

By Special Messenger / By Hand/ Email



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/ 3844 - 3846 Dated: 29-07-2020

To,

Smt. Divya Sinha,
Additional Director & Incharge 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 2019-2020 on the Implementation of Solid Waste Management Rules, 2016.

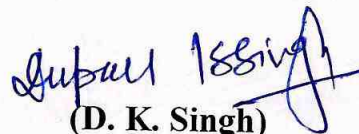
Madam,

With reference to your letter dated 10.07.2020, please find enclosed here with Annual Report in Form V in respect of NCT of Delhi for the Year 2019-2020 on the Implementation of Solid Waste Management Rules, 2016.

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

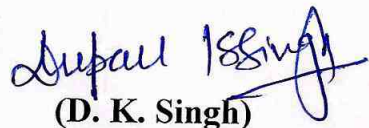
Yours Sincerely,

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. 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 2019-2020
on the Implementation of Solid Waste Management Rules, 2016.****PART A**

To,

The Chairman
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar
Delhi - 110 032

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	5 [North DMC, SDMC, EDMC, NDMC & DCB]
4	No. of authorisation application received	3
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 : 29.07.2020 Place : Delhi.	 Member Secretary Delhi Pollution Control Committee

PART B

Towns / Cities	
Total number of towns/cities	1
Total number of ULBs	5
Number of class I & class II cities/towns	1
Authorisation Status (Names / Number)	
- Number of applications received - Number of authorisations granted - Authorisations under scrutiny	3 Nil 3 (Under Process)
Solid Waste Generation Status	
Solid waste generation in the state (TPD) - Collected - Treated - Landfilled	10470. 57 TPD of Solid Waste is generated in NCT of Delhi as per the returns filed by the Local Bodies. 10466.57 TPD is collected 5193.57 TPD is treated 5276 TPD waste is landfilled.
Compliance to Schedule I of SWM Rules (Number/Names of Towns/Capacity)	
- Good practices in cities/towns - House-to-house collection - Segregation - Storage - Covered transportation	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 Delh. 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 other Local Bodies (North DMC, SDMC, EDMC) 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 90% 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. SDMC & EDMC have reported that 10% Premises in their areas are segregating the waste at source. North DMC has reported that 80% Premises in their 3 Model Wards are segregating the waste at source however information not provided for other wards in their areas.

Processing of SW (Number/Names of Towns /Capacity)

Solid Waste Processing Facilities Setup :

Sl.No.	Composting	Vermi-Composting	Bio-gas/Bio-methanation Plant	RDF / Pelletization
1.	DCB - One Food Waste Composting capacity - 0.175 TPD Sorting cum composting through 7 TPD XAPER machine.	Nil	Nil	Nil
2.	EDMC – Composting - 9 TPD (9 Nos of 1 TPD each)	NIL	5 TPD (One No)	90000 TPD (at Ghazipur Dumpsite)
3.	NDMC – Composting - 11.46 TPD (No. of Pits for Composting in Parks in NDMC Areas)	Nil	0.5 TPD (One No)	Nil
4.	North DMC – One Centralised Compost Plant in the Integrated Waste Complex at Bawana (being operated by M/s Delhi MSW Solutions Ltd.) + 2 Decentralised Compost Plants of 1 TPD each	Nil	10 TPD (2 Nos of 5 TPD each)	2000 TPD (at Bawana WTE)
5.	South DMC - - 202 TPD One Centralised Compost Plant of 200 TPD at Okhla + 3 Decentralised Compost Plants of 1 TPD each	1 TPD	15 TPD (3 Nos of 5 TPD each)	1950 TPD (at Okhla WTE)

Processing Facilities Operational:

Sl. No.	Composting	Vermi-Composting	Bio-gas/Bio-methanation Plant	RDF/ Pelletization
	24 (2 Centralised + 22 Others)	1	7	3 (with WTEs)

Processing facility under installation / planned:

Sl.No.	Composting	Vermi-Composting	Bio-gas	RDF/Pelletization
	4 (1 TPD each)	-	6 (4 of 5 TPD each , One of 200 TPD at Bhalaswa Dairy & One of 100 TPD at Ghazipur	2 New and Expansion of 2 Existing WTEs proposed.

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

Disposal of Solid Waste (Number/Names of Towns/Capacity): - Landfill sites identified - Landfill constructed - Landfill under construction - Landfill in operation - Landfill exhausted - Landfill capped	One Existing Operational Engineered SLF at Bawana. Another Engineered SLF is proposed to be constructed at Tehkhand for which Environmental Clearance has already been given by MoEF&CC on 29.10.2020 . One Engineered SLF at Bawana already constructed & Operational. None at present however construction for development of Engineered SLF at Tehkhand will be started after tendering. Engineered SLF at Bawana. All 3 Dump sites at Okhla , Ghazipur and Bhalswa have already 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 in the 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 / Landfills Sites

Sl.No.	Name of Facilities	Ambient Air	Ground Water	Leachate Quality	Compost Quality	VOCs
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Joint Inspection & Monitoring of 3 Operational Waste to Energy Plants (WTE Plants) in Delhi :

As per the orders of the Hon'ble National Green Tribunal in the Application No. 281 of 2016 in the matter of Kudrat Sandhu Vs. Govt. of NCT & Ors. and Application No.22 (THC) of 2013 in the matter of Sukhdev Vihar Residents Welfare Association & Others Vs State of NCT of Delhi & Others, joint inspection of all the 3 operational Waste to Energy Plants in Delhi is 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 is also carried out by CPCB during the joint inspections and report is submitted BY cpcb to the Hon'ble NGT from time to time.

