. Proposed Waste Processing/Treatment Facilities

- 08 No. of OWCs of 1 TPD capacity each by December, 2023

There are 24 JJClusters and Door to Door garbage collection system is in place for the JJClusters. There is No SLF and any Dumpsite in NDMC area.

3. Delhi Cantonment Board (DCB)

A. General Information

- Area – 42.8 sq. km
- Population – 1.332 lakh
- No. of wards – 8
- No. of Households – 10060
- No. of Non Residential Premises – 460
- No. of Dhalaos – Nil
- Segregation at Source - 90 % in Civilian Area (100 % segregation at source by July, 2023)
- Lifting of MSW – 73 % (Manual) & 27 % (Mechanical- Front End Loaders, 8 Refuse Compactors, & 21 Tippers. Others 4 Tractors & 4 JCB / Loaders)
- Sweeping of Streets / Roads – 62 Kilometers [Manual & through 2 Mechanised Road Sweeping Machines]
Sweeping in Commercial Areas – Twice a day (Night Sweeping also in Shastri Baazar & Sadar Baazar Areas
Sweeping on Public Roads & Streets – Daily
- Regular Manpower Deployed - Safai Karmcharis – 104, Drivers – 13 & Sanitary Guides – 5
Besides above Regular Manpower 1153 Contractual Manpower also engaged by DCB

B. Solid Waste Generation - 65 TPD (0.6 kg/ day/capita)
(Daily 100 % Collection, Transportation & Processing of MSW)

C. Existing Processing/Treatment Facilities

- Total Waste Processed /Treated - 65 TPD (100% of total MSW generated)
(43 TPD processed through Waste to Energy Plant at Okhla, 2 TPD of Plastic waste is processed through Recycling).
- Through Existing Waste to Energy Plant at Okhla having capacity of 1950 TPD
[NDMC & DCB share is 400 TPD] & Other Decentralised Processing Facilities in DCB Area
- One Sorting Cum Composter of 20 TPD capacity at Tigris Road
- Food Waste Composters - 2 Nos of 0.175 TPD capacity (0.125 TPD + 0.05 TPD at Tigris Road
- Material Recover Facilities (MRFs) – 11 Nos. of 50 TPD Capacity

D. Proposed Waste Processing /Treatment Facilities

- 3 Sorting Cum Composter Plants of total 60 TPD (3 x 20 TPD) capacity at Kirby Place, Delhi Cantt. by July, 2023.

A Summary Statement on Progress made by Local Bodies in respect of Waste Collection, Segregation, Transportation and Disposal.

1. Municipal Corporation of Delhi (MCD)

- **Collection of Solid Waste-** 11000 TPD (100% of total Solid Waste generated)
- **Premises Segregating Waste at Source-** 100 % (12 Wards), 80 - 100% (70 Wards), 60-80% (12 Wards), 40-60% (81 Wards), 20-40% (46 Wards), 10-20% (29 Wards). 100 % segregation at source is targeted by October, 2023.
- **Transportation of Collected Waste-** Collected Solid Waste is transported by Tractors, Non-tipping Truck, Tipping truck, Dumper placers, Refuse collector, Compactors, JCB/loader, MRS and others.
- **Disposal of Solid Waste in Landfill / Dumpsite-** 3000 TPD (Avg.).

2. New Delhi Municipal Council (NDMC)

- **Collection of Solid Waste-** 287.034 TPD (100% of total Solid Waste generated)
- **Premises Segregating Waste at Source-** 100%
- **Transportation of Collected Waste-** Collected Solid Waste is transported by Motorized Vehicles.
- **Disposal of Solid Waste in Landfill/Dumpsite-** Nil
- 287.034 TPD of waste generated from NDMC areas is being processed / treated at WTE Plant at Okhla and through Decentralised MSW Processing Facilities including Bio-gas Plants / Organic Waste Convertors / Compost pits in NDMC area.

3. Delhi Cantonment Board (DCB)

- **Collection of Solid Waste-** 65 TPD (100% of total Solid Waste generated)
- **Premises Segregating Waste at Source-** 90% in Civil area and 60% in Army area (100 % by July, 2023).
- **Transportation of Collected Waste -** Collected Solid Waste is transported by motorized vehicles.
- **Disposal of Solid Waste in Landfill/Dumpsite-** Nil
- 20 MT of wet waste is processed in sorting-cum- composting machine at Tigris Road Delhi Cantt, rest is processed through Waste to Energy Plant at Okhla.

