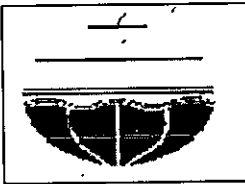


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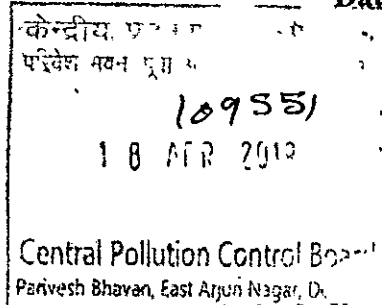


DELHI POLLUTION CONTROL COMMITTEE
DEPARTMENT OF ENVIRONMENT, GOVT. OF NCT OF DELHI
5th FLOOR, ISBT BUILDING, KASHMERE GATE, DELHI-110006
visit us at : <http://dpcc.delhigovt.nic.in>

F.No. DPCC/Najafgarh Drain/2019/ 4826

Dated: 16-4-19

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



Sub: Action Plan for Critical Polluted Area for Najafgarh Drain Basin including Anand Prabat, Okhla, Naraina and Wazirpur.

Sir,

This has a reference to the orders passed by Hon'ble NGT dated 13.12.2018 in in OA No. 1038/2018 News Item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels" wherein Hon'ble NGT directed DPCC to finalize the Time Bound Action Plan with regard to CPA. In pursuance to these directions of Hon'ble NGT, a Committee was constituted by Chief Secretary, Delhi under the Chairmanship of Secretary (Environment), GNCT of Delhi. Based upon the discussions and information received from the Committee members, Action Plan for Critical Polluted Area has been prepared and enclosed herewith for further necessary action please.

Yours faithfully,

MS - on leave
1120-VII
22/4

(S.M. Ali)

Member Secretary

Encl: Action Plan

Dr. R.R.
24/4/19

This action plan, prepared before NCT order.

Action Plan

For

ABATEMENT OF POLLUTION

OF

**NAJAFGARH DRAIN BASIN INCLUDING OKHLA,
NARAINA, ANAND PARBAT AND WAZIRPUR**



DELHI POLLUTION CONTROL COMMITTEE

APRIL, 2019

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BACKGROUND

Hon'ble NGT, Principal Bench, New Delhi vide order dated 13.12.2018 in OA No. 1038/2018 News Item published in "The Asian Age" Authored by Sanjay Kaw Titled "CPCB to rank industrial units on pollution levels", observed that 43 industrial clusters in India have Comprehensive Environmental Pollution Index (CEPI) score of 70 and above. Hon'ble NGT also observed that entire Najafgarh Drain Basin including Anand Parbat, Naraina, Okhla and Wazirpur has been declared as Critically Polluted Area by Central Pollution Control Board (CPCB) with CEPI Score of 79.54.

In this context, Hon'ble NGT passed a detailed order on 13.12.2018. The relevant extracts of the order are asunder:-

"In view of above, we direct the SPCBs/Committees to finalize the time bound action plans with regard to identified polluted industrial cluster's in accordance with the revised norms laid down by the CPCB to restore environmental qualities within norms. Such action plan be finalized within three months from the date of receipt of copy of this order".

"The action plan may thereafter be looked into by the CPCB and steps taken for implementation so as to ensure that all the industrial clusters comply with laid down parameters as per the Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981. The CPCB will be the Nodal agency".

✓
1849
3629

"The Report on the action taken by the CPCB and MoEF&CC in the matter may be furnished to this Tribunal by e-mail at ngt.filing@gmail.com before 31.05.2019."

"The action plan to be prepared in the States may be done by the Committee constituted by the Chief Secretary within one month from today as several Departments may be involved in the exercise. The final preparation of the action plan including its execution may be overseen by the Chief Secretary of the concerned State, along with the other connected major environmental issues of the States, such as pollution of river stretches, non-attainment cities in terms of air quality and solid waste management, utilization of treated sewage"

"The Chief Secretary will take meetings on all these issues once in three months (quarterly) and will forward Report to NGT by email".

In pursuance to the orders of Hon'ble NGT, a Committee headed by Secretary (Environment) GNCT of Delhi was constituted by Chief Secretary, Delhi on 20.02.2019, comprising the officials from ULBs, DJB, Forest, DSIIDC, Traffic Police, Transport, DDA, PWD, DMRC etc(Annexure I & II). The first meeting of the Committee was held on 15.03.2019, followed by meetings on 02.04.2019 and 05.04.2019. Based upon the discussions and inputs received from the committee members, the present Action Plan for Critical Polluted Area has been prepared.

CHAPTER 1

GENERAL INTRODUCTION

1.0 INTRODUCTION

After analyzing the Environmental Status of 88 Industrial Clusters selected in the country, Central Pollution Control Board in consultation with the Ministry of Environment & Forests has identified 43 critically polluted industrial clusters based on Comprehensive Environmental Pollution Index (CEPI). Out of 43 critically polluted industrial clusters, Najafgarh Drain Basin including Wazirpur, Naraina, Anand Parbat and Okhla industrial areas in NCT of Delhi is at 4th position with score of 79.54 (combined Air, Water, and Land CEPI) in descending order arrangement based of CEPI.

1.1 GEOGRAPHICAL FEATURES

1.1.1 Location

The National Capital Territory of Delhi is stretched over an area of 1483 sq km. As far as the location of Delhi is concerned, it stands in the middle of the Indian sub-continent, between the Himalayas and Aravalli range. Bordered by Haryana in the east and by Uttar Pradesh across the river Yamuna, Delhi is located approximately 213 to 305 m above the sea level. It is around 33 miles and 30 miles broad and extends latitude 28.38°N and longitude 77.12°E.

The location of Delhi is such that a major part of the city falls on the western side of the Yamuna River. Apart from Yamuna, which is the main river of the city, there are 3 canals, Agra Canal, Hindon Canal and western Yamuna Canal. Geography of Delhi has divided it into 3 segments. The three segments consist of the Yamuna flood plain, the Ridge and the Plain. The low lying and flood prone area of Yamuna flood plains is also known by the name of Khadar.

The area of the Ridge stretches from the Aravalli hills, encircling the city on the northwest and west. One of the highlights of the Ridge area is the Tughlaqabad Fort that stands at its highest point. The Plains consist of all the area of Delhi, apart from the Yamuna flood plain and the Ridge. Majority of the city area, consisting of Delhi, New Delhi and Delhi cantonment, falls in the fertile land of the Plains.

1.1.2 Topography

The topography of Delhi can be divided into three different parts, the plains, the Yamuna flood plain, and the ridge. As per the topography, Delhi is located on the western fringes of the Gangetic Plains. The low altitude Yamuna flood plains provides an excellent scope of agriculture, as it is covered with the fertile alluvium brought by the river Yamuna and deposited here during the frequent floods. The other topographical feature is the Ridge, which reaches the height of 1043 ft above sea level, and is the highest point in Delhi. The ridge originates in the south and surrounds its western, the northwestern and northeastern part. It is a part of the Aravalli Hills.

1.1.3 Climate

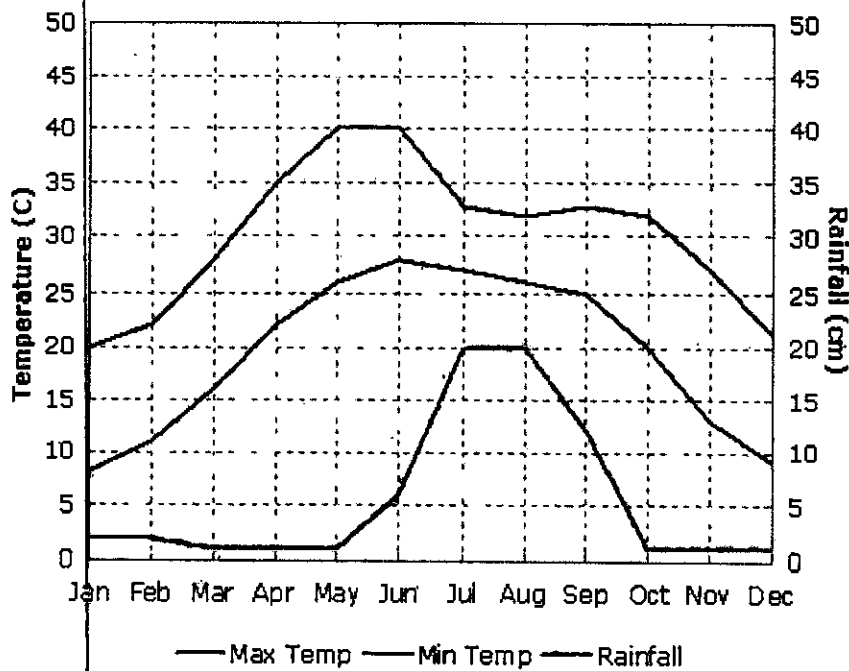
The climate of Delhi is one of the most varied and purely depends upon the climate of nearby areas of Himachal Pradesh, Rajasthan etc. Delhi experiences the extremes of weather. This is because of the geological location of Delhi. The climatic conditions of Delhi are similar to that of

the temperate grasslands with hot, dry summers, and cold winters. The summers in Delhi start from the month of April and continue till the month of July. It is very hot and dry in the summer months, with temperature soaring up to 45°C. The rainy season provides relief from searing heat and continues till the month of October. The humidity levels very high in Delhi at this time of the year. The winter months are characterized by dip in the temperature levels often reaching 5°C or less than that.

1.1.4 Weather

The city does not witness much of rainy season. The monsoon lasts from July to September. October sees the end of the monsoon but it is reasonably pleasant. The average temperature data for Delhi is given in Fig 1 .

Fig.-1: Average Temperatures



1.1.5 Ground Water Scenario

The dependence on ground water is quite considerable in Delhi. The Ground water availability in the territory is controlled by the hydro geological situation characterized by occurrence of alluvial formation and hard rocks such as quartzite. The hydro geological set up and the following distinct physiographic units further influence the ground water occurrence: (1) Older Alluvial Plain on the eastern and western side of the ridge. (2) Yamuna Flood Plain deposits. (3) Isolated and nearly closed Chattarpur alluvial basin. (4) NNE-SSW trending Quartzite Ridge. The yield of tube wells ranges between 18-144 m³/hr in Yamuna Flood Plain aquifers. In Older Alluvium of eastern and western sides of the ridge, the yield of tube wells ranges between 12 to 36 m³/ hr. Tube wells constructed in Chattarpur alluvial basin tapping the aquifers of both alluvium and weathered and fractured quartzite yield about 9 to 27 m³ / hr. Discharge of tube wells constructed in Quartzite varies from 6-15 m³ / hr.

The groundwater is declining in majority of the areas of Delhi on account of overexploitation of the resources. The rate of decline is as high as 1.7 to 2 meters/year in some areas (South & South west Dist.). Thus eight out of eleven districts of Delhi are categorized as overexploited with respect to dynamic groundwater resources. The groundwater quality shows horizontal and vertical variation in space. The deeper aquifers are mostly underlain by saline water in alluvial areas. The extent of fluoride contamination in groundwater is also high in western part of Delhi in areas like Northwest, Southwest & West districts. The groundwater management aspects of Delhi emphasizes on augmentation of groundwater resources and improvement in groundwater quality through measures like rainwater harvesting and artificial recharge, conservation of groundwater by limiting withdrawal in overexploited areas and limited development of potential aquifers of Delhi to augment drinking water supply.

The quality of ground water is alkaline with pH ranging from 7.1 to 9.2, chloride content

ranges between 21 and 1380 ppm. South of Delhi average chloride content is 250 ppm while in Najafgarh area it is around 1000 ppm rendering the water saline covering the area of 32 km. Sq. and marginally saline over the area of 129 sq km.

The ground water study done by the NEERI for MoEF& CC revealed high nitrate and fluoride concentrations. High metallic content, particularly manganese and iron have also been observed in the samples collected. The manganese content was found to be 0.1 mg/L against the permissible limit of 0.5-mg/L and iron concentration of 4.05 mg/L to 0.337 mg/L have been observed.

Chemical Quality of Ground Water in South West district

Ground water in maximum part of the South district is fresh and potable with electrical conductivity ranging from 320 to 4130 micro-mhos/cm at 25°C. Electrical conductivity values more than the permissible limit are observed at Deragaon, Molarbund and at Gadaipur. High values of nitrate are found at three locations i.e. at Gadaipur, at Rajokri and at Jaunapur. In north Ghitorni and Andheri More, Fluoride is more than permissible limits. Except chromium concentrations at one locality, ground water is devoid of pollution by heavy metals. A comparison of ground water quality from 1983 to 2000 shows quality deterioration in the central part of the Chattarpur basin and in the areas around Nizamuddin. In central part of the Chattarpur basin, quality deterioration is mainly because of over-development of ground water resources. The exhaustion of fresh water present at shallow depths is resulting into brackish water pumping from the tube wells that are tapping the deeper aquifers of alluvium.

CHAPTER 2

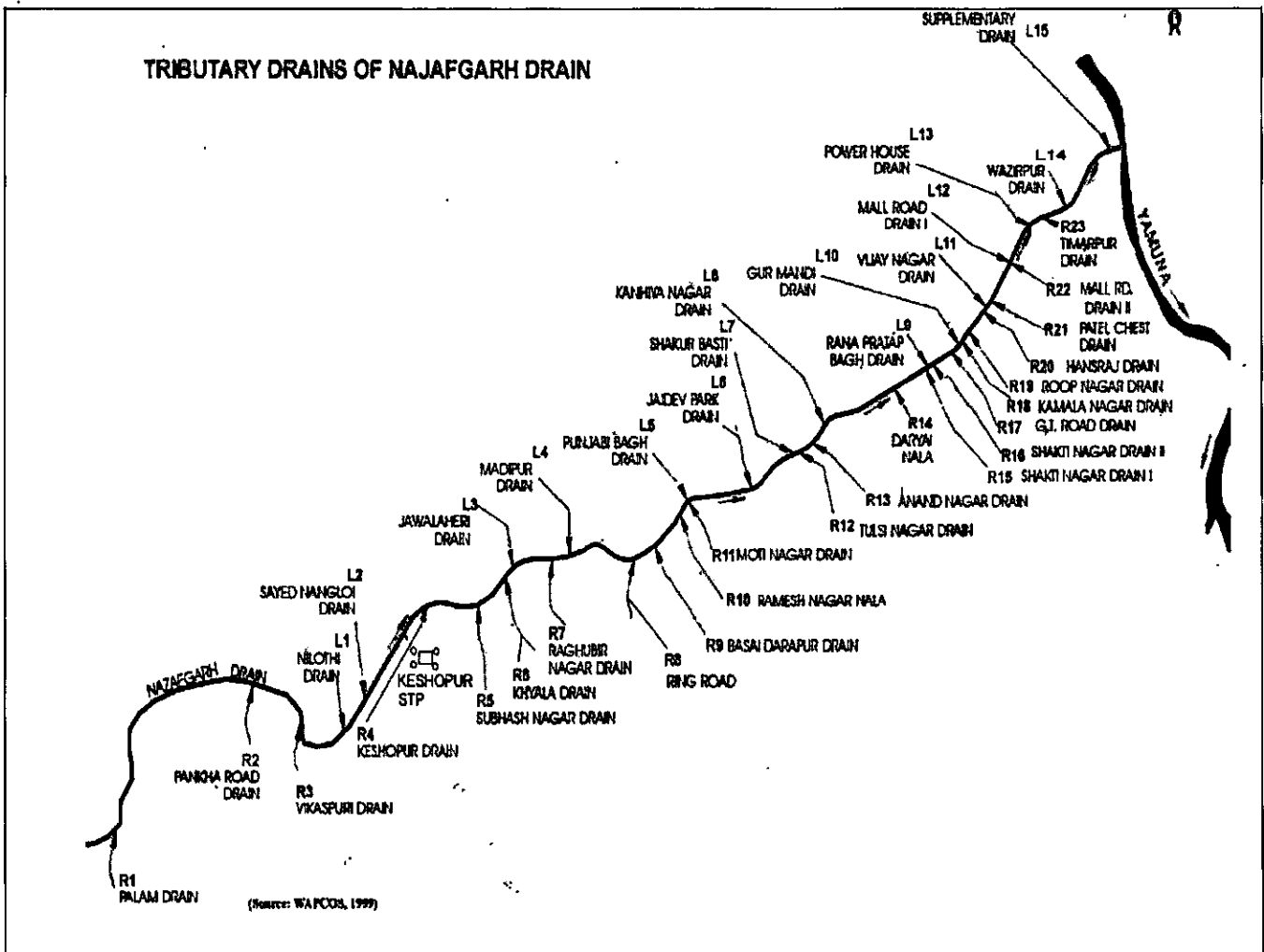
CURRENT SCENARIO

2.1 BACKGROUND:

Najafgarh Drain Basin is figuring at Sl. No. 4 in the list of 43 critically polluted clusters/areas.