Online Continuous Emission Monitoring System (OCEMS) has been installed by all the 3 operational Waste to Energy Plants in Delhi and the same are also connected to the server of CPCB & DPCC.

Analysis Reports of DPCC for Ground Water Quality near the 3 Dumpsites at Okhla , Ghazipur & Bhalswa and one Engineered SLF at Bawana for the monitoring conducted in June/ July,2020 are collectively enclosed as **Annexure – IV.**

Status of Action Plan prepared by Municipalities

- Total number of municipalities
- Number of Action Plan submitted

5

4 (Action Plan submitted by SDMC, DCB, NDMC & North DMC however Action Plan is yet to be received from EDMC)

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

1. North Delhi Municipal Corporation (North DMC)

A. General Information

- Area – 636 sq. km
- Population – 90 lakh
- No. of wards – 104
- No. of Households – 16.5 lakh

B. Solid Waste Generation – 4013 TPD

C. Existing Processing/Treatment Facilities

- **Total Waste Processed/Treated-** 2013 TPD (50.2% of total solid waste generated)
- **Centralised Compost Plant** – One centralised Compost plant is operational at Integrated Waste Management Facility, Bawana.
- **Waste to Energy Plant** – One WTE plant of 2000 TPD is operational at Bawana.
- **Engineered Sanitary Landfill (SLF)** – One SLF is operational at Bawana.
- **Commissioned** - Two Accelerated Composter/Bio-methanisation Plant of 1 TPD Capacity each at Bhorgarh Nursery and Rajendra Nagar Nursery in year 2019-2020.
- **Commissioned** - Two Bio-Methanation Plants of 5 TPD Capacity each at Roshanara Bagh and MVID Hospital.

D. Proposed Waste Processing/Treatment Facilities

- **Integrated Waste Collection, Segregation, Transportation, Processing & Disposal in 3 Zones of North DMC**
Tenders were invited for integrated solid waste management separately for CSPZ, KBZ & Narela Zone of North DMC. Since single tender was received in each case, the cases have been closed. Fresh tenders will be invited shortly. The work is likely to be awarded by 31 Dec 2020. Expected time of completion for setting up processing facility is 30 Sept 2021.
- **4 Plants Accelerated Composter/Bio-methanisation Plant of 1 TPD each** (At Sector 11 Rohini, Haiderpur Water Treatment, Maurya Enclave at Pitampura and one at another location to be commissioned by 30.09.2020.
- **200 TPD Bio-Methanisation Plant (Based on Cow Dung) at Bhalaswa Dairy Colony** – Work awarded, is expected to be commissioned by 31.12.2020.
- **2 Bio-Methanation Plants of 5 TPD Capacity each** are expected to be commissioned by 30.09.2020.

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

Bhalaswa dumpsite is having an area of 36 Acres with approximate height of 62 metres in year 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. 13 Trommels were installed and 17 were under installation for Bio-Mining of Legacy Waste at Bhalaswa Dumpsite.

1,47,000 MT of legacy waste was processed till 12.03.2020.

South Delhi Municipal Corporation (SDMC)

A. General Information

- Area – 656.91 sq. km
- Population – 70 lakh
- No. of wards – 104
- No. of Households – 1.615325

B. Solid Waste Generation – 3500 TPD

C. Existing Processing/Treatment Facilities

- **Total Waste Processed/Treated-** 1700 TPD (48.6% of total solid waste generated)
- **Centralised Compost Plant** – One centralised Compost plant is operational at Okhla.
- **Waste to Energy Plant** – One WTE plant of 1950 TPD is operational at Okhla.
- **Commissioned** – Three Compost Plants of 1 TPD each.
- **Commissioned** - Three Bio-Methanation Plants of 5 TPD Capacity each.

D. Proposed Waste Processing/Treatment Facilities

• Waste to Energy Plant at Tehkhand :

A Waste to Energy Plant of 2000 TPD over an area of 15 Acres at Tehkhand near Okhla is being setup having the following details:

- i) The project has been awarded and the concession agreement with M/s Tehkhand Waste to Electricity Project Ltd. was signed on 10.05.2020. Estimated cost of the project is Rs. 400 crores. Apart from disposal of waste, the project also involves generation of power of 25 MW.
- ii) Environmental clearance has been obtained from MoEF & CC, Govt. of India on 26.07.2018.
- iii) Clearance from Ridge Management Board and Central Empowered Committee has been obtained. The requisite compensatory plantation has been completed and after obtaining permission from Forest Department, trees from the project site have been either cut or transplanted.
- iv) Consent to Establish has been granted by Delhi Pollution Control Committee on 31.01.2020.
- v) The loan agreement with the lender M/s PFC Ltd. has been executed on 15.01.2020.
- vi) The Financial Assistance Securitization Agreement (FASA) has been signed on 27.04.2020 and financial assistance of Rs. 26.25 crore has been sanctioned. Thus financial closure of the project has been completed.
- vii) **The targeted time schedule for completion of the project is December, 2021.**