Status of Solid Waste Management in NCT of Delhi including Summary Statement on Progress made by Local Bodies in respect of implementation of Schedule II of Solid Waste Management Rules, 2016

A. Solid Waste Generation, Processing/Treatment and Disposal

S.No.	Particulars	MCD	NDMC	DCB	Total
1.	Area (in Sq. Km)	1366.89	42.67	42.8	1484.36
2.	Population (in Lakh)	192	2.57	1.332	195.902
3.	No. of Wards	250	14 Circles	8	272
4.	No. of Households (in Lakh)	43	0.474	0.10060	43.5746
5.	Solid Waste Generation (in TPD)	11000	287	65	11352
6.	Collection of MSW in TPD (in %)	11000 (100%)	287 (100%)	65 (100%)	11352 (100%)
7.	Premises Segregating the waste at Source (in %)	100 % (12 Wards), 80 - 100% (70 Wards), 60-80% (12 Wards), 40-60% (81 Wards), 20-40% (46 Wards), 10-20% (29 Wards)	100%	90% in Civil Area & 60% in Army Area	---
8.	Processing / Treatment of Solid Waste in TPD (in %)	7000 (63.63%)	287 (100%)	65 (100%)	7352 (64.76%)
9.	Disposal of Solid Waste in Landfill/ Dumpsite Sites (at Bhalaswa, Ghazipur & Okhla)	4000 (36.36%)	Nil	Nil	3000 (35.24%)
10.	Engineered Sanitary Land Fill(SLF)	One (Operational at Bawana)	-	-	One
11.	Operational Waste to Energy Plant	04 (6550 TPD)	-	-	04 (6550 TPD)
12.	Operational Centralised Compost Plants (700 TPD)	One (at Bawana)	-	-	01
13.	Operational Bio-Gas Plants	-	6	-	6
13.	Operational Decentralised Compost Plants & Organic Waste Convertors	20	29	3	52
14	Compost Pits	211	47	-	258

(a) Collection, Segregation & Transportation of Municipal Solid Waste:

There are 03 Local Bodies in Delhi responsible for implementation of the Solid Waste Management Rules, 2016. Total Municipal Solid Waste generation in Delhi is 11352 Tonnes per day (TPD). Local Bodies are implementing waste segregation at source, door to door collection, intermediate storage and transport facility with GPS for the transportation of the collected solid waste to the operational Solid Waste Processing / Treatment Facilities or at the 3 existing Dumpsites at Bhalaswa, Ghazipur & Okhla in Delhi.

New Delhi Municipal Council (NDMC) & Delhi Cantonment Board (DCB) are implementing the provisions of the SWM Rules, 2016 in their areas more efficiently than Municipal Corporation of Delhi (MCD), however, they are also making all efforts and taking measures to implement the provisions of the SWM Rules, 2016 in their areas.

About 100 % collection of Solid Waste, Door to Door collection and Transportation of Solid Waste in covered vehicles have been reported by the Local Bodies in their Annual Reports.

NDMC has reported that 100% Premises in the area are segregating the waste at source. DCB has reported that 90% Premises in Civil Area & 60% Premises in Army Area are segregating the waste at source. Timeline for 100 % segregation at source for DCB is July, 2023. MCD has reported that 100 % segregation in 12 Wards, 80 - 100% segregation in 70 Wards, 60-80% segregation in 12 Wards, 40-60% segregation in 81 Wards, 20-40% segregation in 46 Wards and 10-20% segregation in 29 Wards. 100 % segregation in all wards of MCD is targeted by October, 2024.

(b) Municipal Solid Waste Processing and Disposal Facilities:

There is one Integrated Solid Waste Management Facility at Bawana for processing of 2000 TPD of municipal solid waste having Waste to Energy Plant, Compost Plant and Engineered Sanitary Landfill. One Engineered Sanitary Land Fill is being developed by Municipal Corporation of Delhi (MCD) at Tehkhand. An Integrated Solid Waste Management Facility for 2000 TPD was proposed to be developed by Municipal Corporation of Delhi (MCD) in joint venture with NTPC at Ghonda Gujran, however, Principal Committee constituted by Hon'ble NGT has not permitted the said Facility since it was falling in the Flood Plain of River Yamuna.

(c) Waste to Energy Plants :

Delhi has 04 Waste to Energy Plants (WTE Plants) of capacity 6550 TPD at 4 different locations in Delhi namely Okhla, Tehkhand, Ghazipur and Bawana. One new Waste to Energy Plant of capacity of 3000 TPD is proposed at Narela-Bawana and timeline for completion of the project is December, 2026. Another New WTE Plant of 2000 TPD Capacity is proposed at Ghazipur and timeline for completion of the project is December, 2027. Expansion of existing WtE at Okhla from 1950 TPD to 2950 TPD (from 23 to 40 MW Capacity) is proposed. Public Hearing for Expansion of existing WtE at Okhla conducted on 16.08.2022 and MoEF&CC has already granted Environmental Clearance for the said expansion project. After commissioning of the abovementioned projects, the capacity of WTE Plants will enhance from 6550 TPD to 12550 TPD by December, 2027.

Operational Waste to Energy Plants in Delhi

S. No	Name of Waste to Energy Plant	Existing Capacity	
		Waste Processing (in TPD)	Electricity Generation(in MW)
1.	Timarpur Okhla Waste management Company Ltd., Old NDMC Compost Site, Okhla.	1950	23
2.	East Delhi Waste Processing Company Ltd., Ghazipur*	1300	12
3.	Delhi MSW Solutions Ltd Narela Bawana Road, Bawana	1300	24
4.	Tehkhand Waste to Electricity Project Limited at Tehkhand, Okhla	2000	25
	Total	6550	84

Implementation of Schedule II of Solid Waste Management Rules, 2016

(i) Waste Handling Concepts in WTE Plants in Delhi:

Okhla WTE Plant : MCD provides waste at its door step. Processes waste for production of RDF for electricity production

Tehkhand WTE Plant : MCD provides waste at its door step. Processes waste for production of RDF for electricity production

Bawana WTE Plant : The plant has provision for collection, transportation, processing, composting, WTE plant and Engineered Landfill Facility.