Along with Najafgarh Drain Basin, four more industrial areas of Delhi i.e. Wazirpur, Naraina, Anand Parbat and Okhla have been added as critically polluted. The map of area is as follow:-

Fig. 2: Tributary Drains of Najafgarh Drain



As per the Delhi Master Plan 2021 and subsequent amendments, 22 new industrial areas have been earmarked for redevelopment considering various factors. Anand Parbat Indl area is one of these industrial areas. Other industrial areas falling in the catchment area of Najafgarh Drain are Samaipur Badli, Sultanpur Mazra, Hastal Pocket - A, Naresh Park Extension, Libaspur, Peeragarhi Village, Khyala, Hastal Pocket-D, Shalamar Village, Nawada, Rithala, Swaran Park Mundka, Haiderpur, Dabri, Basai Darapur, Mundka Ind. Area and Pehlampur Bangar. These areas have been approved as industrial areas for redevelopment by Ministry of Urban Development, UOI as per their policy as these areas consist of more than 70% industries. Though numbers of industries are in operation, they will be considered authorized/approved only when the areas are redeveloped and notified as industrial areas. The said task has been entrusted with DSIIDC, Govt. of NCT of Delhi. All the units in unauthorized and redevelopment areas shall be allowed to operate with the adequate pollution control systems.

2.2 POLLUTION CONTROL:-

2.2.1 Air Pollution:

Air pollution in Delhi is a serious cause of concern for the Govt. of NCT of Delhi. World Health Organization defines air pollutants as substances put into the air by activities of mankind into concentration sufficient to cause harmful effects to health, crop-yield and property. Air Pollution mainly constitutes particulate matter and gases. Increasing levels of PM_{2.5} (Particulate Matter of less than 2.5 micron size), PM₁₀ (Particulate Matter of less than 10 micron size), NO₂ (Nitrogen dioxide)

in ambient air have been in attention of the media, Courts and various other organizations as well as general public. As per the study conducted by IIT Kanpur in 2015, the major sources of air pollution in Delhi have been identified as under:-

- Vehicular pollution ✓
- Road and soil dust ✓
- Dust generated due to construction and demolition activities ✓
- Burning of dry leaves/garbage etc. ✓
- Trans-state movement of pollutants specially due to burning of crop residue in neighboring states of Punjab, Haryana and UP Industrial sources/Thermal Power stations. ✓

Delhi has a tag of one of the most polluted city in the , specifically with reference to concentration of Particulate ($PM_{2.5}$ and PM_{10}). Different studies attributed to concentration of particulate to different sources from road re-suspension dust, fugitive emission construction sites, vehicular emission and windblown dust. Seasonal trend are controlled by adverse metrological parameters, Trans state movement of pollutants and episodic emissions.

Monitoring of Particulate started in Delhi in late 80's since 2010 October DPCC started monitoring of 8 parameters i.e. $PM_{2.5}$, PM_{10} , SO_2 , NO_2 , CO , NH_3 , O_3 and Benzene on Real time basis. The historical data since 2000-2011 is being collected in Delhi. However,as different technologies used as it evolved for comparison purpose data from 2011-2018 is used to understand the trend as mentioned in Table 1.

Table 1 Yearly Average of various pollutants

Yearly Average of Various Pollutants (2011 - 2018)								
Year	PM10 ($\mu\text{g}/\text{m}^3$)	PM 2.5 ($\mu\text{g}/\text{m}^3$)	SO2 ($\mu\text{g}/\text{m}^3$)	NO2 ($\mu\text{g}/\text{m}^3$)	O3 ($\mu\text{g}/\text{m}^3$)	NH3 ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	C6H6 ($\mu\text{g}/\text{m}^3$)
2011	277	136	19	71	46.8	43.5	1.72	2.7
2012	368	164	18	90	47.1	55.4	1.72	2.6
2013	353	151	21	79	34.4	51.9	2.01	4.7
2014	324	149	16	82	40.9	46.9	1.58	4.8
2015	295	133	18	72	45.1	44.0	1.51	4.4
2016	303	137	21	72	39.8	43.2	1.84	6.3
2017	277	130	23	74	43.6	38.0	2.07	5.2
2018	277	128	19	50	38.6	40.0	1.52	3.1

The data shows an improving trend; the highest particulate concentration was observed in 2012, when concentration observed was $368\mu\text{g}/\text{m}^3$ and $164(\mu\text{g}/\text{m}^3)$ respectively for PM10 and PM2.5 while in 2018 the concentration respectively 277 and $128\mu\text{g}/\text{m}^3$.

The data reveals that the particulate matter concentration has declined almost by 20% with base year of 2015. It is also significant that the lesser peaks are observed which indicates the overall improvement of the air quality in the recent years. Sulphur Dioxide, Ammonia, CO observed always within the prescribed norms. NO2, O3 and Benzene shows occasional peaks in different seasons. The locations of CAAQMS are mentioned in Table 2.

Table 2 Continuous Ambient Air Quality Monitoring Stations

S.No	Name of CAAQMS	S.No	Name of CAAQMS
1	Maj. Dhyanchand National Stadium	14	MGICCC, Bakoli
2	Jawahar Lal National Stadium.	15	NIT&RD, Mehrauli
3	Dr. Karni Singh Shooting Range	16	ITI, Jahangirpuri
4	PGDAV College, Srinivaspuri	17	IARI, PUSA
5	Mother Dairy Plant, Patparganj	18	NIMR, Sector-8, Dwarka
6	Satyawati College	19	DITE, Wazirpur
7	Mundka Metro Residential Colony	20	ITI, Shahadra
8	S.S.College of Business Studies,	21	Anand Vihar
9	ITI, Narela	22	Mandir Marg
10	WTP (DJB), Sonia Vihar	23	Punjabi Bagh
11	DITE Okhla	24	R.K.Puram
12	Ch. Brahm Prakash Ayurvedic	25	Civil Lines
13	Mahrshi Valmiki Hospital,Pooth	26	Airport

I. ACTIONS SO FAR TAKEN TOWARDS CONTROLLING AIR POLLUTION:

1. Review Meetings held at Govt of India

- Hon'ble Minister and Secretary, MoEF&CC, GOI had convened review meetings periodically with all stakeholders and reviewed the Air Pollution Control Measures taken by all agencies.
- High Level Task Force (HLTF) on issues of air pollution control has been constituted under Pr. Secretary to Prime Minister and its periodical report on recommendations of HLTF is being compiled and sent to Secretary, MoEF&CC, GOI by Government of Delhi. This report is discussed and based on this report Principal Secretary to PM convenes review meeting at regular intervals.
- The HLTF reviews action taken report submitted by all the agencies including the neighboring states of Rajasthan, Haryana, UP and Punjab.
- The High Level Task Force reviews the following aspects of Air Pollution(Control & Management):-

- i. Installation and getting data of Continuous Ambient Air Quality Monitoring Stations (CAAQMS).
- ii. Procurement and deployment of Mechanical Road Sweeping (MRS) Machines.
- iii. Water sprinkling using treated sewage water in the roads.
- iv. Massive greening program by all the agencies.
- v. Dust Mitigation in all the major construction sites. Inspection and fining of violators who have not taken control measures.
- vi. Vertical greening of pillars and flyovers.
- vii. Deployment of water tankers by the construction agencies.
- viii. Removal of silt from drains and dumping in designated sites.
- ix. Prevention of biomass burning by the farmers in the state of Punjab and Haryana.
- x. Procurement and distribution of Stubble Removal Machines to the farmers.
- xi. Switching over to PNG by Industries.
- xii. Operationalize Western & Eastern Peripheral Expressway.
- xiii. Paving of roadsides to minimize dust.
- xiv. Speedy implementation and establishment of Solid Waste Processing Plant.
- xv. Speedy procurement of Buses by DTC and on Cluster mode.
- xvi. Providing last mile connectivity by DMRC by dove-tailing metro stations through mini buses and e-rickshaws.
- xvii. Removal of encroachment on roads by the civic agencies.

II. IMPLEMENTATION OF GRADED RESPONSE ACTION PLAN :

Due to the poor Air Quality Index (AQI), Severe Category of GRAP provisions had been invoked in the month of June, 2018 and during 1st November to 12th Nov, 2018. Further, based on the directions of EPCA, the provisions of GRAP under Very poor category were invoked from 15.10.2018 till 15.03.2019 with following directions:

- Increasing bus and metro services by augmenting contract buses and increasing frequency of service.
- Increase frequency of mechanized cleaning of road and sprinkling of water on roads. Identify road stretches with high dust generation.
- Residential Welfare Associations and individual house owners to provide electric heaters during winter to security staff to avoid open burning by them.
- Alert in newspaper/TV//Radio to advise people with respiratory and cardiac patients to avoid polluted areas and restrict outdoor movement
- Stop use of diesel generators sets.
- Shut down Badarpur Power Plant as of October 15, 2018.
- Take steps to maximize generation of power from existing natural gas based plants to reduce operation of coal based power plants in the NCR.

Besides, that as directed by EPCA following directions had been issued with effect from 1st Nov 2018:

- All construction activities involving excavation, civil construction (excluding internal finishing/work where no construction material is used) to remain closed in Delhi and other NCR districts from November 1-12, 2018.
- All stone crushers, hot mix plants generating dust pollution to remain closed in Delhi and other NCR districts from November 1-12, 2018.
- All industries using coal and biomass as fuel (excluding thermal and Waste to Energy Plants) to remain closed in Delhi and other NCR districts from November 4-10, 2018. Industries that use natural gas as fuel can continue to operate.
- Transport department/traffic police to intensify checking of polluting vehicles and control traffic congestion in Delhi and other NCR districts during November 1-12, 2018. There should be no tolerance for visibly polluting vehicles. This will require stringent monitoring and on-spot fines for visibly polluting vehicles.
- Intensify patrolling, including night patrolling in industrial areas and other 'hot spots' in the city so that there is complete control on waste burning as well as industrial emissions. EPCA

has already brought to your attention that it has found many cases of waste burning and industrial emissions, which is a gross violation of GRAP conditions.

- Intensity efforts for interrupted power supply in NCR towns to avoid requirement of operating DG sets and inconvenience to public.
- Publish in newspapers and disseminate widely the following information for the general public:
 - The need for public to minimize exposure and also advice people to minimize their travel using private vehicles as much as possible.
 - Enumerate and list all actions that have to be taken under GRAP, so that people are informed and can act as stakeholders in the efforts to control pollution.
 - Publish list of penalties that have been imposed and actions taken against people/industries found polluting. This information will provide deterrence and help improve enforcement.
 - This was followed by EPCA directions for stoppage of Trucks from 8th Nov to 12th Nov 2018. EPCA, in agreement with CPCB task force on 12 Nov 2018, allowed construction activity only during day time between 6 am to 6 pm.
 - 52 joint teams involving SDMs, officers of CPCB, DPCC & Local bodies had been deployed from 1st Nov, 2018 to 10th Nov, 2018. Night patrolling by the Environmental Marshalls was also carried out to prevent garbage/biomass or waste burning etc. Remedial actions on the spot where ever such burning was found was also done

III. OTHER MEASURES TO CONTROL AIR POLLUTION:-

1. Action against persons for burning of garbage in open.

- Government undertook special drive of inspections to prevent air pollution due to burning of leaves/garbage in open areas.
- To receive the public complaints in order to stop the burning of Garbage/Waste material/ Leaves, Delhi Pollution Control Committee (DPCC) has opened "Whatsapp account with mobile number 9717593574" and "9717593501".

- Sub Divisional Magistrates (SDMs) along with Tehsildars (Executive Magistrate), Department of Revenue, GNCTD, have been authorized to take action against violations. Penalty is being imposed in accordance with the directions of Hon'ble National Green Tribunal.
- For prohibition of burning of dry leaves / garbage / plastic etc, Municipal Corporation of Delhi (MCDs)/ Delhi Development Authority (DDA) has been asked that if any violation found, concerned S.O. (Horticulture) and Sanitation Inspection will be held responsible personally and action will be taken against them.
- Other Civic Agencies also have imposed fines in respect of violations found at sites as per **Table 3**.

2. Monitoring and Action against violators of dust control measures:-

Govt. launched special drive to improve air quality by way of enforcing Dust Control Measures by the construction project agencies/ individuals. Area SDMs, Tehsildars, Assistant Engineers of Public Works Development (PWD) and Delhi Pollution Control Committee (DPCC) are regularly inspecting projects for checking the compliance of dust control and levy compensation for violations of dust control measures.