• Engineered Sanitary Landfill (SLF) at Tehkhand

- (i) The Engineered Sanitary Landfill (SLF) at Tehkhand is being developed over an area of 32.346 acres.
- (ii) The land has been secured and is in possession of South Delhi Municipal Corporation.
- (iii) The project estimates of Rs. 80 crores has been finalized.
- (iv) Grant of Environmental Clearance by the MoEF & CC, Govt. of India on 29.10.2018.
- (v) The Forest Department, GNCTD has accorded permission on 03.01.2020 for cutting of 76 trees and transplantation of 660 trees. In lieu of the said permission, as compensatory plantation, a total of 7360 trees are proposed to be planted at the project site and Ghumanhera, Najafgarh Zone, for which the necessary process has been initiated by South DMC.

- (vi) The tenders for the aforesaid landfill, construction work shall be initiated after the funds for the same are arranged.
- (vii) Treated wastewater from Okhla STP of DJB will be reused in the project, for which the pipeline laying work is in progress.

- **1 Compost plant of 1 TPD Capacity** is expected to be commissioned by December, 2020.
- **1 Bio-Methanation Plant of 5 TPD Capacity** is expected to be commissioned by September, 2020.

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

Okhla dumpsite is having an area of 46 Acres with approximate height of 40 metres in year 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. 3 Trommels were installed and 3 were under installation for Bio-Mining of Legacy Waste at Okhla Dumpsite.

31,000 MT of legacy waste was processed till 12.03.2020.

3. East Delhi Municipal Corporation (EDMC)

A. General Information

- **Area** – 105.98 sq. km
- **Population** – 50 lakh
- **No. of wards** – 64
- **No. of Households** – 10.5 lakh

B. Solid Waste Generation – 2700 TPD

C. Existing Processing/Treatment Facilities

- **Total Waste Processed/Treated-** 1250 TPD (46.3% of total solid waste generated)
- **Waste to Energy Plant** – One WTE plant of 1300 TPD is operational at Ghazipur.
- **Commissioned** – Nine Composter Plants of 1 TPD Capacity each.
- **Commissioned** - One Bio-Methanation Plants of 5 TPD Capacity at Geeta Colony.

D. Proposed Waste Processing/Treatment Facilities

- **Integrated Waste Management and Energy Generation Facility at Ghonda Gujran**
 - (i) Facility is of 2000 TPD capacity and to be developed at Ghonda Gujran as a joint venture between East Delhi Municipal Corporation and NTPC.
 - (ii) The Facility to treat 2000 TPD of waste and to generate 12 MW of power is being developed as a joint venture project between East Delhi Municipal Corporation (EDMC) and NTPC Ltd. Accordingly a special purpose vehicle in the name of M/s NTPC EDMC Waste Solutions Pvt. Ltd. (NEWS) has been incorporated on 01.06.2020. Share capital of NTPC – 74% and that of EDMC – 26%.
 - (iii) Land of 42.5 Acres at Ghonda Gujran Khadar has been allotted and possession has been taken.

Major Components of the Project :

- a) Pre-Processing Facilities for MSW
- b) Processed Waste Storage System
- c) Bio-Methanation Plant of 1200 TPD
- d) Power Plant of 12 MW

Cost Estimates (Projected) - Rs 520.39 Crores

Status of Power Block Package (2X300 TPD)

- a) Tender has been invited
- b) Bid opening date 14.08.2020
- c) Tentative date of award 14.09.2020
- d) Scheduled commissioning date 14.09.2022

Status of Bio-Methanation Plant Package and Waste Segregation Block Package

- a) Tender has been invited
- b) Bid opening date 30.07.2020
- c) Tentative date of award 30.08.2020
- d) Scheduled commissioning date of Bio-methanation Plant Package - 30.05.2021
- e) Scheduled commissioning date of segregation block package - 30.10.2021

- **1 Composter plant of 1 TPD Capacity** is expected to be commissioned by September, 2020.
- **1 Bio-Methanation plant of 5 TPD** at Shastri Park is expected to be commissioned September, 2020.

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

Ghazipur dumpsite is having an area of 70 Acres with approximate height of 65 metres in year 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. 3 Trommels were installed and 8 were under installation for Bio-Mining of Legacy Waste at Ghazipur Dumpsite. 80,000 MT of legacy waste was processed till 12.03.2020.

4. New Delhi Municipal Corporation (NDMC)

A. General Information

- **Area** – 42.67 sq. km
- **Population** – 2.57 lakh
- **No. of wards** – 14 (Circles)
- **No. of Households** – 0.47558 lakh

B. Solid Waste Generation – 185.57 TPD

C. Existing Processing/Treatment Facilities

- **Total Waste Processed/Treated-** 185.57 TPD (100% of total solid waste generated)

Delhi Cantonment Board (DCB)

A. General Information

- Area – 42.8 sq. km
- Population – 1.332 lakh
- No. of wards – 8
- No. of Households – 0.10060

B. Solid Waste Generation – 72 TPD

C. Existing Processing/Treatment Facilities

- Total Waste Processed/Treated- 42 TPD (58.3% of total solid waste generated)

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

1. North Delhi Municipal Corporation (North DMC)

- **Collection of Solid Waste-** 4013 TPD (100% of total Solid Waste generated)
- **Premises Segregating Waste at Source-** 80% in Model Wards
- **Transportation of Collected Waste-** Collected Solid Waste is transported by Tractors, Tipping trucks, Dumper placers, Refuse collectors, Compactors, JCB/Loaders, Litter pickers, Auto tippers, TATA 407, HYVA trucks and Cycle-rickshaw/E-rickshaw.
- **Disposal of Solid Waste in Landfill/Dumpsite-** 2000 TPD (49.8% of total Solid Waste generated) at Bhalaswa.
- **2000 TPD** of waste from the area of North DMC is being **processed/treated** at the integrated solid waste management facility at Bawana by M/s Delhi MSW Solutions.