Ghazipur WTE Plant: MCD provides waste at its door step. Processes waste for production of RDF for electricity production.

(ii) (a) Waste to Energy Plant at Okhla

Waste-to-Energy Plant at Okhla receives approx.1950 MTD of Mixed Municipal Waste from MCD, New Delhi Municipal Council and Delhi Cantonment Board (DCB). The waste is transferred through tippers and is dumped in a storage pit where microbial culture (solid and/or aqueous form) is mixed with MSW and kept for nearly 5 days. The storage pit is equipped with 02 grab cranes and keeps on mixing the waste for homogenization. After 5 days MSW is sent to pre-processing section (covered under shed), which consist of two segregation channels. Each segregation channel has the following system :

Manual segregation on moving belt conveyor – to sort out large size recognizable wastes such as Construction & Demolition waste, sanitary hardware, fibre, plastic materials, etc.

Ballistic Separator, Shredder and Vibratory screen – A two deck density separation system where heavier and lighter fractions are separated. The heavier fractions are disposed into Okhla Landfill. The lighter fractions are separated into three sizes viz., (+) 100mm; (-) 100 mm to (+)10mm and (-) 10mm. (+) 100mm size is passed through a shredder and shredded material directly goes to storage pit for feed into the Boilers. (-) 100 mm to (+) 10mm size material from the Ballistic Separator directly goes to storage pit for feed into the Boilers.

10mm size from both the Ballistic Separator are being send to sieve of 6mm size, (+) 6mm is sent to RDF storage and (-) 6mm is sent to the compost section.

Magnetic Separator – An electromagnet with moving belt to trap ferrous metals is installed on the line transporting -100 mm material and +10 mm material to RDF storage Pit. Two magnetic separators have been installed on the conveyer belt carrying the bottom ash.

Plant has constructed a pit (50 meters x 28 meters) under a covered shed for storage of RDF equipped with Grab Cranes. The pre-processed waste from the RDF storage pit is fed into the Boilers (three Nos.) using grab crane to run turbine to generate electricity of up to 23 MW.

The temperature in the boilers are maintained above 950°C as per Solid Waste Management Rules, 2016. Bottom ash along with inert from pre-processing section is sent to landfill.

There are 03 flue gas cleaning units 01 for every boiler consisting of Lime spray reactor (lime slurry is added by atomizing), Activated Carbon Injection, Bag House filter followed by dispersion into the atmosphere through a common stack of height about 60 meters from the ground. Unit has installed brick manufacturing unit for utilization of fly ash.

The (-) 6mm material from pre-processing section is stacked and composted for 30-35 days as windrow. After completion of 30-35 days the decomposed material is passed through 4mm trammel (+)4mm is sent

to RDF storage and (-) 4mm is sent to another sieve of 2mm. (+)2mm is sent to RDF storage and (-)2mm is the composted material which is being used for in house horticulture process.

The leachate generated in the storage pits is treated in Multi Effect Evaporator (MEE). The wet sludge from MEE is incinerated along with RDF in the boilers and treated water is reused.

(ii) (b) Waste to Energy Plant at Ghazipur

Waste-to-Energy plant at Ghazipur is having capacity of 12 MW electricity generation from incineration of waste . The plant was earlier run by M/s IL&FS and now by M/s Indo Enviro Integrated Solutions Limited through EDWPCPL after revamping of the Plant in June, 2022. The facility receives mixed Municipal Solid Waste (MSW) in a covered pit (Size 62 meter X 20 meters and 13 meters high). The waste from the pit is subjected to pre-processing in two lines and each line has provision of manual segregation on moving conveyor belts, two trommels for segregation of various sized viz. (+) 200mm, (-) 200mm to (+) 50 mm and (-50)mm, magnetic separator and Shredder(100mm Size). The flue gases are diluted with atmospheric air to bring down the temperature to the level of about 200-300 °C. The flue gas is subjected to air pollution control devices viz. Multicyclone, Venturi Scrubber with lime injection, demister (to remove moisture), and Activated Carbon Bed followed by dispersion into the atmosphere. The temperature in the boiler is maintained above 950°C as per Solid Waste Management Rules, 2016.

The flue gas from the boiler passes through air pollution control devices viz. Selective Non-catalytic reactor where urea is injected (for NO_x reduction), Semi-wet reactor where lime slurry is atomised, Activated Carbon Injection, Bag House (8 chamber and each having 14*14 bags) followed by dispersion into the atmosphere through a stack of height about 60 meters from ground.

Manual segregation on moving belt conveyor – to sort out large size recognizable wastes such as Construction & Demolition waste, sanitary hardware, fibre, plastic materials, etc. For the treatment of leachate an Effluent Treatment Plant (ETP) has been installed at Ghazipur site. It has provision to collect leachate generated from the mixed MSW and the leachate collected is thereafter treated at Effluent Treatment Plant.

Waste to Energy Plant at Ghazipur was under revamp and was shut down w.e.f 09.11.2021. The plant restarted its operation w.e.f 15.06.2022 after revamping. Delay was majorly because of the delay in the supply of the material by vendors to EDWPCPL and the logistic challenges faced by the country due to COVID-19 pandemic.