- SDMs alongwith Tehsildars (Executive Magistrate), Department of Revenue, Govt. of NCT of Delhi and Assistant Engineer of Public Works department (PWD) have been authorized to take action against violations. Penalty is being imposed in accordance with the directions of Hon'ble National Green Tribunal. Detailed Action Taken Report is at **Table 4**.
- All local bodies and DDA have also been asked to apprise public in general and owners and builders in particular who have got their building plans sanctioned for following dust control measures.
- DPCC has imposed fine on construction projects who have obtained Environmental Clearance (built up area more than 20,000/- sq. Mtrs)

Table 3: PREVENTION AND CONTROL OF BIOMASS BURNING

S. No.	Department	For open burning of garbage and other materials	
		Challans issued	Amount collected (Rs.)
1.	South Delhi Municipal Corporation (SDMC)	1953 (from 1.01.18 to 30.11.18)	34.26 lacs
2.	North Delhi Municipal Corporation (NDMC)	1167 (Jan- Nov 2018)	20,50,000/-
3.	East Delhi Municipal Corporation (EDMC)	499 (upto 30.11.18)	82,00,000/-
4.	NDMC	Nil	—
5.	Revenue Department	166 (From Dec 2015 to 21.09.2018)	4,62,000/-
6.	Delhi Cantonment Board	02	5,000/-

Table 4: ACTION TAKEN REPORT WITH RESPECT TO DUST CONTROL AT CONSTRUCTION SITES

S. No.	Department	For Dust Control at construction sites	
		Challans issued	Amount collected (Rs.)
1.	South Delhi Municipal Corporation (SDMC) 1.01.2018 to 30.11.2018	5370	1,98,37,800/-
2.	North Delhi Municipal Corporation <u>(01.01.2018 to 31.12.2018)</u>	1550	2.72 Crores penalty imposed. Rs. 36.75 Lacs collected
3.	East Delhi Municipal Corporation (EDMC)	3470	54,96,500/-
4.	PWD	425	52,15,000/-
5.	DPCC (Since 1.1.2018 to 15.12.2018)	52	1,81,05,000/-
6.	Revenue Department	2471 (From Dec 2015 to 21.09.2018)	2,68,36,000/-
7.	Delhi Cantonment Board.	03	1,50,000/-
8.	New Delhi Municipal Council	04 Nos.	50,000/-

3. Promotion of Battery Operated Vehicles:- With the view to promote non-polluting e-vehicles, Govt. has announced subsidy schemes for adopting various kinds of e-vehicles such as Two-Wheeler, Four-Wheelers and also e-rickshaws. Owners of newly purchased battery operated 4 wheelers and 2 wheelers are given subsidy by GNCTD, in addition to subsidy by Govt. of India @ Rs 2000-5500 for two wheelers and Rs. 30000/-to1,50,000/- for four wheelers. One time fixed subsidy of Rs. 30,000/- is given to Battery Operated e-rickshaw owner, authorized by Transport Department and registered in the NCT of Delhi.

4. Prohibition on bursting of firecrackers: Direction U/S 31(A) of Air (Prevention & Control of Pollution) Act, 1981 read along with Rule 20A of Air (Prevention & Control of Pollution) (Union Territories) rules, 1983 to ban bursting of firecrackers/ fireworks at all times except on religious occasions has been issued on 08.12.2016.

Hon'ble Supreme Court issued directions via order dated 23.10.2018 & subsequent orders in Writ Petition (Civil) No. 728 of 2015 regarding bursting of Firecrackers. DPCC has printed leaflets containing Supreme Court directions in brief for awareness of type of firecrackers allowed and harmful effects of bursting of Firecrackers.

5. Imposition of Charge on lights and heavy duty commercial vehicles entering Delhi: In compliance with the order dated 09.10.2015 and 16.12.2015 of Hon'ble Supreme Court, Environment Compensation Charge (ECC) is levied on Delhi bound light and heavy duty commercial goods vehicles. Notifications have been issued as per Hon'ble Supreme Court directions.

6. Greening of City: As per latest Forest Survey of India report 2017, Green cover of Delhi has increased to about 305.41 sq km from 26 Sq. Km in 1997. The increased green cover also acts as carbon sink. Target of plantation set for 2018-2019 is 32.18 lakh saplings by all greening agencies of which more than 25 Lac saplings have been already planted.

7. Environmental Marshalls:

Department of Environment, Govt. of Delhi has deployed Home Guard (HG) volunteers as Environmental Marshalls. 83 home guards have been deployed in wards of three Municipal Corporations. They have been instructed to act as eyes of Environment Dept./DPCC and report the instances of violations. Environmental Marshalls have been deployed for night patrolling also. **Additionally, request has been sent for 210 more environmental Marshalls.**

8. Public Awareness conducted by Department of Environment:-

- Organized workshops for areas under Jurisdiction of North MCD, South MCD and East MCD on "Prohibition on open burning of any kind of material – A Small Step Targeting Big Impact" respectively at Delhi Secretariat. Workshop was for public awareness and interaction with implementing authorities. The officials from North MCD and South MCD i.e. SI/ASI and horticulture wing participated in the workshop along with RWAs, School/Colleges from the areas under jurisdiction of North and South MCD.
- Every year Anti-Fire Cracker Campaign is being organised with Eco-Club Schools/Colleges.
- Public notices have been issued on prohibition on open burning of leaves, waste, garbage etc.
- Organized workshop for area under Jurisdiction of North MCD on "Dust Control Measures at construction sites to Control Air pollution".

IV. NEW INITIATIVES BY DELHI GOVERNMENT:

i. Green Budget Implementation:

The Government of Delhi has passed a Green Budget where in provisions have been made for providing subsidy to the following:

- Conversion of industries to PNG – approved by Cabinet on 04.09.2018.
- Conversion of coal based Tandoors to Gas based - approved by Cabinet on 04.09.2018.

Also a real-time source apportionment study in partnership with the University of Washington is proposed and it will carry out near-continuations analysis of factors causing pollution on a regular basis. A draft RFP is being prepared to provide a dedicated information system showing current levels of pollution by installing 1000 indoor display panels inside all Governments building that are dealing with the public.

ii. Notification issued on Approved Fuel:

The Delhi Pollution Control Committee (DPCC) has issued approved fuel notification on 29.6.2018. As per the notification only approved fuels are permitted to be used which as follows:

1. Petrol (BS VI with 10 PPM Sulphur) as per the Notification of Government of India as amended from time to time.
2. Diesel (BS VI with 10 PPM Sulphur) as per the Notification of Government of India as amended from time to time.
3. Liquid Petroleum Gas (LPG)
4. Natural Gas/Compressed Natural Gas (CNG)
5. Aviation turbine fuel
6. (a) Firewood for crematoriums and for other religious purposes.
(b) Wood Charcoal for Tandoors and Grills of Hotels/ Restaurant/ Banquet Halls/ Eating Houses having emission channelization / control system.
(c) Wood Charcoal for use in clothes ironing.
7. Biogas
8. Refuse Derived Fuel (only for Waste-to-Energy Plants)
9. Any other clean fuel notified by the Govt. of NCT of Delhi / Govt. of India, subsequent to this notification.

Note:

1. Besides above, Coal with low Sulphur (less than 0.4%) permitted for use in Thermal Power Plant only.

2. All other fuels will be deemed “unapproved” and so disallowed for use in NCT of Delhi.
3. Existing Industries / Units shall convert / switch over from their existing fuels to the above mentioned Approved Fuels within 90 days from the date of issue of this Notification.

Besides, the following new initiatives have been put in place in the 2018 winter months:

- i. At 5 main intersections a device called WAYU with static filters has been installed which will operate in series to suck and control the emissions from the traffic intersection including at ITO junction. This has been awarded by CPCB to NEERI as an R&D study.
- ii. At 3 construction sites in Delhi a dust suppressant is being used as a pilot project by CPCB through NEERI.
- iii. Dynamic filters in buses are also being tried on a pilot basis by CPCB/ MoEF & CC, GOI.
- iv. With the joint collaboration of various Ministries namely, MOEF&CC, MOES, IMD, IITM, CPCB, DPCC etc an advance air pollution early warning systems namely SAFAR has been launched.
- v. A Grievances redressal portal SAMEER has been launched by CPCB.

V. NCR STATES RELATED ISSUES WHICH IMPACT AMBIENT AIR QUALITY:

Following issues as mentioned below specifically relate to NCR states which impact ambient air quality of Delhi:

- The feasibility of providing U-Turn and underpass near borders to turn back the non-destined vehicles trying to enter the city needs to be explored.
- Local bodies and major construction agencies in Delhi have already been directed to use dust suppression methods on the construction sites to reduce the dust emissions. Delhi Police and Department of Transport have been directed to allow transportation of construction material and demolition waste only in closed and properly covered trucks. The neighboring states must ensure that all the construction sites must undertake the dust suppression methods to control the dust emission from the construction sites. Further, any construction material or construction waste carried to Delhi must be transported in closed or properly covered trucks.

- The practice of burning of paddy stubs in the agricultural zones adjoining Delhi needs to be stopped. Agriculture burning in the NCR and neighboring states is other major contributor of the particulate and other gaseous pollutants in Ambient Air of Delhi. It is pertinent to mention here that from October to January are crucial months for Delhi, as with onset of winter, concentration of particulate and gaseous pollutants increase significantly. Agricultural fire in Punjab & Haryana is a major cause, the Aqua satellite of NASA had taken the image and shared it in public domain. The images show the cloud of ash spreading almost in the northern belt and especially on Delhi.

Though, stringent steps have been taken/being taken by Delhi Govt. for reducing air pollution in Delhi, there is an urgent need that NCR states also take similar steps as taken by Govt. of Delhi.

2.2.2 Water Pollution:

Common Effluent Treatment Plants (CETPs) :

In 1996 Hon'ble Supreme Court took cognizance of PIL filed by Sh. M C Mehta and directed that DPCC should appoint National Environmental Engineering Research Institute (NEERI) to assess the requirement of CETPs for various industrial areas in Delhi and also for designing the CETPs .As recommended by NEERI and further decided by Department of Industries, Govt. of NCT of Delhi, 11 CETPs to cater 15 industrial areas were constructed through DSIIDC. CETPs have been designed to treat mix waste i.e. sewage and industrial effluent generated from the Industries / Units in their respective Industrial Areas. As per the scheme approved by Hon'ble Supreme Court, CETPs have been handed over to CETP Societies. Out of 11, 10 CETPs are based on physicochemical treatment process and one CETP at Mangolpuri is based on biological process. DSIIDC has also constructed two more CETPs one at

Bawana Industrial Area and another one at Narela Industrial Area and both these CETPs are based on biological process. At present there are total 13 CETPs to cater 17 approved industrial areas in Delhi (including CETP at Jhilmil Industrial Area which caters Jhilmil & Friends Colony Industrial Areas which are outside the present CPA). Total installed capacity of all the 13 CETPs is 212.3 MLD (46.7 MGD) however only 56 MLD (12.3 MGD)effluent is reaching to CETPs and capacity utilization is about 26 %.

For smooth functioning of CETPs, Department of Industries, Govt. of NCT of Delhi enacted the CETP Act, 2000 and CETP Rules 2001. CETP Societies have responsibility to collect Operation and Maintenance (O&M) charges from the individual units as per the formulas developed by NEERI. CETP Societies have also been delegated powers by Govt. of NCT of Delhi to recover the Operation and Maintenance (O&M) charges as a land revenue. Name of 13 CETPs their installed capacities and 17

Approved Industrial Areas connected with these CETPs are given in Table 5.

Table 5 :Details of CETPs

S.No	Name of CETP	Industrial Areas connected with CETP	Installed Capacity (in MLD)	Average Flow (in MLD)
1	Jhilmil CETP	Jhilmil and Friends Colony Industrial Areas	16.8	5.5
2	Badli CETP	Badli Industrial Estate	12	1.5
3	Mayapuri CETP	Mayapuri Industrial Area	12	3.7
4	Mangolpuri CETP	Mangolpuri Industrial Area	2.4	2.2
5	Wazirpur CETP	Wazirpur Industrial Area	24	2.2
6	Nangloi CETP	Nangloi & Udyog Nagar Industrial Areas	12	2.8
7	SMA CETP	SMA, Rajasthani Udyog Nagar & SSI Industrial Areas	12	1.4
8	Okhla CETP	Okhla Industrial Area	24	3.7
9	Narela CETP	Narela Industrial Area	22.5	6.0
10	Bawana CETP	Bawana Industrial Area	35	19.0
11	Naraina CETP	Naraina Industrial Area	21.6	4.3
12	GTK Road CETP	GTK Road Industrial Area	6	2.5
13	Lawrence Road CETP	Lawrence Road Industrial Area	12	1.2
		Total	212.3 MLD (46.7 MGD)	56 MLD (12.3 MGD)

A study was got conducted from IIT Delhi for installation of additional 5 CETPs in Delhi for the industrial areas namely Mohan Cooperative Industrial Area, Okhla Industrial Estate, Patparganj

Industrial Area, Anand Parbat Industrial Area, Najafgarh Road Industrial Area, Kirti Nagar & Moti Nagar Industrial Area. Based on the recommendations of the experts from IIT Delhi as well as decisions taken in the meetings with various departments namely, DSIIDC, Industry Department, DPCC and IIT Delhi, it has been decided not to construct new CETPs as the existing CETP are underutilized. Also, the construction of CETPs at industrial areas such as Anand Parbat Industrial Area , Okhla Industrial Estate and Mohan Cooperative Industrial Area have been kept in abeyance by Environment Pollution (Prevention and Control) Authority (EPCA) headed by Sh. Bhure Lal. GIZ (Deutsche Gesellschaft fur Internationale Zusammenarbeit) under Sustainable and Environment- friendly Industrial Production (SEIP) (A joint project of MoEF&CC and GIZ) is working on installation of CETP at Patparganj Industrial Area and up gradation of CETPS in Lawrence Road and Mayapuri Industrial Areas in collaboration with DSIIDC.

All the 13 CETPs are being monitored by DPCC on monthly basis and Analysis Reports are placed on the website of DPCC. Inspection of the CETPs are carried out on quarterly basis and deficiencies observed, if any, during the inspections are conveyed to the CETP Societies / Operator for rectification of the deficiencies. CETPs have installed Flow Meter at the Inlet or Outlet of CETP and also have provided On Line Monitoring System (OLMS) for the parameters pH, TSS, BOD & COD. The parameters (pH, TSS, COD, BOD & TDS) monitored at each of the CETP in the month of January, 2019 have been tabulated and enclosed as *Annexure -III*. DPCC has issued Directions to the CETP Societies / Operator of CETPs / Occupiers of CETPs in Delhi regarding optimal utilization of CETPs & reutilization of treated effluent etc.

Pursuant to the directions of the Yamuna Pollution Monitoring Committee constituted by the Hon'ble National Green Tribunal vide order dated 26.07.2018 in OA No. 06 of 2012 and OA No. 300 of 2013 in the matter of Manoj Mishra Vs. Union of India & Ors , an action plan of Industries Department / DSIIDC has been prepared

for the abatement of pollution in river Yamuna .Accordingly for assessing the functioning of CETPs and other related issues inspection of all the 13 CETPs have been carried out by a Joint Team comprising of representatives of CPCB, DPCC, NEERI, DSIIDC and Department of Industries in the month of January & February, 2019 and effluent samples have also been collected by CPCB during the inspections.

DPCC and DSIIDC jointly carried out survey of 11 approved industrial areas which are not having CETP in the year 2015. Survey findings were submitted to Hon'ble National Green Tribunal. In the report it was specifically submitted that there is no requirement of installation of CETP in these industrial areas due to insignificant water polluting industries in these industrial areas. There are Flatted Factory Complex having dry units in some of such industrial areas and in rest of the Industrial Areas there are only few water polluting units which have installed their individual Effluent Treatment Plant (ETP) and therefore CETP is not required however in view of the directions received from the Yamuna Pollution Monitoring Committee a survey is proposed to be conducted by DSIIDC to assess the present scenario.