2. South Delhi Municipal Corporation (SDMC)

- **Collection of Solid Waste-** 3500 TPD (100% of total Solid Waste generated)
- **Premises Segregating Waste at Source-** 10%
- **Transportation of Collected Waste-** Collected Solid Waste is transported by Tipping trucks, Refuse collectors, Compactors, JCB/Loaders, Hook loaders, Auto tippers, TATA 407, MTS, BWV, Bins, FCTS/PCTS, Tricycle, RCVs, Wheel-barrows, Cycle-rikshaw, Wheeled dustbin, Containers, Three-wheelers.
- **Disposal of Solid Waste in Landfill/Dumpsite-** 1800 TPD (51.4% of total Solid Waste generated) at Okhla.
- **1700 TPD** of waste generated from area of SDMC is being processed/treated at WTE plant at Okhla.

3. East Delhi Municipal Corporation (EDMC)

- **Collection of Solid Waste-** 2700 TPD (100% of total Solid Waste generated)
- **Premises Segregating Waste at Source-** 10%
- **Transportation of Collected Waste-** Collected Solid Waste is transported by Non Tipping trucks, Tipping trucks, Mini Refuse Collectors, MMV, JCB/Loaders.

- **Disposal of Solid Waste in Landfill/Dumpsite-** 1450 TPD (53.7% of total Solid Waste generated) at Ghazipur.
- **1250 TPD** of waste generated from area of SDMC is being processed/treated at WTE plant at Ghazipur.

4. New Delhi Municipal Corporation (NDMC)

- **Collection of Solid Waste-** 185.57 TPD (100% of total Solid Waste generated)
- **Premises Segregating Waste at Source-** 90%
- **Transportation of Collected Waste-** Collected Solid Waste is transported by Auto tippers, Open Tipper trucks, Compactors, Wheel-barrows, Tricycles, JCBs, Hook loaders.
- **Disposal of Solid Waste in Landfill/Dumpsite-** Nil
- **185.57 TPD** of waste generated from the area of NDMC is being processed/treated at WTE/Compost plant at Okhla.

5. Delhi Cantonment Board (DCB)

- **Collection of Solid Waste-** 68 TPD (94% of total Solid Waste generated)
- **Premises Segregating Waste at Source-** 90% in Civil area and 60% in Army area.
- **Transportation of Collected Waste-** Collected Solid Waste is transported by Refuse collectors and tippers
- **Disposal of Solid Waste in Landfill/Dumpsite-** 26 TPD (36.1% of total Solid Waste generated) at Okhla.
- Waste generated from the area of DCB is being processed/treated at WTE/Compost plant at Okhla.

Annexure- III

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	North DMC	SDMC	EDMC	NDMC	DCB	Total
1.	Area (in Sq. Kilometer)	636	656.91	105.98	42.67	42.8	1484.36
2.	Population (in Lakh)	90	70	50	2.57	1.332	213.902
3.	No. of Wards	104	104	64	14 (Circles)	8	294
4.	No. of House Holds (in Lakh)	16.5	1.615325	10.5	0.47558	0.10060	29.191505
5.	Solid Waste Generation (in TPD)	4013	3500	2700	185.57	72	10470.57
6.	Collection of Solid Waste in TPD (in %)	4013 (100%)	3500 (100%)	2700 (100%)	185.57 (100%)	68 (94 %)	10466.57 (99.96%)
7.	Premises Segregating the waste at Source (in %)	80 % (in Model Wards)	10%	10%	90%	90% in Civil Area & 60% in Army Area	---
8.	Processing / Treatment of Solid Waste in TPD (in %)	2013 (50.2 %)	1700 (48.6%)	1250 46.3%	185.57 (100%)	42 (58.3%)	5193.57 (49.6 %)
9.	Disposal of Solid Waste in Landfill/ Dumpsite Sites (at Bhalaswa, Ghazipur & Okhla)	2000* (49.8%) (at Bhalaswa)	1800 (51.4%) (at Okhla)	1450 (53.7%) (at Ghazipur)	Nil	26 (36.1%) (at Okhla)	5276 (50.4 %)
10.	Engineered Sanitary Land Fill(SLF)	One (Operational at Bawana)	- (Proposed at Tehkhand)	-	-	-	One
11.	Operational Waste to Energy Plant	One (at Bawana – 2000 TPD)	One (at Okhla- 1950 TPD)	One (at Ghazipur – 1300 TPD)	-	-	3 (5250 TPD)
12.	Operational Centralised Compost Plants	One (at Bawana)	One (at Okhla)	-	-	-	2
13.	Operational Bio-methanation/Composter Plants	4	6	10	1	8	29

*Excluding 425 TPD of rejects landfilled at Engineered Landfill Facility at Bawana.