(ii) (c) Waste to Energy Plant at Bawana

The Waste-to-Energy Plant at Bawana is being operated by M/s Delhi MSW Solutions Ltd, having capacity of 2000 TPD & Electricity generation capacity is 24 MW. The WTE Plant receives mixed Municipal Solid Waste (MSW) on covered tipping floor (of size 150 meters x 25 meters and 7.5 meters high), which is made of RCC and covered under shed. The tipping floor has provision to collect leachate generated from the mixed Solid Waste into storage tank. The pre-processing system has five trommels (cylindrical rotary equipment with a screen) to sort out (+) 50 mm size material which is stored separately in the said tipping floor and is used as Refuse Derived Fuel (RDF) and is conveyed to a storage pit to feed into Boilers.

Segregation on moving belt conveyor is carried out to sort out large sized recognizable wastes such as Construction & Demolition waste, sanitary hardware, fibre, plastic materials, etc. The waste is then processed and disposed into composting facility, RDF for Waste-to-Energy facility and rejects are sent to Secured Landfill Site. The temperature in the boilers are maintained above 950°C as per Solid Waste

Management Rules, 2016. Bottom ash along with inert from pre-processing section is sent to Engineered landfill existing in the plant site at Bawana.

There are flue gas cleaning units for boilers consisting of Lime spray reactor (lime slurry is added by atomizing), Activated Carbon Injection, Bag House filter followed by dispersion into the atmosphere through a common stack of height about 60 meters from the ground.

The leachate collected is treated in Mechanical vapor Recompression (MVR) System within the Integrated MSW Facility and there is no discharge of untreated leachate. Leachate generated from Waste Storage Pit, Compost Facility and other sources including SLF is collected in three Leachate Collection Ponds of 3500 KL, 1100 KL & 800 KL. Collected Leachate is pumped to Mechanical Vapor Recompression (MVR) System of 200 KLD capacity which has been installed in April, 2021. MVR System found operational during the inspection. MVR is based on evaporation without use of steam and work on principle of heat recycling without any addition or blow down of heat. MVR raises the vapour temperature and pressure, recirculate it as heating medium making it an energy recovery process. There is maximum output of clean water (up to 95%). The treated leachate is recirculated and used in boilers of Waste to Energy Plant. Sludge from treatment of leachate is incinerated in Waste to Energy Plant due to its high calorific value (CV).

The Waste to Energy Plant also has Bottom Ash Recycling Facility. Bottom ash is screened twice for segregation of coarse and fine segregates. > 400 mm segregates are manually crushed while < 40 mm Segregates are crushed through cone crushing. The cone crushed segregates are then log washed creating a slurry. The slurry having < 0.75 mm particles is treated in Waste Water Treatment Plant and the settled sediments are used as Landfill Daily Soil Cover. The recycled water is reused. The > 0.75 mm aggregates after log-washing are screened into different fractions for processing them into products like paver blocks, kerbs, tiles, etc. As reported final product are being sold to private parties for construction purposes.

(ii) (d) Waste to Energy Plant at Tehkhand

Tehkhand Waste to Electricity Project Limited (WtE) Plant at Okhla, Phase-I receives about 2000 TPD of Municipal Solid Waste from the MCD, the waste is transferred through Compactors in MSW storage pit where microbial culture (solid and/or aqueous form) is mixed with MSW and kept for nearly 5 days. The storage pit is equipped with 02 grab cranes and keeps on mixing the waste for homogenization. After 5 days MSW is sent to MRF section (under covered shed) for its segregation.

MRF system has been installed – to sort-out large size recognizable wastes such as Construction & Demolition Waste, Fibres & Plastic Materials etc. Ballistic Separator (04 Nos), Shredder (01 No) and Vibratory screen (01 No) – A two deck density separation system where heavier and lighter fractions are separated. The heavier fractions are disposed into Okhla Landfill. The lighter fractions are separated into three sizes viz., (+) 100mm; (-) 100 mm to (+)10mm and (-) 10mm. (+) 100mm size is passed through a shredder and shredded material directly goes to storage pit for feed into the Boilers. (-) 100 mm to (+) 10mm size material from the Ballistic Separator directly goes to storage pit for feed into the Boilers. 10mm size from both the Ballistic Separator are being send to sieve of 6mm size, (+) 6mm is sent to RDF storage and (-) 6mm is sent to compost plant Okhla.

Magnetic Separator – An electromagnet with moving belt to trap ferrous metals is installed on the line transporting -100 mm material and +10 mm material to RDF storage Pit. Two magnetic separators have been installed on the conveyer belt carrying the bottom ash.

Plant has a pit (108.5 X 21.25 metres) under a covered shed for storage of RDF equipped with Grab Cranes. The pre-processed waste from the RDF storage pit is fed into the Boilers (02 Nos.) using grab crane to run turbine to generate electricity of 25 MW.

The temperature in the boilers is maintained at 950°C and above as per the Solid Waste Management Rules, 2016. There are 02 Flue Gas Cleaning units 01 for every boiler consisting of Lime spray reactor (lime slurry is added by atomizing), Activated Carbon Injection, Bag House filter followed by dispersion into the atmosphere through a common stack of height- 60 meters from the ground.