Monitoring of Drains:

Within a stretch of 22 km between Wazirabad and Okhla, 22 drains falls into river Yamuna, out of which 18 major drains are directly falling into the river and remaining 4 drains are falling indirectly through Agra and Gurgaon Canal. River Yamuna is monitored at 9 locations on monthly basis and samples are analyzed for 5 parameters as enclosed as *Annexure IV*. 24 major drains are monitored on monthly basis for 4 parameters as enclosed as *Annexure V*. Najafgarh Drain is the major polluting drain of Yamuna River in Delhi contributing about 40 % of the total pollution to the river followed by the Shahdara Drain. Total waste water generation in Delhi is about 700 million Gallons per Day (MGD), out of which more than 80% is the domestic sewage followed by industrial waste water. Natural ecological flow of the river is affected as there is no fresh water available for dilution in Yamuna as the entire fresh water from Wazirabad is being used to meet the drinking

water needs of Delhi citizens. Consequently, the water quality of River Yamuna at the downstream of Wazirabad barrage after confluence of Najafgarh drain is not meeting desirable/prescribed norms.

Major water polluting activities have been included under F-27/33 category of units identified by Nodal Agency (Ministry of Urban Development, UOI) and Group of Experts, constituted by GNCTD (polluting category as per Master Plan of Delhi-2021) so as ensure the closure of these units from the non-conforming area, in compliance of Hon'ble Supreme Court Directions. In year 2000-2001 intensive drives have been undertaken by Govt. of Delhi to close down the Polluting industries operating in residential areas of Delhi falling under F-27/33 category of units. In total 3423 units were closed down by the Govt. of NCT of Delhi. By the continuous efforts of DPCC, about 1191 units were directed to be closed down by SDMs operating in non-conforming/residential areas. Compliance reports for closure have also been received from SDMs in case of most of these 1191 units.

Keeping in view of the indiscriminate throwing/dumping of plastic bags in drain/river Yamuna/sewage system resulting in choking of such systems, Govt. of Delhi banned Plastic carry bags in NCT of Delhi. Mandatory provisions of installation of onsite-decentralized wastewater treatment systems (STP/ETP) by industries, hotels, construction projects etc with treated wastewater reuse in flushing, cooling, horticulture etc is being enforced for implementation. Zero Discharge in building and Construction projects seeking Environment Clearance (built-up area \geq 20000 sq. mt.) is being imposed with installation of STPs/ETPs.

To start with all the 5 star hotels have been asked to install STPs to treat entire waste water generated by them and to reuse the treated effluents so as to have very minimal discharge. MOU were signed between Delhi Govt. and 32 individual hotels in the presence of Hon'ble CM of Delhi to follow Green Hotel Guidelines. The said guidelines detail about rainwater harvesting structure, organic waste converter etc.. Restaurant, Eating House, Sweet Shop, Dhaba and Hotel (RESDH) policy was prepared which was approved by DPCC Board in its meeting held on 06.10.2012.

The quality of waste water flowing in the Najafgarh drain is monitored on monthly basis and the monitoring which is done every month is averaged for period of Mar 2013 to April 2014 reveals that the parameters was pH – 7.72, TSS – 212 mg/l, COD – 272.8 mg/l and BOD – 86.5 mg/l. Quality of the waste water showing here is not good. For industrial pollution control the matter remains is only to operate the existing ETPs/ECS/CETPs regularly and to keep a vigil to stop new illegal units.

Domestic Waste Water Pollution and Sewage Treatment Plants (STPs) of DJB:

DJB is supplying 900 MGD of water and 720 MGD of waste water is generated in Delhi. Installed capacity of Sewage Treatment Plants of DJB is 607 MGD (Total No. of STPs – 41, 34 STPs are operational, 4 STPs are under rehabilitation, 2 STPs have been closed and one STP is Non Functional) and 459 MGD of sewage / waste water is being treated by DJB. Out of 34 Operational STPs 33 are having On Line Monitoring System (OLMS). 11 STPs of capacity 279 MGD are under up gradation or planned to be upgraded. By June 2019 the treatment capacity will increase from 607 MGD to 657 MGD and by December , 2021 the capacity will increase upto 707 MGD. DJB Plans to set up decentralized STPs in outer Delhi considering that these will be more cost effective. This plan envisages creating additional capacity of 157 MGDs, including the 14 STPs that are proposed to be set up in Najafgarh basin out of which 7 have already been sanctioned by NMCG. Sewerage system in Delhi is available to 65 % by population. Table 6 gives the Status of Sewage Treatment in Delhi

Table. – 6 Status of Sewage Treatment

S. No.	Description	December, 2018	June, 2019	December, 2019	December, 2020	December, 2021
1	Sewage generated in Delhi (in MGD) as per water supply by DJB	720	720	720	720	720
2	Sewage treatment capacity (in MGD)	607	657	657	657	707
3	Sewage treatment (in MGD)	457	651	663	694	709
4	Capacity utilization (%)	75.3%	99%	100.9%	105.6%	100.3%

Source: Interim Progress Report of Monitoring Committee for Yamuna Dated 16.01.2019

Apart from above, as per SMP-2031, 32 Nos of new STPs are to be constructed in outer Delhi area. However, out of 32 STPs, 14 STPs are proposed in Najafgarh area, and in place of remaining 18 STPs, it is proposed to construct decentralized STPs for which land at 46 locations are being allotted by Delhi Govt. Proposed decentralized STPs are given in Table 7. Also, details of proposed centralized STPs are given in Table 8.

Table. 7: Proposed Decentralized STPs

S.No.	Proposed Decentralized STPs	Capacity (in MGD)
1	Timarpur Oxidation Ponds	5.50
2	Decentralised STP in Burari area	4.50
3	8 Nos. Decentralised STPs in Chatterpur area	5.00
4	Decentralised STP in Kirari area	20.5
5	Decentralised STPs in Narela, Zindpur & Palla	25.30
6	Decentralised STPs in Bawana & Kanjhawla	44.70
7	Decentralised STP in Badarpur area	10.00
8	Decentralised STP in Mundka (part) area	3.30
9	9+5 STPs in Najafgarh area	39.00
	Total	157.8 MGD

Source: Interim Progress Report of Monitoring Committee for Yamuna Dated 16.01.2019

Table 8 : New Proposed Sewage Treatment Plants

S. No.	Name of Proposed STP	Capacity (in MGD)	Brief Status
1	Tikri Kalan	2.7	Acquisition of land is in progress.
2	Mitrao	5.6	Land has been allotted by Revenue Department to DJB.
3	Dichao Kalan	5.6	Partial Gram Sabha Land allotted. For remaining Land , case for acquisition of land through Land & Building Deptt of Delhi Govt is being processed separately.
4	Kazipur	1.1	50% Gram Sabha land available with DJB. For remaining Private Land Acquisition of land is in progress.
5	Khera Dabar Extn	0.9	Land taken over by DJB.
6	Shikarpur	0.6	Alternate Gram Sabha land under allotment as earlier allotted land was shifted due to public resistance.
7	Kair	1.1	Acquisition of land is in progress.
8	Jaffarpur	2.2	Land taken over by DJB.
9	Hasanpur	2.2	Alternate Gram Sabha land under allotment as earlier allotted land was shifted due to public resistance.
10	Sarangpur	2.2	Land taken over by DJB.
11	Gaibpur	1.1	Land taken over by DJB.
12	Tajpur Khurd	8.0	Acquisition of land is in progress.
13	Goyala Vihar (Kakorala)	2.5	Acquisition of land is in progress.
14	Badu Sarai (Kanganheri)	1.4	Land taken over by DJB.
	Total	37.2 MGD	

All the operational STPs of Delhi Jal Board are being monitored by DPCC on monthly basis and Analysis Reports are placed on the website of DPCC and also communicated to Delhi Jal Board for taking rectification measures to meet the prescribed standards. Out of 34 operational STPs , 33 STPs are having On Line Monitoring System (OLMS) for the parameters pH, TSS, BOD & COD.

Interceptor Sewage Project (ISP)

Interceptor Sewage Project is being implemented by DJB in a 59 km length along three major drains (i.e. Najafgarh, Supplementary and Shahdara) to intercept sewage flowing from subsidiary small drains and convey it to the nearest sewage treatment plants for treatment to ensure that only treated sewage is discharged into drains and Yamuna river. The intention is to prevent untreated waste water from reaching the river, hence abating pollution. Implementation of the planned interceptions as part of the project will achieve a reduction of BOD from 38.9 mg/l to 12 mg/l at the outfall of Najafgarh, Shahdara and Supplementary drains, as worked out through water quantity modeling. To bring the river water up to class C, treated effluent discharges need to achieve a treated BOD of 10 mg/l and sufficient dilution is to be ensured by neighboring states by releasing additional water in river Yamuna. Once the said project, is completed, the waste waters entering into these drains are intercepted and will be treated before its discharge into the river Yamuna. The system includes provision of interceptor sewers along with associated works like interceptor pits, new sewage pumping stations, rising mains etc., along the drains involving the related Sewage Treatment Plants in the catchment areas. The project is an integrated approach towards zero sewage flows in the drains and the river. Presently sewage being intercepted is 118 MGD. By June 2019 all the 242 MGD of

sewage is expected to be trapped and treated. ISP shall trap 108 drains outfalling into Najafgarh, Supplementary and Shahdara drains. The ISP is expected to be commissioned by June 2019.

With the commissioning of all the six packages of Interceptor Sewage Project, the BOD load reduction in the river will be of the order of 165 TPD as per information furnished by DJB.

The DJB has commissioned a study through Engineers India Ltd (EIL) and it is estimated that more than 300 new drains have been located in the catchment of Najafgarh, Supplementary and Shahdara drains which carry waste water. The detailed flow assessment is in progress after which DJB will have to prepare an Action Plan to treat / divert waste water flowing in these drains to STPs.

Hon'ble National Green Tribunal vide order dated 26.07.2018 in Original Application Number 06 of 2012 and 300 of 2013 in the matter of Manoj Mishra Vs. Union of India & Ors has constituted two members Monitoring Committee comprising Ms. Shailaja Chandra, former Chief Secretary, Delhi and Mr. B.S. Sajwan former Principal Chief Conservator of Forests and former Expert Member of the Tribunal for the rejuvenation of the river Yamuna & abatement of pollution. The said Monitoring Committee has submitted its Action Plan Dated 22.10.2018 and Interim Report Dated 16.01.2019 to the Hon'ble National Green Tribunal and various Departments including DJB, DSIIDC, Industries Department, Irrigation & Flood Control Department, all the Municipal Corporations, DPCC and CPCB are taking necessary action as per the Action Plan and Directions of the Monitoring Committee.

Delhi Jal Board has submitted its action plan to the Yamuna Pollution Monitoring Committee constituted by the Hon'ble National Green Tribunal and further necessary action is being taken as per the Action Plan Dated 22.10.2018 and Interim Report Dated 16.01.2019 of the Yamuna Pollution Monitoring Committee and Action Plan of DJB.

Pursuant to the directions of the Monitoring Committee , inspection of all the STPs of DJB are being carried out by a Joint Team comprising of representatives of CPCB, DPCC and DJB and effluent samples are also being collected by CPCB during the inspections. Hon'ble National Green Tribunal vide order dated 20.09.2018 in OA No. 673 of 2018 titled News Item Published in "THE HINDU" titled "More River Stretches are now Critically Polluted : CPCB (identified by Central Pollution Control Board based on criteria defined as Priority-I, Priority-II, Priority-III and Priority-IV, and Priority-V of Rivers) has passed the directions that all states and union territories to prepare action plans for bringing all the polluted river stretches to be fit at least for bathing purpose (i.e. BOD<3mg/L & FC<500 MPN/100 ml) within six months from the date of finalization of the action plans".

In compliance of the said order dated 20.09.2018, the River Rejuvenation Committee (RRC) for Delhi has been constituted vide order dated 22.10.2018 for preparation of the action plan for rejuvenation of 22 km stretch of river Yamuna (Wazirabad to Asgarpur village). Following is the constitution of the Committee:

1. Director, Department of Environment, GNCTD
2. Director, Department of Urban Development, GNCTD
3. Director, Industries, GNCTD
4. Member Secretary, DPCC

The RRC is to function under the overall supervision and coordination of Secretary, Environment of the concerned State / Union Territory. As discussed during the meetings , Action Plan of the River Rejuvenation Committee for river Yamuna is to remain the same as has already been prepared by two-member Yamuna Monitoring Committee constituted by Hon'ble NGT vide order dated 26.07.2018.

The Action Plan of RRC has been submitted to CPCB on 30.01.2019 and a presentation has also been made before CPCB on 12.02.2018. Further, an Executive Summary of the Proposed Action Plan of

RRC Delhi for polluted river stretch of Yamuna in Delhi ,as requested by CPCB has also been sent to CPCB on 22.02.2019.

Presently only 89 MGD of treated waste water from STPs out of 459 MGD is reused for horticultural usage and for watering parks and gardens. As per the Action Plan of the Yamuna Pollution Monitoring Committee , the DJB and the CETPs are required to prepare a road map for better utilization of the treated waste water. Use of treated waste water for rejuvenating water bodies is also to be explored. DJB and DSIIDC to achieve 100% treatment of sewage/ industrial effluent within three years (by 31.12.2021) to ensure that no untreated sewage /industrial effluent enter the river Yamuna.

Discharge from Unsewered Areas/ Unauthorized Colonies and Faecal Sludge Management

One of the biggest source of pollution is the discharge of untreated sewage from the unsewered areas/ unauthorized colonies/ into the storm water drains finally discharging into river Yamuna. 90% of the 1797 unauthorized colonies in Delhi with a population of over 7 million people are not having sewerage system. Households in these areas are either getting private contractors to periodically pump out the sewage from pits erected by the households or emptying the sewage directly into nearby drains.

The Septage Management Regulations have been notified on 21.11.2018 and the main features of the Regulation are as under:

- Septic Tank Waste (Septage) shall be collected and transported only by vendor(s) having a valid License for this purpose issued by the Delhi Jal Board
- The Septage shall be transported only in the Vehicles approved for these purposes by the Designated Officer of Delhi Jal Board.
- The Licensee shall dispose of Septage only at the locations notified by the Delhi Jal Board from time to time.

- The worker(s) deployed by the Licensee shall be insured to cover compensation to be paid to the victims /their legal.

Ground Water and Rain Water Harvesting

Govt. of NCT of Delhi has issued notification dated 12.07.2010 for Ground water Regulation and Management in Delhi. In the whole of the National Capital Territory of Delhi, no person, group, authority, association or institution shall draw ground water through bore-well or tube well (both new as well as existing and drawing ground water without permission of Central Ground Water Authority) for domestic, commercial, agricultural and industrial uses without the prior permission of the "Competent Authority" that is to say, the Delhi Jal Board or New Delhi Municipal Council as the case may be.