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

There are 5 Local Bodies in Delhi responsible for implementation of the Solid Waste Management Rules, 2016. Total Municipal Solid Waste generation in Delhi is 10470.57 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 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 other Local Bodies (North DMC, SDMC, EDMC) 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 90% 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.

SDMC & EDMC have reported that 10% Premises in their areas are segregating the waste at source.

North DMC has reported that 80% Premises in their 3 Model Wards are segregating the waste at source however information not provided for other wards in their areas.

(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 Land Fill. This Integrated Solid Waste Management Facility is being operated by M/s Delhi MSW Solutions Ltd. One Engineered Sanitary Land Fill is proposed to be developed by South Delhi Municipal Corporation (SDMC) at Tehkhand. An Integrated Solid Waste Management Facility for 2000 TPD is proposed to be developed by East Delhi Municipal Corporation (SDMC) in joint venture with NTPC at Ghonda Gujran. Besides other facilities the said facility will be having Waste to Energy Plant. There is one Centralised Compost Plant at Okhla with 200 TPD capacity.

(c) Waste to Energy Plants :

Delhi has 3 Waste to Energy Plants (WTE Plants) of capacity 5250 TPD at 3 different locations in Delhi namely. Okhla, Ghazipur and Bawana. One New Waste to Energy Plant of capacity about 2000 TPD is proposed at Tehkhand and another in the Integrated Waste Complex at Ghonda Gujran. After commissioning of these 2 proposed WTEs capacity of WTE Plants will increase from 5250 TPD to about 9000 TPD by June, 2022.

Operational Waste to Energy Plants in Delhi

S. No	Name of Waste to Energy Plant	Existing Capacity (in TPD)
1	Timarpur Okhla Waste Management Company Ltd., Old NDMC Compost Site, Okhla.	1950
2	East Delhi Waste Processing Company Ltd., Ghazipur	1300
3	Delhi MSW Solutions Ltd, Narela Bawana Road, Bawana	2000
	Total	5250

Implementation of Schedule II of Solid Waste Management Rules, 2016

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

- Okhla WTE Plant** : SDMC 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** : EDMC provides waste at its door step. Processes waste for production of RDF for electricity production. Composting plant at their other facility.

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

Waste-to-Energy Plant at Okhla receives approx. 1950 MTD of Mixed Municipal Waste from South DMC, 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 upto 23 MW.

The temperature in the boilers are maintained above 950°C as per Solid Waste Management Rules, 2016. Bottom ash along with inerts 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 burning of waste being run by IL&FS. 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 Deg 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 through a stack of > 950 °C .

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.

(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 inerts 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 Leachate Treatment Plant (LTP) within the WTE plant. It has provision to collect leachate generated from the mixed MSW and the collected leachate is thereafter treated in the Leachate Treatment Plant.

(iii) Inspection & Monitoring of Existing Operational Waste to Energy Plants in Delhi :

As per the orders of the Hon'ble National Green Tribunal in the Application No. 281 of 2016 in the matter of Kudrat Sandhu Vs. Govt. of NCT & Ors. and Application No.22 (THC) of 2013 in the matter of Sukhdev Vihar Residents Welfare Association & Others Vs State of NCT of Delhi & Others, joint inspection of all the 3 operational Waste to Energy Plants in Delhi is 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 is also carried out by CPCB during the joint inspections and report is submitted BY cpcb to the Hon'ble NGT from time to time.

Online Continuous Emission Monitoring System (OCEMS) has been installed by all the 3 operational Waste to Energy Plants in Delhi and the same are also connected to the server of CPCB & DPCC.

(d) Gap Analysis on Solid Waste Management

Generation (in TPD)	Processing (in TPD)	Gap (in TPD)	Facilities in pipe line to fill the Gap
10470.57	5193.57	5277	(i) 2000 TPD WTE Plant at Tehkhand by 31.12.2021 (SDMC). (ii) 2000 TPD Integrated Municipal Waste Processing Facility at Ghonda Gujran by 30.06.2022 (as a Joint Venture between NTPC & EDMC). (iii) Engineered Sanitary Landfill at Tehkhand by 30.09.2021 (iv) 2000 TPD Integrated Waste Collection, Segregation, Transportation, Processing & Disposal by 31.12.2021

(e) Proposed Waste Processing Facilities & Sanitary Land Fill in Delhi

S.No.	Particulars	Location	Area of Local Body	Capacity	Expected Timeline for Completion
1.	Waste to Energy Plant	Tehkhand	SDMC	2000 TPD	December, 2021
2.	Integrated Waste Management and Energy Generation Facility	Ghonda Gujran	EDMC	2000 TPD	June , 2022
3.	Engineered Sanitary Landfill	Tehkhand	SDMC	-----	Sept, 2021
4.	Integrated Waste Collection Segregation, Transportation, Processing & Disposal	3 Zones of North DMC (City – SP, Karol Bagh & Narela Zone)	North DMC	2000 TPD	December, 2021

(i) Proposed Waste to Energy Plant at Tehkhand :

A Waste to Energy Plant of 2000 TPD over an area of 15 Acres at Tehkhand near Okhla is being setup having the following details:

- The project has been awarded and the concession agreement with M/s Tehkhand Waste to Electricity Project Ltd. was signed on 10.05.2020. Estimated cost of the project is Rs. 400 crores. Apart from disposal of waste, the project also involves generation of power of 25 MW.
- Environmental clearance has been obtained from MoEF & CC, Govt. of India on 26.07.2018.
- Clearance from Ridge Management Board and Central Empowered Committee has been obtained. The requisite compensatory plantation has been completed and after obtaining permission from Forest Department, trees from the project site have been either cut or transplanted.
- Consent to Establish has been granted by Delhi Pollution Control Committee on 31.01.2020.
- The loan agreement with the lender M/s PFC Ltd. has been executed on 15.01.2020.
- The Financial Assistance Securitization Agreement (FASA) has been signed on 27.04.2020 and financial assistance of Rs. 26.25 crore has been sanctioned. Thus financial closure of the project has been completed.
- **The targeted time schedule for completion of the project is December, 2021.**

(ii) Integrated Waste Management and Energy Generation Facility at Ghonda Gujran

- Facility is of 2000 TPD capacity and to be developed at Ghonda Gujran as a joint venture between East Delhi Municipal Corporation and NTPC
- The Facility to treat 2000 TPD of waste and to generate 12 MW of power is being developed as a joint venture project between East Delhi Municipal Corporation (EDMC) and NTPC Ltd. Accordingly a special purpose vehicle in the name of M/s NTPC EDMC Waste Solutions Pvt. Ltd. (NEWS) has been incorporated on 01.06.2020. Share capital of NTPC – 74% and that of EDMC – 26%.
- Land of 42.5 Acres at Ghonda Gujran Khadar has been allotted and possession has been taken.
- **Major Components of the Project :**
 - a) Pre-Processing Facilities for MSW
 - b) Processed Waste Storage System
 - c) Bio-Methanation Plant of 1200 TPD
 - d) Power Plant of 12 MW
- **Cost Estimates (Projected) - Rs 520.39 Crores**
- **Status of Power Block Package (2X300 TPD)**
 - Tender has been invited
 - Bid opening date 14.08.2020
 - Tentative date of award 14.09.2020
 - Scheduled commissioning date 14.09.2022
- **Status of Bio-methanation Plant Package and Waste Segregation Block Package**
 - Tender has been invited
 - Bid opening date 30.07.2020
 - Tentative date of award 30.08.2020
 - Scheduled commissioning date of Bio-methanation Plant Package - 30.05.2021
 - Scheduled commissioning date of segregation block package - 30.10.2021

(iii) 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 South Delhi Municipal Corporation.
- The project estimates of Rs. 80 crores has been finalized.
- Grant of Environmental Clearance by the MoEF & CC, Govt. of India on 29.10.2018.
- The Forest Department, GNCTD has accorded permission on 03.01.2020 for cutting of 76 trees and transplantation of 660 trees. In lieu of the said permission, as compensatory plantation, a total of 7360 trees are proposed to be planted at the project site and Ghumanhera, Najafgarh Zone, for which the necessary process has been initiated by South DMC.
- The tenders for the aforesaid landfill, construction work shall be initiated after the funds for the same are arranged.
- Treated wastewater from Okhla STP of DJB will be reused in the project, for which the pipeline laying work is in progress.

(iv) Integrated Waste Collection, Segregation, Transportation, Processing & Disposal in 3 Zones of North DMC

Tenders were invited for integrated solid waste management separately for CSPZ, KBZ & Narela Zone of North DMC. Since single tender was received in each case, the cases have been closed. Fresh tenders will be invited shortly. The work is likely to be awarded by 31 Dec 2020. Expected time of completion for setting up processing facility is 30 Sept 2021.

(f) Decentralized Waste Management Facilities (Compost Plants /Biomethanation Plants)

The Government is in the process of installation of decentralized Waste Management Facilities (Compost Plants / Bio- Methanation Plants) so that the solid waste generated is segregated and treated at source and the transport and dumping of waste in far away areas can be done away with. The details of the decentralized plants already commissioned and those at different stages of commissioning are as follows:

NORTH DMC

(i) Accelerated Composter / Bio-Methanisation Plant 1 TPD Capacity (6 Nos)

- 2 Plants commissioned at Bhorgarh Nursery and Rajendra Nagar Nursery.
- 4 Plants (at Sector 11 Rohini, Haiderpur Water Treatment Plant ,Maurya Enclave at Pitampura and one at some other location) to be commissioned by 30.09.2020.

(ii) Bio-Methanation Plants 5-TPD Capacity (4 Nos)

- 2 Plants commissioned at Roshanara Bagh and MVID Hospital.
- 2 Plants to be commissioned by 30.09.2020.

(iii) 200 TPD Bio-Methanisation Plant (Based on Cow Dung) at Bhalswa Dairy Colony:

- Work awarded, to be commissioned by 31.12.2020.

EAST DMC

(i) Composters of 1 TPD Capacity (10 Nos)

- 9 Plants commissioned
- 1 Plants to be commissioned by Sept, 2020.

(ii) Bio-Methanation Plants 5-TPD Capacity (2 Nos)

- One Plant at Geeta Colony commissioned.
- Another Plant at Shastri Park to be commissioned by Sept, 2020.