The leachate generated in the storage pits is being used as supplementary fuel along with RDF in Boilers Furnace. Adequate storage facilities are provided for the leachate management.

(d) Gap Analysis on Solid Waste Management

Generation (in TPD)	Processing (in TPD)	Gap (in TPD)	Proposed MSW Processing Facilities to fill the Gap
11352	7352	4000	(i) One New Waste to Energy Plant of MCD at Narela-Bawana of 3000 TPD capacity by December, 2026. (ii) One New Waste to Energy Plant of MCD at Ghazipur of 2000 TPD by December, 2027. (iii) Expansion of Waste to Energy Plant at Okhla from 1950 TPD to 2950 TPD by December, 2024. (iv) One Bio-CNG Plant of 300 TPD at Okhla by June, 2024 (v) One Compressed Bio Gas (CBG) Plant of 100 TPD of MCD at Ghogha Dairy by December, 2024 (vi) 3 Sorting cum Composter Plants of 20 TPD capacity each of DCB by July, 2023. (vii) 8 Organic Waste Converter of 1 TPD capacity each IN ndmc Area by December, 2023. (viii) One Decentralised Compost Plant of 1TPD at New Ashok Nagar & Another one 1 TPD at Vishwas Nagar by October, 2023. Besides above Bio-CNG Plants at Nangli Dairy (215 TPD) are under construction and proposed to be completed by Sept, 2023, Goyla Dairy (215 TPD) proposed to be completed by December, 2023, Ghogha Dairy (290 TPD) proposed to be completed by December, 2023 (These are mainly for the Waste generated from Dairies and not included in total MSW Generation of 11000 TPD One Engineered Sanitary Landfill at Tehkhand is also being developed by MCD and expected to be completed by Sept, 2023. Total Additional Capacity of Proposed MSW Processing Facilities after commissioning of above mentioned facilities will be 6470 TPD which will be sufficient to fill the Gap of 4000 TPD. TPD (excluding abovementioned Bio-Gas Plants of Dairies)

(ii) Engineered Sanitary Landfill (SLF) at Tehkhand

The Engineered Sanitary Landfill (SLF) at Tehkhand is being developed over an area of 32.346 Acres. The land has been secured and is in possession of MCD. Environmental Clearance has been granted by MoEF&CC, Govt. of India on 29.10.2018 and Consent to Establish has already been given by DPCC to the Facility. The project is expected to be completed by **Sept, 2023**.

●.NGT Case OA No. 606 / 2018 regarding Compliance of Municipal Solid Waste Management Rules, 2016.

Meetings were taken by the Chief Secretary, GNCTD from time to time and compiled Information / Action Taken Reports of Govt. of NCT of Delhi are being submitted to CPCB. As per the orders dated 16.01.2019 & 11.03.2019 in the said matter Chief Secy., GNCTD was required to personally monitor the progress w.r.t compliance of said Rules & orders of Hon'ble NGT. 1st & 2nd Quarterly Reports of Govt. of NCT of Delhi were filed before the Hon'ble NGT on 29.06.2019 & 10.10.2019 respectively. Subsequently orders dated 12.09.2019, 07.01.2020 14.12.2020 & 30.11.2021 were passed by the Hon'ble NGT. In compliance to the orders of Hon'ble NGT, Compliance Reports of Govt. of NCT of Delhi in respect of Solid Waste Management & Sewage management in Delhi are being submitted to CPCB regularly on quarterly basis.

Solid Waste Monitoring Committee (SWMC) headed by Hon'ble Lt. Governor, Delhi has been constituted by the Hon'ble National Green Tribunal vide order dated 16.02.2023 in OA. No. 606/2018 in the matter of "Compliance of Municipal Solid Waste Management Rules, 2016 and other Environmental Issues". Chief Secretary, Delhi is Convener and Secretaries / HODs of various Ministries / Departments of Govt. of India / Delhi are members of the said Committee.

An Action Plan for Solid Waste Management in Delhi has been prepared and an order dated 06.04.2023 has also been issued by Chief Secretary, Delhi. Copy of the said Action Plan and Order dated 06.04.2023 have been sent to concerned Departments including CPCB & MoEF&CC.

3. Remediation of Legacy Waste (Old MSW):

There are 3 Dumpsites at Ghazipur, Bhalaswa and Okhla in Delhi where Municipal Solid Waste have been dumped and there was legacy waste of 28 Million Tons as mentioned in the orders dated 17.07.2019 of Hon'ble National Green Tribunal in OA No. 519 / 2019 in the matter of News item published in "The Times of India" Authored by Jasjeev Gandhiok & Paras Singh Titled "Below mountains of trash lie poison lakes" and OA No. 386/2019 in the matter of "Centre for Wildlife and Environment Litigation" Vs Union of India & Ors."