- The issue of grant of permission for bore well/tube well shall be dealt by the Competent Authority through the Deputy Commissioners (Revenue) of each Revenue District, GNCTD, who is hereby appointed as "Authorised Officer" for the purpose of regulation of ground water development and management in the respective revenue areas under the jurisdiction.
- The Deputy Commissioner (Revenue) of each Revenue District, GNCTD, who is the Authorised Officer, are further delegated with the power of dealing with other issues such as checking violation and sealing illegal well, launching of prosecution against offender etc. including grievance redressal related to ground water, based on the recommendations of the Advisory Committee.
- Hon'ble National Green Tribunal has also taken up the issue of unauthorised extraction of ground water through bore well and tube well in Delhi.

That CGWA with a view to protect and preserve the ground water resources of the country from further depletion, has decided to promote technique of rain water harvesting including roof top rain water for ground water recharge.

Accordingly, CGWA vide Public Notice dated 06.01.2010, directed all the residential group housing societies/institution/schools/hotels/industrial establishment falling in the over-exploited and critical areas as specified in the schedule to adopt Roof Top Rainwater Harvesting Systems(RWHS) in their premises. It is also mentioned in the said Public Notice that for any technical guidance, Regional Directors of the Central Ground Water Board or the Ground Water Department of the State/Union territories having jurisdiction over the area may be contacted.

That as per the modifications /additions to the Building by laws, 1983 made vide Gazette Notification dated 28.07.2001 issued by Ministry of Urban Development & Poverty Alleviation, Govt. of India, water harvesting through storing of water runoff including rain water in all new buildings on plots of 100 sq. meters and above has been made mandatory. The plans submitted to the local bodies shall indicate the system of storm water drainage along with points of collection of rain water in surface reservoirs or in recharge wells. These provisions will be applicable as per Public Notice(s) of CGWA. issued from time to time. This notification, casts responsibility on the Local bodies DDA/MCD to undertake a site inspection to ensure that the rain water harvesting system is made as per plan before issuance of Completion Certificate to the building.

As per the notification of Department of Environment, Govt. of NCT of Delhi, Dated 12.07.10 regarding Ground Water Regulation and Management in Delhi, if the plot size of building is more than 200 Sq. Meter, the permission to draw ground water through bore well or tube well (both new as well as existing and drawing ground water without permission of Central Ground Water Authority) shall be

subject to the condition that the occupier or owner of the said plot or building shall install Rain Water Harvesting System in such building and also ensure residue of waste water after proper treatment.

Delhi Jal Board (DJB) has a dedicated RWH Cell which was earlier providing financial incentives/ subsidy for construction /installation of RWHS in residential complexes of RWAs/ Societies. DJB has now modified the incentives in the form of rebate in water tariff. The aforesaid rebate (10%) can be allowed by DJB in water tariff to the owners/ institutions who install RWH on a plotted area of 200 sq. meters or above.

Hon'ble National Green Tribunal in M.A. No. 808 of 2013 in OA No. 94 of 2013, Vikrant Kumar Tongad Vs DMRC and Ors has passed various orders w.r.t Rain Water Harvesting System in Hospitals, malls, Commercial Complex, Hotel and RWAs and as per the orders of Hon'ble National Green Tribunal. 8 Committees had been constituted to conduct site visit to the premises of the said establishments w.r.t their capacity, operational status etc. Hon'ble NGT vide its order dated 17th July, 2018 in OA No. 94 of 2013 titled "Vikrant Tongad Vs. Delhi Metro Corporation Limitede" has directed that all the Deputy Commissioners to ensure that ground water harvesting systems are duly installed in every building and effective monitoring mechanism may be put in place in suitable manner. In case of construction projects in Delhi requiring Environmental Clearance, condition is being imposed for providing Rain Water Harvesting System. Delhi pollution Control Committee has also directed all the five star hotels and hospitals having 50 beds and above to install Rain Water Harvesting System. Also, Ground water samples are collected from 34 locations on monthly basis.

CGWA has notified "Guidelines to regulate and control Ground Water Extraction in India" notified by Central Ground Water Authority (CGWA) under Minister of Water Resources, River Development and Ganga Rejuvenation, Govt. of India on 12.12.2018. However, Hon'ble NGT, in its Order dated 03.01.2019 in

O.A. No. 176/2015 and related matters, has set aside the Notification dated 12.11.2018. Hon'ble NGT has also directed to constitute an Expert Committee by including representatives from IIT Delhi, IIT Roorkee, IITM Ahmedabad, CPCB, NITI Ayog and any other concerned agency of department to examine the issue of appropriate policy for conservation of ground water with a robust institutional mechanism for surveillance and monitoring with a view to enhance access to ground water for drinking purpose in OCS areas by way of appropriate replenishment practices which can be properly accounted and measured for as well as to sustain the floodplains of rivers in terms of e-flows and other water bodies.

2.2.3 Noise Pollution:

Noise pollution is one of the important aspects which have escaped attention of policy makers. However, the said noise pollution is one of the major dangers lurking round the corner. As per the noise monitoring carried out by the DPCC as shown in Table 9 below, the Noise levels exceeded in most of the locations. Therefore, there is a need to reduce the noise levels and to take precautionary measures in the areas where the noise levels are at the border line. The Ambient Noise Standards as notified by CPCB are given in Table 10

DPCC is taking necessary action to ensure that D.G. sets operate with acoustic enclosure and necessary noise control measure are put in place by the D.G. Sets by insisting on noise monitoring report from the D.G. set users. Consent under the air act issued only after the noise monitoring report in respect of D.G. Set.

Table 9: NOISE LEVELS in LEQ in dBA.

AnandVihar	LAE1 Avg. (dBA)	LAE1 Avg. (dBA)
Year	Day Time	Night Time
2015	67.8	64.9
2016	67.6	65.8
2017	67.8	65.0
2018	66.2	63.9

MandirMarg	LAE1 Avg. (dBA)	LAE1 Avg. (dBA)
Year	Day Time	Night Time
2015	57.1	50.8
2016	58.4	51.5
2017	56.8	48.5
2018	57.6	51.4

Civil Lines	LAE1 Avg. (dBA)	LAE1 Avg. (dBA)
Year	Day Time	Night Time
2015	62.9	61.9
2016	62.7	61.3
2017	62.4	60.3
2018	61.0	58.7

Punjabi Bagh	LAE1 Avg. (dBA)	LAE1 Avg. (dBA)
Year	Day Time	Night Time
2015	63.4	58.9
2016	59.0	54.8
2017	59.0	53.3
2018	59.3	52.5

RK Puram	LAE1 Avg. (dBA)	LAE1 Avg. (dBA)
Year	Day Time	Night Time
2015	60.3	53.7
2016	61.0	56.1
2017	60.6	54.4
2018	61.1	54.9

Table 10: AMBIENT NOISE STANDARDS BY CPCB (IN LEO/dB (A))

Code	Area	Day time	Night time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence Zone	50	40

2.2.4.Solid Waste Management:

As per the report of Central Pollution Control Board, the Cumulative Environmental Pollution Index (CEPI) in respect of land has been calculated as 79.54 for Najafgarh Drain basin including 4 industrial areas, on the basis of which this basin has been declared as CPA.

Hazardous Waste:

In Delhi, there are about 2000 units generating hazardous waste. At present generating hazardous waste is stored in Delhi, either by individual industrial units or stored at CETP sites. Around 16000 MT of Hazardous waste/ sludge is stored at various CETPs in Delhi Consuming approximately 16000 sq. meter of shed area for storage. As per Hazardous Waste inventory (Industrial Units) Delhi 2007 submitted by M/s Ramky Infra Consulting Pvt. Ltd. a total of 5281 TPA of the hazardous waste is generated in Delhi out of which land disposable waste generation another is about 3340 TPA, which is 63% of total waste generation another 33% of the waste i.e. about 1740 TPA is incinerable whereas only about 4% is recyclable i.e. 201.30 TPA.

Delhi Pollution Control Committee (DPCC) and Department of Environment, Govt. of Delhi tried hard to develop a treatment, storage and disposal facility for the past so many years including development of TSDF site at Ghumanhera and subsequently at Khanjawla however the said sites could not be developed for TSDF due to public resistance etc.

14 Acres Land for setting up of TSDF for disposal of hazardous waste of Delhi has been identified in Bawana Area and possession of the land has already been taken over. TSDF is to be constructed / developed by DSIIDC. DPCC has made a payment of Rs. 44.10 Crores from the Air Ambience Fund created by Govt. of NCT of Delhi to North Delhi Municipal Corporation on account of cost of Land for setting up of TSDF at Bawana . An amount of Rs. 8.05 Crores has also been given to DSIIDC as grant in aid towards 50 % of Capital cost of TSDF. Tenders have been floated by DSIIDC for developing TSDF at Bawana and the matter is under process.

Bio-medical Waste:

Delhi generates about 25 tons of bio-medical waste daily. This waste is treated at the Common biomedical waste treatment facilities. In Delhi there are 2 authorized Common Bio-Medical Waste Treatment Facilities (CBWTFs) .

Monitoring reports for the emissions are submitted by the CBWTFs to DPCC. DPCC / CPCB also carry inspections/ monitoring of the CBWTFs in Delhi from time to time. Both CBWTFs have installed online emission monitoring system in their stack since 2015. However, only functional parameters of the incinerator e.g. Temperature of chambers, CO2, etc are being measured. DPCC

recently i.e. on 20/02/19 has given directions to all CBWTFs for installation of Online Monitoring System for the consented parameters in their facilities.

For inventorization of biomedical waste in Delhi, both the CBWTFs operating in Delhi were directed on 16/01/19, along with the format for supplying the information, to conduct the survey and forward the names of the unauthorized HCFs operating in Delhi alongwith the details Based on the reports submitted by the CBWTFs (although not in the prescribed format), 3327 no. of unregistered HCFs have been identified. As the records of DPCC show number of HCFs as 5143, considering the reports of both CBWTFs, the total HCFs operating in Delhi totals to 8470 (5143 + 3327). DPCC is in the process of going through the report and issuing show cause notices to these HCFs which have not applied for authorization in DPCC. So far 600 notices have been issued

HCFs are regularly inspected by DPCC individually, as per the approval of the Competent Authority, as well as along with district level monitoring Committees for checking compliance of the authorization issued/ provisions of Bio-medical Waste Management Rules. If the HCF is found flouting the norms, action as per law is initiated against it. As per the directions of CPCB, DPCC has recently issued directions to all hospitals having 100 beds and above to install on-line monitoring system (OLMS) in the effluent treatment plant (ETP) installed in their premises and connect the same to DPCC as well as CPCB.

As per the Bio-medical Waste Management Rules, 2016 issued on 28th March, 2016, the prescribed time limit for implementation of the bar-coding system for tracking of bio-medical waste, from generation till disposal, was 27th March, 2018. Subsequently, CPCB has also published the detailed "Guidelines for bar code system for effective management of Bio-medical waste" in April, 2018.

However, the Bio-medical Waste Management (Amendment) Rules, have extended the time limit to 27th March, 2019. The scheme has been implemented by HCFs/ CBWTFs partially in Delhi. More than 100 HCFs have started giving the waste in this manner.

Municipal Solid Waste:

Hon'ble Supreme Court and Hon'ble National Green Tribunal both are monitoring the Municipal Solid Waste Management and implementation of the concerned Solid Waste Management Rules, 2016. As per the directions of the Hon'ble National Green Tribunal State Level Committee headed by Chief Secretary, Govt. of NCT of Delhi has been constituted vide office order dated 15.02.2019 and Special Task Forces (STF) for each District has been constituted vide office order dated 07.03.2019.

Hon'ble National Green Tribunal vide order dated 20.08.2018 (Revised Order Dated 31.08.2018) in OA No. 606 / 2018 regarding compliance of Municipal Solid Waste Management Rules, 2016 had given several directions and constituted Apex Monitoring Committee, Regional Monitoring Committees and State Level Committees to oversee the steps to be taken to give effect to the directions of the Tribunal. Delhi was under the North Zone Regional Monitoring Committee.

In the said order following was also mentioned:

"This order will not in any manner affect the directions issued by the Hon'ble Supreme Court in SMW (C) No(s) 1/ 2015 [In Re: Outrage as Parents End Life After Child's Dengue] with regard to garbage disposal in Delhi or otherwise. This order is being passed only for giving effect to the Rules, 2016 and the pre-existing orders of the Tribunal."

With respect to said Order of Hon'ble National Green Tribunal, a State Level Committee headed by Pr. Secy (UD), GNCTD was formed vide order dated 17.10.2018.

In compliance of the directions of the Hon'ble Supreme Court Dated 17.08.2018 and 29.08.2018 in the matter of SWM (C) No (S) 1/2015 " Outrage as Parents End Life After Child's Dengue Death) regarding formation of Committee to go in depth into all aspects of Solid Waste Management in Delhi including cleaning up the dumpsites in Gazipur, Bhalswa and Okhla and to frame a workable and implementable policy, Department of Urban Development, Govt. of NCT of Delhi vide Order Dated 29.08.18 constituted a 24 members Committee under the Chairmanship of Principal Secretary (UD), Govt. of NCT of Delhi.

In view of the above mentioned orders of Hon'ble Supreme Court and order dated 12.10.2018 of Hon'ble National Green Tribunal, NCT of Delhi was excluded and was not called for subsequent meetings of the Regional Monitoring Committee for North Zone.

The geographical area of NCT of Delhi is 1483square kilometers divided in 11 revenue districts and population is about 193Lakh (Population of Delhi as per 2011 Census was 167.87 Lakhs with decadal % variation of 21.20 and Annual Exponential Growth Rate of 1.94).In addition to the above population approximately 15-20 lacs floating population is also using city civic services. This floating population comes to the city in the morning, uses city civic services throughout the day and goes back to their place outside the city in the evening. Since there is no system of charging this floating population for using facilities prevailing in the city, the Urban Local Bodies / Municipal Bodies have to bear the burden of sanitation caused by this floating population.

Responsibility of implementation of the Solid Waste Management, Rules, 2016 mainly lies with the Urban Local Bodies/ Municipal Bodies in Delhi and Urban Development Department, Govt. of NCT of Delhi. There are 5 Urban Local Bodies / Municipal Bodies in Delhi and total Quantum of Municipal Solid Waste generated in Delhi is given in Table 11

Table 11: Quantum of Municipal Solid Waste generated

S.No.	Name of Urban Local Body (ULB)	Quantum of Solid Waste (in TPD)	Quantum of C & D Waste (in TPD)	Total Waste (in TPD)
1	South Delhi Municipal Corporation (SDMC)	3600	1000	4600
2	North Delhi Municipal Corporation (North DMC)	4000	2000	6000
3	East Delhi Municipal Corporation (EDMC)	2500	700	3500
4	New Delhi Municipal Council (NDMC)	350	150	500
5	Delhi Cantonment Board(DCB)	62	50	100
	Total	10512	3900	14700

TPD - Tonnes per day.