(iii) 100 TPD Bio-Methanisation Plant at Ghazipur:

- Clearance from PESO is awaited. The plant is expected to be commissioned by 31.10.2020.

SOUTH DMC

(i) Four Compost Plants of 1 TPD each

- Three plants commissioned.
- One plant likely to be commissioned by Dec, 2020 .

(ii) Four Bio-Methanation Plants (5 TPD Each).

- Three plants commissioned.
- One plant likely to be commissioned by Sept, 2020

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

This NGT case covers almost all the important matters / issues related to control of pollution and management of various types of waste including Solid Waste Management . Meetings were taken by the Chief Secretary, GNCTD from time to time and compiled Information / Action Taken Reports of Govt. of NCT of Delhi were submitted to Hon'ble NGT. 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 and to submit Quarterly Report to Hon'ble NGT. 1st & 2nd Quarterly Report of Govt. of NCT of Delhi were filed before the Hon'ble NGT on 29.06.2019 and 10.10.2019 respectively. Subsequently orders dated 12.09.2019 & 07.01.2020 were passed by the Hon'ble NGT and in compliance to the said orders Compliance Reports of Govt. of NCT of Delhi in respect of 14 Thematic Areas were submitted to CPCB vide letters dated 01.11.2019 and 28.02.2020 respectively.

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 is legacy waste of 28 Million Tons. Brief about these dumpsites is given in following Table :

Brief of Landfill / Dump Sites in NCT of Delhi

S. No.	Name of Landfill / Dump Site	Location	Area (in Acres)	Concerned Local Body	Height of Dump Site (Appx.) (in Meters)	Legacy Waste (in Million Tons)
1	Bhalaswa	North Delhi	36	North DMC	62	8
2	Ghazipur	East Delhi	70	EDMC	65	14
3	Okhla	South East Delhi	46	SDMC	40	6
	Total		152			28

Hon'ble National Green Tribunal vide 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." has passed detailed order regarding Disposal of 'Legacy' Waste dumped at Bhalswa, 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 the dump sites at Bhalswa, Ghazipur and Okhla.

The estimated cost to clear the above three dump sites at Delhi 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	(i) NCT Delhi	Rs. 65 Crore
		(ii) EDMC	Rs. 40 Crore
		(iii) NDMC*	Rs. 10 Crore
		(iv) DCB**	Rs. 10 Crore
ii	North MCD	(i) NCT Delhi	Rs. 35 Crore
		(ii) North MCD	Rs. 30 Crore
		(iii) NDMC	Rs. 05 Crore
		(iv) DCB	Rs. 05 Crore
iii	SDMC	(i) NCT Delhi	Rs. 25 Crore
		(ii) SDMC	Rs. 15 Crore
		(iii) NDMC	Rs. 05 Crore
		(iv) DCB	Rs. 05 Crore

As per the said order legacy waste dumpsites is to be cleared within one year and substantial progress must be made and demonstrated within six months.

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

Out of Rs. 250 Crores, an amount of Rs. 245 Crores have been contributed by the DPCC, DMCs, DCB & NDMC. DCB has deposited only 15 Crores (out of Rs. 20 Crores) and filed an application before the Hon'ble Supreme Court for exemption of Rs. 5 Crores to be deposited to North DMC, because DCB is not dumping its MSW at Bhalswa landfill site. Chief Secretary in the meeting held on 20.12.2019 has decided that DCB has to deposit Rs. 5 Crore.

The Committee has already prepared the plan under which the legacy waste dumped at the 3 locations is being treated by way of "Bio-mining" utilizing high capacity Trommel machines. North DMC has been appointed as Nodal Corporation among all the three Municipal Corporations for tendering process for hiring

trommels for bio mining and bio remediation of old dump waste on rental basis. Tenders were called on 30.8.2019. The rates of lowest tender were Rs. 629944/- per month per trommel as per requirement of tender documents. Panel of 9 Contractors was approved by the competent authority.

The implementation of the project has been started w.e.f. 01.10.2019 & 19 Trommels have already been installed and about 3 Lakh MT of legacy waste has been processed. Inert material generated during the process is about 60% to 70% by weight or 40% by volume of the waste being processed, which needs to be disposed of in a scientific manner. It is a major challenge before the municipal corporations to make suitable land available for disposal of this inert material particularly since the availability of land is extremely scarce in Delhi.

SDMC on behalf of all the three DMCs has moved an application to Forest Department for procurement of space in four empty pits of Bhatti mines for temporarily dumping inert materials generated due to bio-mining. The details of processing of legacy waste by each DMC is given in following Table :

Bio-Mining of Legacy Waste at 3 Dumpsites in Delhi (As on 12.03.2020)

S. No.	Name of Local Body (Dumpsite)	No. of Trommels Installed	No. of Trommels under installation	Quantity of Legacy Waste Processed (MT)	% of Inert Material by weight
1	SDMC (Okhla Dumpsite)	3	3	31,000	60-70%
2	EDMC (Ghazipur Dumpsite)	3	8	80,000	60-70%
3	North DMC (Bhalaswa Dumpsite)	13	17	1,47,000	60-70%
	Total	19	28	2,58,000	