In the said case Hon'ble NGT has passed detailed order regarding Disposal of 'Legacy' Waste dumped at Bhalaswa, Ghazipur and Okhla Dumpsites and given various directions. Hon'ble NGT has directed the Municipal Corporations to go for bio mining using trommels instead of capping of these dump sites. As per said order estimated cost to clear the above three dump sites may be approx. Rs. 250 Crores as given below:

- i. EDMC - Rs. 125 Crores
- ii. North MCD - Rs. 75 Crores
- iii. SDMC - Rs. 50 Crores

As per the directions of the Hon'ble Tribunal the contributions towards said amount of Rs. 250 Crores in three separate ESCROW accounts will be as follows:

i	EDMC	NCT Delhi EDMC NDMC* DCB**	Rs. 65 Crore Rs. 40 Crore Rs. 10 Crore Rs. 10 Crore	Total = 125 Crores
ii	North MCD	NCT Delhi North MCD NDMC DCB	Rs. 35 Crore Rs. 30 Crore Rs. 05 Crore Rs. 05 Crore	Total = 75 Crores
iii	SDMC	NCT Delhi SDMC NDMC DCB	Rs. 25 Crore Rs. 15 Crore Rs. 05 Crore Rs. 05 Crore	Total = 50 Crores
Total				250 Crores

As directed by the Hon'ble NGT, the Committee headed by Chief Secretary, Govt. of NCT of Delhi was constituted vide order dated 25.07.2019. The ESCROW accounts for North DMC, East DMC and South DMC were opened. Regular meetings of the Committee headed by Chief Secretary were held to review the progress in the said matter.

The implementation of the project has been started w.e.f. 01.10.2019. Inert material generated during the process is about 60% to 70% by weight or 40% by volume of the waste being processed. In pursuance of the Order dated 23.03.2020 passed by Hon'ble National Green Tribunal in above mentioned case and Integrated Special Purpose Vehicle (SPV) was constituted vide order dated 14.07.2020 for the scientific management, processing and disposal of Legacy Waste.

Hon'ble NGT had disposed off the above mentioned case vide order dated 29.01.2021 with directions to *NCT Delhi and the Municipal Corporations concerned to coordinate and execute the work of remediating the legacy waste dump sites for enforcing the rule of law and protection of environment and public health, expeditiously in terms of earlier orders of this Tribunal. Due care has to be taken for preventing fire accidents on the landfill sites and maintaining stability of the dumps. The Chief Secretary, Delhi, may continue to hold meetings for coordination with all the stake-holders.....*

As per the Action Plans submitted by MCD timelines for 100 % remediation of legacy waste at three dumpsites in Delhi is May, 2024.

Status of Bio-Mining of Legacy Waste at 3 Dumpsites at Okhla, Ghazipur & Bhalaswa (As on 04.04.2023)

S.No.	Name of Dumpsite	Quantity of Legacy Waste Dumped (July, 2019)	Legacy Waste (Volumetric Assessment through Drone in June, 2022)	Total Quantity of Legacy Waste Bio-mined (As on 04.04.2023)	No. of Trommels Operational	Timeline for 100% Remediation
1	Ghazipur	140 Lakh Ton	85 Lakh Ton	17.72 Lakh Ton (12.65 %)	22	May, 2024
2	Okhla	60 Lakh Ton	45 Lakh Ton	26.95 Lakh Ton (44.91 %)	09	May, 2024
3	Bhalaswa	80 Lakh Ton	73 Lakh Ton	31.69 Lakh Ton (39.61 %)	18	May, 2024
Total		280 Lakh Ton	203 Lakh Ton	79.21 Lakh Ton (25.86%)	49	

Status of Bio-Mining of Legacy Waste at 3 Dumpsites at Okhla, Ghazipur & Bhalaswa (As on 30.06.2023)

Dumpsite	Quantity of Legacy Waste Dumped (July, 2019) (Lakh Ton)	Total Quantity of Legacy Waste Bio-mined (As on 30.06.2023) (Lakh Ton)	Legacy Waste (Volumetric Assessment* through Drone in June, 2022) (Lakh Ton) *Above ground level	Quantity of fresh MSW dumped from July 2022 to 30.06.2023 (Lakh Ton)	Total Quantity of Legacy Waste Bio-mined from July 2022 to 30.06.2023 (Lakh Ton)	Balance Quantity of Waste at Dumpsite (Lakh Ton)	No. of Trommels Operational	Timeline for 100% Remediation
Bhalaswa	80	38.015	73	8.45	13.025	68.425	20	May-24
Ghazipur	140	20.04	85	6.57	8.8	82.77	22	May-24
Okhla	60	31.18	45	6.48	12.96	38.52	11	May-24
Total	280	89.235	203	21.5	34.785	189.715	53	

MCD has awarded integrated work for 30 Lakh MT (extendable upto 45 Lakh MT) for each dumpsite @ Rs. 745 per MT under SBM 2.0

4. Action taken by DPCC for Improvement in the Solid Waste Management in Delhi :

(i) Coordinated the works related to Solid Waste Monitoring Committee (SWMC) headed by Hon'ble Lt. Governor, Delhi constituted by the Hon'ble National Green Tribunal vide order dated 16.02.2023 in OA. No. 606/2018 in the matter of "Compliance of Municipal Solid Waste Management Rules, 2016 and other Environmental Issues".

Prepared Action Plan for Solid Waste Management in Delhi for SWMC after coordination with concerned Departments / Authorities. An order dated 06.04.2023 has also been issued by Chief Secretary, Delhi for implementation of the said Action Plan and compliance with the directions of the Hon'ble NGT in said order.