As per the Final Report of the Committee constituted by Hon'ble Supreme Court in SWM (C) No. (S) 1 / 2015, ULB wise status of waste directly going to dumpsite is as given in **Table 12** and details of Solid Waste in various Landfill sites has been given in **Table 13**:

Table 12: ULB wise status of waste directly going to dumpsite

S. No	Name of Urban Local Body (ULB)	Waste (in TPD)	Waste Process at WTE Plant (in TPD)	Waste being processed / Centralized in Compost Plants (in TPD)	Waste being processed in decentralized Plants / Parks (in TPD)	Waste going to Landfill Sites Unprocessed (Average) (in TPD)
1	SDMC	3600	1800	200	-	1600
2	North DMC	4000	1300	700	-	2000 Bhalaswa 400 at Narela/ Bawana processed inert
3	EDMC	2500	1500	0	0	1800
4	NDMC	350	300	30	20	-
5	Delhi Cantonment Board (DCB)	62	28.83	2	6.5	24.67
	Total	10512	4928.33	932	26.5	5424.67

As per the Final Report of the Committee constituted by Hon'ble Supreme Court

Table 13: Brief of Landfill / Dump Sites in NCT of Delhi

S. No.	Name of Landfill / Dump Site	Location	Area (in Acres)	Concerned ULB	Height of Dump Site (Appx) (in Meters)	Legacy Waste (in Million Tonnes)
1	Bhalaswa (Dump Site)	North Delhi	40	North DMC	62	14
2	Ghazipur Dump Site	East Delhi	70	EDMC	65	14
3	Okhla Dump Site	South East Delhi	32	SDMC	55	5
4	Bawana (Engineered SLF)	North Delhi	100	North DMC	--	
	Total					33

Future plans of ULBs regarding handling of unprocessed waste going to the Landfill Sites is given in

Table 14

Table 14: Future plans of ULBs

S.No.	Name of Urban Local Body (ULB)	Balance Waste to be processed Waste (in TPD)	Waste to be processed at WTE Plant (in TPD)	Waste to be processed / Centralized in Plants (in TPD)	Waste to be processed in decentral ized Plants / Parks (in TPD)	Waste to Landfill Sites Unprocessed (Average) (in TPD)
1	SDMC	1600	2000 (atTehkhand)	600	200	--
2	North DMC	2000	1000	500	500	--
3	EDMC	1800	1000	700	500	--
4	New Delhi Municipal Council	--	--	100	--	--
5	Delhi Cantonment Board	4.5	Nil	Nil	1.0	19.17
	Total	5404.5	4000	1900	1201	19.17

Compost Plants

Also, there are three compost plants in Delhi as per details given below

1. Nature and Waste Management Pvt. Ltd., Bhalaswa - 500 TPD
Direction u/s 33 A of water Act has been issued.
2. IL&FS Compost Plant at Okhla - 200 TPD
Authorization under MSW Rules under Granted.
3. M/s Delhi MSW Solutions Ltd., Narela Bawana Road - 1500 TPD

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 is proposed at Tehkhand of capacity 200 TPD. Expansion of existing 2 Waste to Energy Plants at Okhla & Ghazipur are also proposed to increase their capacity. After commissioning of New WTE Plants and Expansion of existing 2 WTE Plants, capacity of WTE Plants will increase from 5250 TPD to 8950 TPD by the year 2020.

Brief information about operational Waste to Energy Plants in Delhi and proposed expansion is given in the Table 15:

Table 15: Operational Waste to Energy Plants and proposed expansion

S.No	Name of WTE	Existing Capacity		Proposed Expansion for Addl. Waste Processing Capacity (in TPD)
		Waste Processing (in TPD)	Electricity Generation (in MW)	
1	Timarpur Okhla Waste Management Company Ltd., Old NDMC Compost Site, Okhla.	1950	16	500
2	East Delhi Waste Processing Company Ltd., Ghazipur	1300	12	1200
3	Delhi MSW Solutions Ltd., Narela Bawana Road, Bawana	2000	24	----
	Total	5250	52	1700

Environmental Clearance has been granted by MoEF&CC vide letter dated 26.07.2018 after Public Hearing on 21.05.2018 for the One New Waste to Energy Plant proposed at Tehkhand of capacity 200 TPD .

As per the orders of the Hon'ble National Green Tribunal in the matter of Application No. 281 of 2016 (M.A. No. 1007/2016); Kudrat Sandhu Vs. Govt. of NCT &Ors. and application No.22 (THC) of 2013 (M.A No. 19 of 2014); 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 by the team consisting of representatives of CPCB, DPCC, MOEF&CC and IIT, Delhi is carried out once in four months, as directed by this Hon'ble Tribunal vide order dated 02.12.2016. Monitoring of the stack emissions and Ambient Air Quality is also carried out by CPCB during the inspections and report is submitted to Hon'ble National Green Tribunal. Online Continuous Emission Monitoring System has been installed by all the 3 operational Waste to Energy Plants in Delhi.

As per the Rule 18 of the Solid Waste Management Rules, 2016, "All industrial units using fuel and located within one hundred km from a solid waste based refused derived fuel plant shall make arrangements within six months from the date of notification of these rules to replace at least five percent of their fuel requirement by refused derived fuel so produced".

Wet Waste Processing (Decentralized Processing)

The collective status and time line of wet waste processing facilities are already planned and given below:

Status of South, North and East DMC
<ul style="list-style-type: none"> • 20 Plants of 1 TPD capacity organic waste composter being commissioned. Target Date : 31st March, 2019 • 10 Plants of 5 TPD capacity Bio-Methanation being commissioned. Target Date : 31st March, 2019 • 100 % on site composting by Bulk Waste Generators by December, 2019

The collective status and timeline of proposed wet processing facilities are given in **Table 16:**

Table 16: Centralized / Semi Centralized / Decentralized Bio- Degradable Waste Processing Plants:

Present Status	Proposed Bio Gas Plants
South DMC Centralized composting plant of installed capacity 200 TPD under operation at Okhla	South DMC 02 Large Bio-Gas Plants of 200 TPD each to cater Cow dung & Vegetable Markets Waste have been awarded, will be commissioned by December, 2019.
North DMC Centralized composting plant of installed capacity 700 TPD under operation at Narela Bawana	North DMC 01 Large Bio-Gas Plant of 200 TPD to cater Cow dung is under award and will be commissioned by December, 2019.
East DMC Centralized composting plant – Nil Due to non availability of suitable land.	East DMC 01 Large Bio-Gas Plant of 100 TPD to cater Cow dung and one 100 TPD Bio- degradable MSW based Bio Gas Plant will be commissioned by December, 2019.

Construction and Demolition Waste

Approximately 3900 TPD of Construction and Demolition Waste (C& D Waste) is generated in Delhi. The existing capacity of Construction and Demolition Waste Processing / Recycling Plants in Delhi and details of existing and proposed C & D plants are given in Table 17 & 18 respectively :

Table 17: Existing Construction and Demolition Waste Processing / Recycling Plants

S. No.	C& D Waste Processing Facility	Existing Capacity (in TPD)	Proposed Expansion for Additional Waste Processing Capacity (in TPD)
1	North DMC Construction and Demolition Waste Processing Facility at Jahangir Puri (Being operated by IL&FS)	2000	---
2	East DMC Construction and Demolition Waste Processing Facility at Shastri Park (Being operated by IL&FS)	500	500 (by June, 2019)
3	DMRC Construction and Demolition Waste Processing Facility at DMRC Site Rani Khera (Being operated by IL&FS)	150	---
	Total	2650	500

Table 18: Proposed New Construction and Demolition Waste Processing Facilities

S.No	Proposed Site of C& D Waste Processing Facility	Proposed Waste Processing Capacity (in TPD)
1	Bakkarwala (South DMC)	500 (by June, 2019) (expanding upto 1000 TPD)
2	Maidangarhi (South DMC)	1000 (by December, 2019)
2	Ranikhera (North DMC)	1000 (by March, 2019)
4	Libaspur(PWD)	500
	Total	3000

Door to door collection of waste has been started in most of the zones of Municipal Corporations which will facilitate in proper collection, transportation and disposal.

The Committee constituted by Hon'ble Supreme Court in SWM (C) No. (S) 1 / 2015 after discussions have decided timelines for segregation of MSW at source. The Committee felt that this involves major behavioral changes both in the public and within the ULBs. The Committee analyzed the territorial variations of Settlement Pattern within ULBs for which targeted approach / strategy has to be formed by ULBs. These are

- CGHS and Bulk Generators.
- Planned Colonies
- Unplanned Colonies
- JJ Clusters

The timelines are given in the said Final Report of the Committee for ULBs for targeted areas of settlements for achievement of segregation of MSW. Besides above, points for action by ULBs & other concerned Agencies alongwith timelines are summarized in the Table given in said Final Report of the Committee including following :

- Preparation of Plan of Action (PoA) for segregation of waste in consultation with RWAs
- Preparing comprehensive Media campaign, followed by use of penal powers,
- Involvement of RWAs,
- Separate Plan of Action for above mentioned categories,
- Observing timelines submitted before the Hon'ble Supreme Court for achieved higher percentage of segregation,
- Segregation at Source and Home Composting in consultation with RWAs to be made integral part of Plan of Action,
- Composting in Neighborhood Parks,
- Re-purposing of Dhalaos,
- Observing the standards in Waste to Energy (WTE) Plants as per norms of DPCC / CPCB
- Achievements of Slope Stabilization Plan Timelines for Landfill Sites,
- Help Removal of Dumps of EDMC by NHA1 as per MOU signed on 27.11.2016,
- Finance and User Fee Charges,
- Savings in Expenditure for Segregation of MSW , some related issues and benefits of segregation,
- Extended Producer Responsibility (EPR),
- Need for making Legislation to make Multi Layer Packaging (MLP) Recyclable,
- Ban on Single Use of PVC and Plastic Products,
- Constitution of Safai Nigrani Samiti (SNS) and
- Inclusion of Informal Sectors and Preparation of Identity Cards after Police Verification.

Delhi has 33 Million Tonnes of Legacy waste at 3 Dump Sites (Okhla, Ghazipur & Bhalaswa). For Slope Stabilization & remediation of these 3 Dump Sites, IIT Delhi has been engaged as a consultant.

Urban Development Department, Govt. of NCT of Delhi, has notified State Policy and Solid Waste Management Strategy for Delhi on 03.11.2017, as per Rule, 11 of the Solid Waste Management Rules, 2016.

Government of NCT of Delhi, has also notified Bye –Laws for Management of Solid Waste on 15.01.2018 in respect of all the 5 Urban Local Bodies (North DMC, South DMC, East DMC, New Delhi Municipal Council and Delhi Cantonment Board) in NCT of Delhi. In these Bye–Laws, there is provision of levying user fee and penalty charges.

Hon'ble Supreme Court and Hon'ble National Green Tribunal both are monitoring the Municipal Solid Waste Management and implementation of the concerned Solid Waste Management Rules, 2016 in Delhi .

As per the directions of the Hon'ble National Green Tribunal vide order dated 20.08.2018 (Revised Order Dated 31.08.2018) in OA No. 606 / 2018 regarding compliance of Municipal Solid Waste Management Rules, 2016 ,State Level Committee headed by Chief Secretary, Govt. of NCT of Delhi has been constituted vide office order dated 15.02.2019 and Special Task Forces (STF) for each District has been constituted vide office order dated 07.03.2019.

Necessary action is being taken/ shall be taken as per the orders of Hon'ble Supreme Court and Hon'ble National Green Tribunal in the above mentioned cases related to Municipal Solid Waste Management in Delhi.

Chief Secretary of Delhi has issued an order dated 09.01.2019 for the prevention of dumping of solid waste, sewage and industrial waste into the drains and concerned Executive Engineers of various Departments viz. North Delhi Municipal Corporation, South Delhi Municipal Corporation, East Delhi Municipal Corporation, New Delhi Municipal Council, Delhi Cantonment Board, Irrigation & Flood Control Department DSIIDC, PWD , Delhi Jal Board , DUSIB etc have been made responsible for prevention of dumping of solid waste, sewage and industrial waste into the drains. Principal Secretary (UD), GNCTD has also issued detailed instructions vide order dated 15.01.2019 including directions for imposing the Environmental Compensation of Rs. 50000 on the violators for the prevention of dumping of solid waste , sewage and industrial waste into the drains. Urban Development Department, GNCTD shall receive, collect and collate monthly information on ward wise fines imposed etc. in the proforma devised by the Monitoring Committee and submit to the Monitoring Committee by the 15th of every month.

Irrigation and Flood Control Department (IFCD) has provided 87 floating booms at different locations owned by IFCD. Additionally, 19 locations have been identified by IFCD for providing booms/screens to trap floating solid waste. IFCD has plans to undertake in-situ treatment of waste water in drains and Six drains namely, Rajokari , Mungeshpur, Jatkhore, Ladpur, Bajitpur and NangalThakran link drain along with irrigation minors carrying surplus irrigation waters from Haryana. This will help recharge ground water. The IFCD has already decided to invite RFP for Technical Consultancy for this activity and Consultant has been hired in this regard.

E-Waste:

- Ministry of Environment, Forest and Climate Change has notified amended E-waste (Management) Rules, 2016 on 23.03.2016 which are effective from 01.10.2016.

- Responsibilities of Manufacturers, Producers, dealers, collection centers, dismantlers, refurbishers, recyclers as well as bulk consumers of e-waste have been specifically defined.
- According to the E-waste (Management) Rules, 2016 every **producer** of electrical and electronic equipment listed in Schedule-I, can apply for **Extended Producer Responsibility (EPR)** in Form-I and obtain **authorization from CPCB**. As well as maintain records in Form-2 and shall file returns of previous year in Form-3 to CPCB on or before 30th day of June every year.
- Extended Producer Responsibility (EPR) authorization is given to the producers on pan India basis for a period of five years. While submitting application for EPR, the producer has to submit detailed plan for collection including, mode of collection and details of collection points and the agency responsible for the collection. **Delhi Pollution Control Committee is responsible for checking the compliance of the conditions laid down in the EPR authorization in respect of NCT of Delhi.**
- **Dismantler, manufacturers and refurbishers** can obtain Authorization from concerned State Pollution Board/Committee. According to Master Plan of Delhi 2021, recycling is not allowed in NCT of Delhi. Authorization to stand alone collection centers is not to be given as per the Rules.
- A Committee was constituted under the chairmanship of Shri D K Singh (SEE) and Members from CPCB, Chintan (NGO) and Toxic Link (NGO) for discussing the issue of permitting dismantling activity in NCT of Delhi keeping in view the provisions of Master Plan of Delhi-2021. The Committee recommended the grant of permission for the activity of '**Manual Dismantling**'. The activity has been categorized under green category.
- **Refurbishers** of E-waste only can apply in form-I and obtain authorization from State Pollution Board i.e. DPCC in Form-I, as on date **Authorization has been given to 4 refurbishers.**
- As per the new Rules, Collection Centre means a centre or a collection point established by Producer individually or as association jointly to collect e-waste for channelizing the e-waste to recycler and

play such role as indicated in the authorization for Extended Producer Responsibility granted to the Producer and having facilities as per the guidelines of Central Pollution Control Board, including the collection centre established by the dismantler or refurbisher or recyclers which should be part of their authorization issued by the State Pollution Control Board. These collection centers can also collect e-waste on behalf of dismantler, refurbisher and recycler including those arising from orphaned products. These collection centers/agencies specified in EPR are only required to collect e-waste from the state indicated against the said collection centre/agency.