Annexure-IV



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ANALYSIS REPORT OF GROUND WATER NEARBY GAZIPUR LAND FILL SITE

Report No.: DPCC/WLF/20-21/01-04/2325
Date of monitoring: -30/6/2020

27/7/2020

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)	Fluoride (mg/l)	Zn (mg/l)	Fe (mg/l)	Pb (mg/l)	Cu (mg/l)	Cr (mg/l)	Ni (mg/l)	Cd (mg/l)
	Desirable Limit for Drinking Water	6.5-8.5	500	250	300	75	200	5	45	1	5	0.3	0.05	0.05	0.05	-	0.01
1.	Gazipur Dairy Farm, Gali No.-4	6.6	1370	1540	490	130.4	249.9	NIL	0.43	0.13	ND	ND	ND	ND	ND	ND	ND
2.	Gazipur Dairy near Masjid	6.7	1340	390	370	104	227.6	NIL	0.60	0.08	0.47	0.23	ND	ND	ND	ND	ND
3.	Gazipur Landfill Site Near Entry Gate	6.8	890	1625	420	115	268.8	NIL	0.78	0.24	1.06	0.08	ND	ND	ND	ND	ND
4.	Fish Market Landfill site Gazipur	7.1	1080	415	340	95	175.8	NIL	0.78	0.32	ND	ND	ND	ND	ND	ND	ND

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ANALYSIS REPORT OF GROUND WATER NEARBY OKHLA LAND FILL SITE

Report No.: DPCC/WLF/20-21/ 09-12/2327
Date of monitoring: - 30/06/2020

27/7/2020

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)	Fluoride (mg/l)	Zn (mg/l)	Fe (mg/l)	Pb (mg/l)	Cu. (mg/l)	Cr (mg/l)	Ni (mg/l)	Cd (mg/l)
	Desirable Limit for Drinking Water	6.5-8.5	500	250	300	75	200	5	45	1	5	0.3	0.05	0.05	0.05	-	0.01
1.	Okhla Landfill Site	6.6	1990	965	1090	265.5	124.6	NIL	1.1	0.18	2.23	0.23	ND	ND	ND	ND	ND
2.	ESI Hospital Okhla	7.3	660	155	260	75	123.4	NIL	0.26	0.56	0.47	ND	ND	ND	ND	ND	ND
3.	Okhla Bus Depot	6.6	2080	990	1150	280	129.3	NIL	1.6	0.44	1.65	0.39	ND	ND	ND	ND	ND
4.	B.P.Singh Camp Colony, Near Shiv Mandir	6.7	2050	925	1010	250	121.1	NIL	0.95	0.26	1.06	0.08	ND	ND	ND	ND	ND

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ANALYSIS REPORT OF GROUND WATER NEARBY BHALSWA LAND FILL SITE

Report No.: DPCC/W/LF/20-21/05-8/2326
Date of monitoring: -01/07/2020

27/7/2020

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)	Fluoride (mg/l)	Zn (mg/l)	Fe (mg/l)	Pb (mg/l)	Cu (mg/l)	Cr (mg/l)	Ni (mg/l)	Cd (mg/l)
	Desirable Limit for Drinking Water	6.5-8.5	500	250	300	75	200	5	45	1	5	0.3	0.05	0.05	0.05	-	0.01
1.	Bhalswa Sanjay Gandhi Transport	6.5	1270	310	590	150	195.9	NIL	1.1	0.11	1.06	0.23	ND	ND	ND	ND	ND
2.	Bhalswa Dairy	6.6	3330	1495	900	230	153.0	NIL	0.43	0.86	0.47	1.67	ND	ND	ND	ND	ND
3.	Bhalswa landfill site	6.8	5280	2390	1060	270	212	NIL	1.5	0.43	2.23	0.39	ND	ND	ND	ND	ND
4.	Bhalswa Janta Colony	7.1	2350	920	810	206.5	74	NIL	0.95	0.24	1.06	1.90	ND	ND	ND	ND	ND

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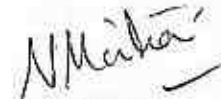
ANALYSIS REPORT OF GROUND WATER NEARBY BAWANA LANDFILL SITE

Report No.: DPCC/WLF/20-21/ 13-17/ 2328

Date of monitoring: -01/07/2020

27/7/2020

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)	Fluoride (mg/l)	Zn (mg/l)	Fe (mg/l)	Pb (mg/l)	Cu (mg/l)	Cr (mg/l)	Ni (mg/l)	Cd (mg/l)
	Desirable Limit for Drinking Water	6.5-8.5	500	250	300	75	200	5	45	1	5	0.3	0.05	0.05	0.05	-	0.01
1.	Main Gate Bawana (SLF)	7.4	630	280	840	200	197.4	NIL	20	0.13	0.85	0.48	ND	ND	ND	2.84	ND
2.	Store Waste to Energy	7.8	1397	1060	380	90	84.7	NIL	48	0.11	0.80	0.31	ND	ND	ND	1.92	ND
3.	Sonot Village Bawana	7.9	443	320	410	100	91.6	NIL	36	0.20	1.04	0.17	ND	ND	ND	2.01	ND
4.	Bawana Village	7.1	1385	1330	420	90	93.9	NIL	52	0.18	0.98	0.52	ND	ND	ND	1.32	ND
5.	Sector 5 Bawana	7.2	1650	2130	490	120	76.9	NIL	81	0.25	1.10	0.13	ND	ND	ND	1.86	ND


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