(ii) Public Hearing for Environmental Clearance for the Project "Expansion of Waste to Energy Plant up to 40 MW at Old NDMC Compost Plant, Behind CRRI, Okhla, New Delhi-110025 by M/s Timarpur Okhla Waste Management Company Ltd." was conducted on 16.08.2022 and Proceedings of the Public Hearing were sent to MoEF&CC vide letter dated 24.08.2022. MoEF&CC has granted Environmental Clearance for the said project on 10.01.2023.

(iii) Commissioning of New Waste to Energy Plant of 2000TPD at Tehkhand

Consent to operate under Air & Water Acts and Authorization under the Solid Waste Management Rules, 2016 was granted to M/s Tehkhand Waste to Electricity Project limited on 07.10.2023 for New Waste to Energy Plant of 2000TPD at Tehkhand after detailed inspection. The plant commissioned in October 2022 and in operation.

(iv) Monitoring of Waste to Energy Plants :

Inspection of all the 4 operational Waste to Energy Plants in Delhi were carried out. Monitoring of the stack emissions and Ambient Air Quality were carried out through the Laboratories engaged by DPCC.

(v) Prevention of Fire Incidents at the Dumpsites:

Dumpsites at Ghazipur and Bhalaswa were inspected from time to time and Environmental Compensation of Rs One Crore was imposed on EDMC/MCD w.r.t Fire Incidents on 28.03.2021/30.03.2021 and on 09.04.2022 and Environmental Compensation of Rs Fifty Lakh was imposed on North DMC / MCD w.r.t Fire Incidents on 26.04.2022. EDMC & North DMC were also directed to take immediate necessary action for prevention of fire & ensure that such fire incident does not occur in future at the Dumpsites.

(vi) Coordinated the works related to the Committees constituted by Hon'ble National Green Tribunal regarding Fire Incidents at Ghazipur & Bhalaswa Dumpsites (OA No. 288/2022 for Ghazipur Dumpsite Fire Incident and OA No. 300 / 2022 for Bhalaswa Dumpsite Fire Incident)

Hon'ble National Green Tribunal in OA No. 288/2022 in the matter of News item published in The Times of India dated 22nd April, 2022, titled "Delhi: Another long- drawn effort to douse fire at Ghazipur landfill" had taken up the matter regarding fire incidents at the Ghazipur Dumpsite and vide order dated 22.04.2022 constituted a Joint Committee headed by Justice S.P. Garg, Former Judge, Delhi High Court with members from CPCB, DPCC, Department of Urban Development, Delhi, EDMC, Delhi Disaster Management Authority and District Magistrate and DCP, East Delhi.

Similarly another Joint Committee headed by Justice S.P. Garg, Former Judge, Delhi High Court was constituted by Hon'ble NGT vide order dated 27.04.2022 in another case O.A. No. 300/2022 in the matter of News item published in News 18 dated 26.04.2022, titled "Delhi: Massive fire at Bhalaswa Dump Yard, Fourth This Year; 13 Fire Tenders on Spot" regarding fire incident at Bhalaswa Dumpsite.

DPCC coordinated the works related to above mentioned two Committees constituted by Hon'ble NGT and Headed by Sh. S.P. Garg, Retired Judge of Delhi High Court in above mentioned Two Cases for Prevention and Control of Fire Incidents at Ghazipur & Bhalaswa Dumpsites. Total 11 meetings of the 2 Committees were held (7 Meetings of Joint Committee for Ghazipur Dumpsite and 4 Meetings of Joint Committee for Bhalaswa Dumpsite) and Interim Progress Reports of the Two Joint Committees were filed before the Hon'ble NGT on 31.07.2022 (O.A. No. 288/2022 – Ghazipur Dumpsite) and 21.09.2022 (O.A. No. 300 / 2022 – Bhalaswa Dumpsite).

A team of DPCC, EDMC, North MCD visited Gorai and Deonar Dumpsites in Mumbai on 5th & 6th May, 2022 and a detailed report along with recommendations was submitted to Hon'ble Environment Minister GNCTD and also to Joint Committee Headed by Sh. S.P. Garg, Retired Judge of Delhi High Court.

Directions u/s 5 of the Environment (Protection) Act, 1986 were issued to MCD, DDMA & UD Department, Govt. of NCT of Delhi on 10.06.2022 regarding prevention and control of fire incidents at the MSW Dumpsites in Delhi.

Response of Chief Secretary, GNCTD was filed on 21.09.2022 (O.A. No. 288/2022 – Ghazipur Dumpsite) & 10.10.2022 (O.A. No. 300 / 2022 – Bhalaswa Dumpsite). Both the cases were heard by the Hon'ble NGT on 11.10.2022 and detailed order was passed by Hon'ble NGT giving various directions for proper management of Solid Waste and also for prevention of Fire incidents at the Dumpsites..