- The duties of the Authorities have been specified under Schedule IV of the Rules. The duties of the State Board/ committee (DPCC in this case) alongwith the steps taken for compliance given in Table 19:

Table 19: Duties of DPCC

Sr No.	Duties of State Board/ Committee	ATR
1.	Inventorization of E-Waste	Public Notice for inviting Expression of Interest has been forwarded to Env. Department for publishing. It is still under process.
2.	Grant and renewal of Authorization to manufacturers, Dismantler, Recycler and Refurbisher.	Authorization to 4 Refurbishers have been granted. The issue of allowing Manual Dismantling has been approved. However, no dismantler has applied for authorization in DPCC. No manufacturer has applied for authorization in DPCC. Recycling units are not allowed in Delhi as per MPD, 2021
3.	Monitoring and compliance of Extended Producer Responsibility- Authorization as directed by Central Pollution Control Board and that of Dismantler, Recycler and Refurbisher authorization	A list of EPR authorizations issued by CPCB was received vide letter dated 29.01.2019 in two DVDs for monitoring the conditions of EPR authorization and EPR plan. In this regard, DPCC has planned to monitor the EPR authorization issued by CPCB and prepared format for inspection report for the same. Now, the inspections have been started and further action as per law shall be initiated

4.	Conduct Random inspection of Dismantler or Recycler or Refurbisher	No Dismantlers have applied for Authorization till now. The activity of Recycling is not permitted in NCT of Delhi. As of now authorization has been granted to 4 refurbishers. Inspections shall be taken shortly.
5.	Maintain online information regarding authorization granted to manufacturer, Dismantlers, Recyclers and Refurbishers	Shall be complied
6.	Implementation of Programs to encourage environmentally sound recycling	--
7.	Action against violations of these Rules.	Matter is under consideration.
8.	Any other function delegated by the Ministry under these Rules.	--

Plastic Waste:

Govt. of Delhi imposed ban on manufacture, sale, storage, usage, import and transport of all kinds of plastic carry bags in NCT of Delhi vide Notification dated 23.10.2012. This notification was challenged in the Hon'ble High Court of Delhi by All India Plastic Industries Association (WPC 7012/2012). On 05.12.2016, Hon'ble High Court of Delhi transferred the matter to the Hon'ble NGT. Hon'ble High Court directed the respondents not to take any coercive steps for implementation of the said Notification for a period of eight weeks from today or till appropriate order is passed by NGT. The matter is being defended as OA 4 (THC)/2017 in the Hon'ble NGT.

However, vide an interim order dated 10.08.2017 Hon'ble NGT directed that there shall be complete prohibition on use of less than 50 micron non-compostable plastic carry bags in the NCT of Delhi and also directed that the defaulters shall be liable to pay Rs 5000/- per default as Environmental

compensation. Teams of officers from Revenue Department, NDMC, 3 MCDs, DPCC and Delhi Cantonment Board are implementing the said NGT directions in their respective areas of jurisdiction.

In compliance to order dt. 10.08.2017 in RA 1/2017 in OA 281/2016 and OA 04/2017, consolidated status of action taken report (prepared on the basis of Action Taken reports of the Revenue Department, NDMC, 3 MCDs, DPCC and Delhi Cantonment Board) in respect of seizure of less than 50 micron upto 28.02.2019 (copy enclosed) shows that 41970 kg of less than 50 micron plastic carry bags have been seized, 3760 challans have been issued and Rs. 6405000/- have been collected as environmental compensation.


Matter was listed on 01.08.2018 and Hon'ble NGT has adjourned the matter sine die, since some issues are pending in the Hon'ble Supreme Court of India to decide. Further, Ministry of Environment, Forests and Climate Change, Govt. of India has notified the Plastic Waste Management Rules 2016 which entrust the responsibility for plastic waste management with the Urban Development Department and Urban Local Bodies.

Constitution of Committees: -

- *Status of the Action Plan in compliance vide order dated 20.09.2018 in the News Item published in "The Hindu" authored by Shri Jacob Koshy titled "More river stretches are now critically polluted: CPCB (Original Application No. 673/2018).....".* In compliance of the order dated 20.09.2018, the River Rejuvenation Committee (RRC) for Delhi has been constituted vide order dated 22.10.2018 for preparation of the action plan for rejuvenation of 22 km stretch of river Yamuna (Wazirabad to Asgarpur village). The Action Plan of RRC duly approved by the Chief Secretary and Hon'ble Minister (Env.), GNCTD has been submitted to CPCB on 30.01.2019. A presentation on the Action Plan has also been made before CPCB on 12.02.2018.

- As per the order of Hon'ble National Green Tribunal dated 08.10.2018 in O.A No. 681/2018 in the matter of: News Item Published in the Times of India Authored by Shri. Vishwa Mohan Titled "NCAO with Multiple Timelines to clear Air in 102 Cities to be released around August 15", an Air Quality Monitoring Committee (AQMC) was constituted. As per the order, AQMC had to prepare appropriate action plans within two months aimed at bringing the standards of air quality within the prescribed norms within six months from date of finalization of the action plans as per directions contained in the order. Accordingly, Action plan was finalized and sent to CPCB on 19.12.2018. CPCB has approved the Action Plan with minor suggestions.
- *Status of the work in compliance of the directions passed in O.A. No. 173 of 2018, Sudarsan Das Vs. State of West Bengal & Ors. Order dated 04.09.2018.* Subsequent to the constitution of District Level Environment Impact Assessment Authority (DEIAA) by Ministry of Environment, Forest and Climate Change Vide Notification dated 20.01.2016; no mining lease has been awarded in Delhi .

NGT Matter /Top Priority

	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	1359
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File No.: DPCC/(13)(11)(92)/plg/2010/2437-2466

Dated: 28/02/2019

Office Order

In pursuance to the Order of Hon'ble NGT dated 13.12.2018 in the O/A No. 1038/2018 (copy enclosed), Chief Secretary, Govt. of NCT of Delhi has constituted a committee under the Chairmanship of Secretary (Env)-cum-Chairman, DPCC with Director, Environment as Member Convenor to finalise the time bound Action Plans with regard to identified polluted Industrial Cluster in accordance with the revised norms laid down by CPCB to restore Environmental qualities with following members:

1. Nominee, South MCD – Member
2. Nominee, North MCD – Member
3. Nominee, East MCD – Member
4. Nominee, Delhi Cantonment Board – Member
5. Nominee, New Delhi Municipal Council – Member
6. Nominee, Forest Department – Member
7. Nominee, Central Pollution Control Board – Member
8. Nominee, Delhi Jal Board – Member
9. Nominee, DSIIDC – Member
10. Nominee, Revenue Department – Member
11. Nominee, Traffic Police – Member
12. Nominee, Transport Department – Member
13. Nominee, Civil Supplies Department – Member
14. Nominee, VAT Department – Member
15. Nominee, Ministry of Petroleum and Natural Gas – Member
16. Nominee, DMRC – Member
17. Nominee, DDA – Member
18. Nominee, PWD – Member
19. Nominee, CPWD – Member
20. Nominee, NBCC – Member
21. Nominee, Irrigation & Flood Department – Member
22. Nominee, Industrial Association – Member
23. Nominee, CETP Society – Member

You are requested to nominate officer well conversant on the issue, within a week. The Action Plan is to be prepared on urgent basis on top priority.


 (S.M. Ali)
 Member Secretary, DPCC

Enc: As above

To

1. The Commissioner, South Delhi Municipal Corporation, Dr. S.P.M. Civic Centre, Minto Road, New Delhi 100 002
2. The Commissioner, North Delhi Municipal Corporation, Dr. S.P.M. Civic Centre, Minto Road.

3. The Commissioner, East Delhi Municipal Corporation, 419, UdyogSadan, Patparganj Industrial Area, New Delhi - 110 096.
4. Chief Executive Officer, Office of Cantonment Board, Sadar Bazar, Delhi Cantt-10.
5. The Chairman, New Delhi Municipal Council, Palika Kendra, Parliament Street, New Delhi-110001
6. Additional Principal Chief Conservator of Forests, Department of Forests and Wildlife, Govt. of NCT of Delhi, Vikas Bhawan A-Block, 2nd Floor, I.P. Estate, New Delhi-110002
7. The Member Secretary, Central Pollution Control Board, Parvesh Bhawan, East Arjun Nagar, Delhi-110032
8. The Chief Executive Officer, Delhi Jal Board, Varunalya, Jhandewalan New Delhi-110005
9. The Managing Director, Delhi State Industrial & Infrastructure Development Corporation Ltd. N-36, Bombay Life Building, Connaught Circus, New Delhi - 110001)
10. The Commissioner (Revenue), 5, Sham Nath Marg, Delhi-110054
11. The Secretary, Public Works Department (PWD), Public Works Department, 12th Floor, MSO Building, I.P. Estate, New Delhi.
12. The Joint Commissioner of Police, Delhi Traffic Police, Police Headquarters, ITO, New Delhi-110002The
13. Commissioner of Transport, Transport Department, Govt. of NCT of Delhi, 5/9, Under Hill Road, Delhi-54.
14. The Commissioner of VAT, Value Added Tax Department, Bikrikar Bhawan, I P Estate Near Police Headquarters, ITO, Delhi - 110002
15. The Additional Secretary & FA, Ministry Of Petroleum & Natural Gas, Government Of India, Shastri Bhawan, New Delhi - 110001
16. The Managing Director, Metro Bhawan Fire Brigade Lane, Barakhamba Road, New Delhi - 110001, India
17. The Vice Chairman, Delhi Development Authority (DDA), C-3 Block, G.F, Vikas Sadan, INA, New Delhi-110023
18. The Secretary, Public Works Department (PWD), PWD Headquarters, 12th Floor, MSO Building, I.P. Estate, New Delhi.
19. The Directorate General, CPWD, A-Wing, Room No.- 111, Nirman Bhawan, New Delhi-110011
20. The Executive Director, NBCC, Nirman Bhawan, New Delhi-110011
21. The Chief Engineer(J&FC) Irrigation and Flood Department, L.M.Bund Office Complex, Shastri Nagar, Delhi
22. President, All Industrial Association
23. President, All CETP Society.


Copy to

1. Director Environment
2. P.S. to Chief Secretary, NCT of Delhi -for the kind information to Chief Secretary
3. P.S to Secretary (Env)-cum-Chairman, DPCC - for kind information to Secretary (Env)-cum-Chairman, DPCC
4. All Cell Incharges, DPCC
5. Admin Officer, DPCC
6. Accounts Officer, DPCC
7. Legal Officer, DPCC

(S.M. Ali)

ANNEXURE-II

NGT Matter /Top Priority

	<p>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</p>
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File No. DPCC/(13)(11)(92)/plg/2010/2517 - 18

Dated 08.03.2019

Office Order

In pursuance to the Order of Hon'ble NGT dated 13.12.2018 in the O/A No. 1038/2018 (copy enclosed), Chief Secretary, Govt. of NCT of Delhi has constituted a committee under the Chairmanship of Secretary (Env)-cum-Chairman, DPCC with Director, Environment as Member Convenor to finalise the time bound Action Plans with regard to identified polluted Industrial Cluster in accordance with the revised norms laid down by CPCB to restore Environmental qualities vide Office Order No. DPCC/(13)(11)(92)/plg/2010/2437-2466 dated 20.02.2019. Now, Dr. Chandra Prakash, SEE (CMC-II) is nominated as Member Convenor of the Committee constituted vide Office Order dated 20.02.2019 and Director (Environment) is nominated Member of Committee from Department of Environment, Govt. of NCT of Delhi.


(S.M. Ali)

Member Secretary, DPCC

To

1. Director Environment, Govt. of NCT of Delhi
2. Dr. Chandra Prakash, SEE (CMC-II)

Copy to

1. P.S to Secretary (Env)-cum-Chairman, DPCC - for kind information to Secretary (Env)-cum-Chairman, DPCC

ANNEXURE-III

ANNUAL AVERAGE of CETP (During 2018)

S.No	Parameter	GTK CETP	BADLI CETP	BAWANA CETP	JHILMIL CETP	LAWRENCE ROAD CETP	MAN GOLF URI CETP	NANGLOI CETP	NARAYANA CETP	NARELA CETP	OKHLA CETP	SMA CETP	WAZIRPUR CETP	MAYAPURI CETP	
1	pH	6.46	2.91	7.25	7.25	7.22	7.16	6.86	7.06	7.32	6.92	6.64	6.64	7.19	
2	TSS	45.63	47.42	75	96.5	72.85	74	82.36	44	69	108	74.5	75	56.5	
3	COD	95.27	125.33	95.66	120	103.71	90.9	101.81	86.54	89.33	126.4	93.66	84.33	98.3	
4	BOD (3 days)	27.81	36.66	28	34.58	29.14	27.09	29.36	25.63	28.25	34.2	24.41	20.5	28.91	
5	Ni	1.67	1.22	1.45	1.52	1.33	1.42	1.41	1.36	1.4	1.73	1.71	1.59	1.51	
6	Cu	0.42	0.41	0.32	0.28	0.31	0.33	0.38	0.38	0.27	0.4	0.57	0.42	0.36	
7	Zn	0.52	0.41	0.46	0.53	0.22	0.47	0.46	0.47	0.47	0.49	0.57	0.51	0.45	
8	Cr (Total)	0.82	1.51	0.66	0.6	0.72	0.68	0.58	0.6	0.74	0.89	0.68	1.84	0.69	
9	Pb	0.83	0.07	0.05	0.1		0.05	0.1		0.08	0.11	0.09	0.068	0.09	
10	Cl	927.72	505	682.08	866.25	1072.14	510	955	757.27	813.33	677	873.75	882.91	464.16	
11	SO ₄	57.76	54.3	57.06	57.98	57.07	57.76	56.37	56.35	58.08	57.28	57.28	59.6	60.19	
12	Cd	0.52	0.46	0.36	0.93	0.26	0.39	0.36	0.4	0.36	0.37	0.51	0.55	0.44	
13	Oil & Grease	2.67	2.13	2.3	2.5	2.28	2.98	2.25	2.14	2.46	3.68	2.7	2.03	2.63	
14	TDS	1847.27	1900	2056.66	1786.66	1550	2403.63	2052.72	807.72	1997.5	1854	2094.16	2221.66	1500.8	
15	Ammonical Nitrogen as N	37.93	39.6	43.46	35.74	35.88	36.48	36.17	34.85	36.55	35.84	38.85	37.65	46.85	
16	Fluoride														
17	Sulphide	1.2	1.23	1.33	1.05	1	1.39	1.08	1.26	1.31	1.3	1.46	1.25	1.26	

Average River Data (During2018)

S.No.	LOCATIONS	pH	COD (mg/l)	BOD (mg/l)	DO (mg/l)
	Water Quality Criteria (‘C’ Class)	6.0- 9.0	-	3(max)	4(min)
1	Palla	7.51	7.63	1.95	7.49
2	Surghat	7.46	13.81	3.35	6.86
3	Khajuri Paltoon Pool	7.32	97.45	32.45	0.55
4	Kudesia Ghat	7.26	84.90	27.63	3
5	ITO Bridge	7.41	76.54	24.45	0.2
6	Nizamudin Bridge	7.4	77.09	24.36	1.5
7	Agra Canal Okhla	7.4	75.63	24.45	NIL
8	Shahdara (Down Stream)	7.3	96	29.63	0.92
9	Agra Canal Jaitpur	7.39	81.45	25.54	NIL