Regular meetings were held and coordinated by DPCC for review of Solid Waste Management in Delhi resulted in :

- Improvement in Segregation of Waste at Source
- Improvement in Bio-mining of Legacy Waste at 3 Dumpsites at Ghazipur, Bhalaswa & Okhla [45.65 Lakh Ton on 31.03.2022 to 79.21 Lakh ton on 04.04.2023]
- Utilization of Inert Generated from Bio-mining increased manifold due to use by NHAI in its various projects in and around Delhi
- Utilization of RDF Generated from Bio-mining also increased due to Commissioning of new Waste to Energy Plant at Tehkhand and restarting of Waste to Energy at Ghazipur. MCD also started disposing Bio-mined RDF through JK Cement.
- Capacity of various MSW Processing Facilities in Delhi increased from 6115 TPD in March, 2022 to 8255 TPD in March, 2023.



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ANALYSIS REPORT OF GROUND WATER NEARBY BHALSWA LAND FILL SITE

Report No.: DPCCW/LF/21-22/4567

Dated: 14/02/2022

Date of monitoring: -22.12.2021

S. No	Sampling Location	pH	TDS (mg/l)	Cl (mg/l)	Hardness as CaCO ₃ (mg/l)	Ca as Ca (mg/l)	SO ₄ (mg/l)	Turbidity (NTU)	Nitrate (mg/l)	Mg (mg/l)
Desirable Limit for Drinking Water		6.5-8.5	500	250	300	75	200	5	45	30
1.	Bhalswa Sanjay Gandhi Transport	7.8	115	107.5	560	92	521	Nil	0.52	104.8
2.	Bhalswa Dairy	7.6	2160	192.5	970	144	785	Nil	0.346	185
3.	Bhalswa landfill site	6.6	287	332.5	1780	272	606	Nil	0.651	337.7
4.	Bhalswa Janta Colony	7.8	104	97.5	700	116	826	Nil	0.201	130.8

Mishra
(I/C Water Lab)



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ANALYSIS REPORT OF GROUND WATER NEARBY GAZIPUR LAND FILL SITE

Report No.: DPCCW/LF/21-22/ 4566

Dated : 14/02/2022

Date of monitoring: -21.12.2021

S. No	Sampling Location	pH	TDS (mg/l)	Cl (mg/l)	Hardness as CaCO ₃ (mg/l)	Ca as Ca (mg/l)	SO ₄ (mg/l)	Turbidity (NTU)	Nitrate (mg/l)	Mg (mg/l)
Desirable Limit for Drinking Water		6.5-8.5	500	250	300	75	200	5	45	30
1.	Gazipur Dairy Farm, Gali No.-4	7.2	1040	97.5	530	76	490	Nil	0.321	101.7
2.	Gazipur Dairy near Masjid	6.8	1080	117.5	710	168	359	Nil	0.315	121.4
3.	Gazipur Landfill Site Near Entry Gate	6.9	1860	167.5	550	84	385	Nil	0.249	104.3
4.	Fish Market Landfill site Gazipur	7.3	2170	167.5	860	176	333	Nil	0.379	153.2

Mishra
(I/C Water Lab)



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ANALYSIS REPORT OF GROUND WATER NEARBY OKHLA LAND FILL SITE

Report No.: DPCC/W/LF/21-22/US68

Dated: 14/02/2022

Date of monitoring: - 23.12.2021

S. No	Sampling Location	pH	TDS (mg/l)	Cl (mg/l)	Hardness as CaCO ₃ (mg/l)	Ca as Ca (mg/l)	SO ₄ (mg/l)	Turbidity (NTU)	Nitrate (mg/l)	Mg (mg/l)
Desirable Limit for Drinking Water		6.5- 8.5	500	250	300	75	200	5	45	30
1.	Okhla Landfill Site	7.2	894	62.5	310	76	471	Nil	0.288	52.4
2.	ESI Hospital Okhla	6.6	1060	47.5	1400	152	602	Nil	0.295	279.5
3.	Okhla Bus Depot	7.3	652	107.5	310	40	383	Nil	0.299	60.4
4.	B.P. Singh Camp Colony, Near Shiv Mandir	6.8	388	67.5	930	52	284	Nil	0.319	196.6

N. Mitta
(I/C Water Lab)



DELHI POLLUTION CONTROL COMMITTEE
WATER LABORATORY
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ANALYSIS REPORT OF GROUND WATER NEARBY BAWANA LANDFILL SITE

Report No.: DPCC/W/LF/21-22/4569

Date: 14/02/2022

Date of monitoring: -24.12.2021

S. No	Sampling Location	pH	TDS (mg/l)	Cl (mg/l)	Hardness as CaCO ₃ (mg/l)	Ca as Ca (mg/l)	SO ₄ (mg/l)	Turbidity (NTU)	Nitrate (mg/l)	Mg (mg/l)
Desirable Limit for Drinking Water		6.5-8.5	500	250	300	75	200	5	45	30
1.	Main Gate Bawana (SLF)	7.5	429	17.5	390	16	176	Nil	0.266	83.8
2.	Store Waste to Energy	7.4	310	27.5	130	40	307	Nil	0.457	20.1
3.	Sonot Village Bawana	7.3	551	72.5	160	60	884	Nil	0.442	22.4
4.	Bawana Village	7.1	568	52.5	90	44	307	Nil	0.248	10.3
5.	Sector 5 Bawana	8.1	852	47.5	220	64	639	Nil	0.119	35

N. Mitta
(I/C Water Lab)