AVERAGE DRAIN DATA (During 2018)

S.No.	Major Drains	pH	TSS	COD	BOD
	Standards	5.5- 9.0	100 (mg/l)	250 (mg/l)	30 (mg/l)
1	Najafgarh Drain	7.40	118.36	133.45	44.54
2	Metcalf House Drain	7.33	79.27	79.27	25.27
3	Khyber Pass Drain	7.33	70.90	84.18	26.36
4	Sweeper Colony Drain	7.39	70.72	78	24.90
5	Magazine Road Drain	7.3	127	114.8	37.4
6	ISBT Drain	7.46	96.90	112.36	36.09
7	Tonga Stand Drain	7.43	146	130.18	41.72
8	Moat Drain	No flow	No flow	No flow	No flow
9	Civil Mill Drain	7.33	105.09	125.27	43.09
10	Power House Drain	7.30	110.36	134.90	44.63
11	Sen Nursing Home Drain	7.28	196.72	261.81	89.81
12	Drain No. 12A	No flow	No flow	No flow	No flow
13	Drain No. 14	7.41	76.18	83.81	26.36
14	Barapulla Drain	7.40	129.63	140.72	45.36
15	Maharani Bagh Drain	7.39	224.90	330.18	107.36
16	Kalkaji Drain	No flow	No flow	No flow	No flow
17	Sarita Vihar Drain (Mathura Road)	7.50	145.81	129.45	42.18
18	Tekhhand Drain	7.34	169.81	287.09	93.63
19	Tuglakabad Drain	7.49	238.54	261.81	97.54
20	Drain Near LPG Bottling Plant	No flow	No flow	No flow	No flow
21	Drain Near Sarita Vihar Bridge	7.32	127.63	155.09	51.09
22	Shahdara Drain	7.36	316.18	389.81	128.68
23	Sahibabad Drain	7.43	326.54	495.27	164.54
24	Indrapuri Drain	7.35	229.45	348.72	113.63

CHAPTER 3

ACTION PLAN

ACTION PLAN: AIR

➤ Air Quality Monitoring

- DPCC has set up 26 real time monitoring stations apart from 14 air quality monitoring stations that are operated by Central Pollution Control Board (CPCB) and Ministry of Earth Sciences (MoES) with continuous relay of information.
- A real-time source apportionment study in partnership with the University of Washington is proposed and it will carry out near-continuations analysis of factors causing pollution on a regular basis.
- RFP is being prepared to provide a dedicated information system showing current levels of pollution by installing 1000 indoor display panels inside all Governments building that are dealing with the public.
- NCR-wide air quality monitoring expansion
- Undertake satellite-based monitoring for tracking and enforcing agriculture waste burning

➤ Action to reduce vehicular emissions

- Ensure on-schedule implementation of BS VI fuel and emission standards
- Action on Dieselization
- Expand CNG programme across NCR
- Introduce battery-operated vehicles
- Install vapour recovery systems in fuel refuelling outlets to reduce benzene emissions in NCR
- Auditing of Pollution under Control (PUC) certification centres
- Tighten PUC norms for post 2000 vehicles. Upgrade in-use emissions testing for diesel vehicles.

- Implementation an on-board diagnostic system fitted in new vehicles inspection.
- Link PUC certificates with annual vehicle insurance to ensure 100 per cent compliance
- Enforcement of law against visibly polluting vehicles.
- Delhi to review and upgrade Burari commercial vehicle testing centre
- Ensure requisite infrastructure for hydro testing of CNG cylinders in Delhi and NCR
- Divert truck traffic
- Check overloading
- Fast track construction of Western and Eastern Peripheral Expressways
- Inter-state freight transport plan
- Fuel quality: Prepare an action plan to check fuel adulteration and random monitoring of fuel quality data.

➤ **Strategies to reduce vehicle numbers on roads**

- Improvement in bus numbers and services
- Implement the recommendations of Route Rationalization Report of GNCTD
- Reform of DTC and Cluster Bus Operations – modernize fleet and crew scheduling process of DTC, install GPS units on DTC buses and create a traffic control cell for monitoring bus movement, rationalize scheduling of buses under DTC and cluster scheme
- IT system in buses, bus- stops and control centre and passenger information systems for reliability of bus services, and service monitoring
- Bus parking should be made integral to urban planning. Multi-level bus parking to be provided in depots to more efficiently use available land area.
- Need bus fare policy to ensure that it is affordable and remains competitive *vis-a-vis* the operational cost of two- wheelers.
- Enforce bus lanes and keep them free from obstruction and encroachment
- Augmenting the service of Metro for carrying more passengers

- Three-wheelers: Implement electro-mobility for three-wheelers to make them zero emission as efficient feeder system for last mile connectivity and integration with bigger public transport systems. Organise their services for efficient deployment.
- BRTS / LRTS to be implemented in targeted high frequency routes and complemented with bus services with proper integration of routes, stations and terminals
- Fare integration and common ticketing; bring ETVMs into all DTC buses. Common mobility cards to be the mandatory access card for buses
- Implementation of multi- modal integration plan for bus-Metro IPT-NMT at key/ all interchange points
- Demarcation and development of Influence Zones around Metro stations as per MPD-2021 to improve access to the public transport system
- Proper regulations and organization including providing driver-training, certification, etc. for cab and auto-rickshaw drivers
- NCR connectivity for public transport – need bus and Metro plans
- Rationalize entry taxes in NCR under the NCR reciprocal agreement to lower costs of travel by public transport
- Integrate ITS in bus systems in cities in NCR (automated vehicle location, passenger information system, fare collection system)
- Regional Rapid Transit System (RRTS) integrated with local transit systems should be implemented to provide seamless connectivity between regional and sub-regional centres of NCR
- Integrated passenger terminals to be created with mixed use and multi- modal facilities for passenger comfort, integrating regional and local public transit systems
- Implement traffic impact assessment of infrastructure project for planning and management

➤ **Non- Motorized transport (NMT) network**

➤ **Parking policy to reduce congestion and pollution**

➤ **Enforcement and Management**

➤ **Parking pricing and penalty**

➤ **Traffic management**

- Introduce early alarm system during traffic congestion for the benefit of commuters on major routes, to facilitate route diversion
- Consider introducing plan for flexi / staggered timings to minimize peak movement of vehicles on-roads.
- Synchronize traffic movements / introduce intelligent traffic systems for lane- driving
- Formulate action plan for controlling decongestion of fuel stations including increasing the number of dispensing machines.
- Electronic monitoring of traffic violations
- Examine existing framework for removing broken down buses / trucks from roads and create a system for speedy removal and ensuring minimal disruption to traffic from such buses/ trucks.
- Conduct audit of traffic intersections and install functional traffic signals at all major intersections in all NCR cities.
- Conduct review of traffic signalling system at all intersections in Delhi / Noida and Gurugram and other NCR towns that are traffic hotspots and bring requisite changes to reflect the traffic movement pattern at intersections.
- Enforce lane driving through heavy fining as in Mumbai

➤ **Power plants and industries**

- Permanent closure of Badarpur Power Plant after commissioning of the Tughlakabad sub-station or move towards cleaner natural gas. (Badarpur Power Plant closed permanently w.e.f. 15.10.2018)
- Closure of Badarpur during peak winter months when Graded Response Action Plan is in force.(Badarpur Power Plant closed permanently w.e.f. 15.10.2018)
- Monitoring of fly ash pond at Badarpur, particularly during summer months to control fugitive dust.

- Plan for site restoration of over 60 ha fly ash pond of Badarpur
- Time-bound action based on plan for restoration of fly ash pond land area.
- Move to full utilization of the cleaner natural gas- based Bawana station for power supply to Delhi.
- Progressively close the older and more polluting thermal power plants in NCR and to move to cleaner natural gas.
- Urgent ban on furnace oil, pet coke, which are dirty industrial fuels with high sulphur and heavy metals.(Govt. of Delhi issued notification for approved fuel in Delhi in June, 2018)
- Strict enforcement against illegal use of such fuels, including fuels which do not have specifications laid down or are included in the acceptable fuels as mandated by state pollution control boards.
- Strict enforcement of Air Pollution Control Measures in all industries includes those located in unauthorized areas.
- Stop unrestricted import of such fuels, which are high in pollution because of high Sulphur or toxins
- Ensure that the sale, transportation and distribution of such fuels follows CMVR strictly for hazardous goods and ensure that there is no sale in restricted regions.
- Ensure calibration and working of Continuous Emission Monitoring System (CEMS) in all industries in NCR and provide information to monitoring agencies to begin and work out how this information can be provided to public as this will ensure that the system is operational.

➤ **Incinerators**

- Implementation emission norms for incinerators and examine the feasibility of less polluting alternatives.
- Implement CEMS for incinerators and provide data on emissions on an open platform progressively
- Develop a siting policy for biomedical incinerators.

➤ **Waste-to-Energy plants**

- Strict implementation of emission norms, use state of the art technology and provide emission data to State Pollution Control Boards
- Develop a sitting policy for waste to energy plants

➤ **Generator sets**

- Ensure that only those DG sets that meet the standards are allowed to operate.
- Operating time of DG sets should be regulated according to graded action plan.
- Only approved fuel should be allowed
- Non-usage of DG sets in social events as per graded action plan
- Alternate power systems should be promoted in cell towers, and use of DG sets discouraged

➤ **Open burning (including solid waste and agricultural residues)**

- SC order dated 16.12.2015 has directed a complete ban on garbage burning in the entire NCR region
- Ensure proper collection of horticulture waste (biomass) and composting-cum-gardening approach; municipal zonal offices should be responsible for controlling burning of leaves and garbage on roads / parks.
- Implement citizen reporting app -- reporting of garbage / municipal solid waste burning through mobile- based applications and other social media platforms linked with Central and state-level control rooms for accountability

➤ **Regional problem and Biomass Burning**

- Ensure strict enforcement of ban on burning of agriculture waste and crop residues in Punjab and Haryana.

- To increase subsidy for purchase of equipment that eliminates the need for burning stubble and straw.
 - Enforce the series of directives from the Hon'ble Supreme Court and NGT on ban on agricultural burning and recycling and reuse of this waste.
- **Episodic events**
- Fire crackers -- Implement and monitor the SC order of September 12, 2017 & its subsequent orders in Oct, 2018.
- **Domestic chulha burning and open eateries**
- In slums and low-income neighbour hoods; as well as roadside eateries/dhabas/ restaurants etc promote and give access to LPG and electricity. Link commercial license to clean fuels.
 - Prohibit use of coal in hotels and restaurants, eliminate use of kerosene for cooking in NCR and incentivize move to LPG.
 - A targeted programme can be developed with the Union Ministry of Petroleum and Natural Gas for wider distribution of LPG.
- **Control measures of Road Dust**
- SC direction dated December 16, 2016 has directed repair and building of pavements and vacuum cleaning of roads.
 - Enforcement of air pollution control in concrete batching (use of water spray and wind breakers, bag filter at silos and enclosures, hoods, curtains etc)
- **Control measures for construction dust**
- SC order dated 16.12.2015 directed the Delhi Govt. to ensure measures are taken to mitigate dust pollution from construction
 - For material handling and construction demolition, it should be obligatory on part of the developers to provide evidence of debris disposal at designated sites. Promote recycling of construction material

(SW)

T. Phos, T NH₄-N, BOD

(GW)

T. Hard, TDS, Fe

ACTION PLAN: WATER

➤ UPGRADATION/ REHABILITATION OF STPs

Some of the STPs are designed only to achieve BOD/TSS standards of 30/50 mg/L even though DPCC has laid down standards of 10/10 mg/L for the treated waste water in the STPs. The DJB has planned Rehabilitation/ Upgradation of STPs which have either outlived their prescribed life or are otherwise not meeting their design parameters. A total of 11 STPs of capacity 279 MGD are under upgradation or planned to be upgraded as per the details given in Table 1.

Table 1: List of STPs being rehabilitated/ upgraded

S.n o.	Location	Capacity	Target date of completion	Remarks
				On commissioning, STP at S.No. of Table 3 will be de-commissioned
1.	Kondli STP Phase I	10 MGD	March 2020	Are being rehabilitated under YAP-III. On commissioning of Phase -II, S.No. 8 of Table 3 shall be de-commissioned.
2.	Kondli STP Phase II	25 MGD	July 2022	
3.	Kondli STP Phase III	10 MGD	Dec. 2019	
4.	Yamuna Vihar STP Phase II	10 MGD	March 2020	Shall be rehabilitated and upgraded from funding under AMRUT
5.	Okhla STP	30 MGD	December 2021	Presently the STPs is closed and

	Phase I			not in the list of functioning STPs in Table 3. A new STP of combined capacity of 124 MGD shall be constructed in place of Phase-I, II, III & IV under YAP – III.
6.	Okhla STP Phase I	12 MGD	December 2021	Sr.No.2 (Phase-II, III & IV) of Table 3 will be decommissioned. A new STP of combined capacity of 124 MGD shall be constructed in place of Phase-I, II, III & IV under YAP – III. On commissioning of Phase – II, III, IV S.No. 3,4,5 of Table 3 shall be de-commissioned.
7.	Okhla STP Phase III	37 MGD	December 2021	
8.	Okhla STP Phase IV	45 MGD	December 2021	
9.	Rithala Phase I	40 MGD	14.12.2021	Is being rehabilitated under YAP – III. On commissioning of Phase – I, S. No. 1 of Table 3 shall be de-commissioned.
10.	Keshopur Phase –II	20 MGD	31.03.2020	The appointment of consultant for conditional assessment of existing equipment of 20 & 40 MGD STP is being processed, who will work out short term and long term measures to improve treated effluent parameters as per design limits
11.	Keshopur Phase –III	40 MGD		

				<p>and other related works, likely to be appointed within 03 months. DPR, administrative approval will be taken in another 03 months and work is likely to be awarded by July, 2019. For short term measure plant will be ready by March, 2020. For long term measure plant will be commissioned with treated effluent parameter as 10/10 BOD/TSS, micronutrient and pathogen removal by July, 2022. On commissioning of Phase-II, III, S.No.11, 12 of Table 3 shall be die-commissioned.</p>
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Table 2 : Status of sewage Treatment in Delhi with Timelines

S.No.	Description	Dec-18	June-19	Dec-19	Dec-20	Dec-21
1	Sawage generated in Delhi (MGD) as per water supply by DJB	720	720	720	720	720
2.	Sewage treatment capacity (MGD)	607	657	657	657	707
3.	Sewage treatment (MGD)	457	651	663	694	709
4.	Capacity utilization (%)	75.3%	99%	100.9%	105.6%	100.3%

Apart from above, as per SMP-2031, 32 Nos of new STPs are to be constructed in outer Delhi area. However, out of 32 STPs, 14 STPs are proposed in Najafgarh area, and in place of remaining 18 STPs, it is proposed to construct decentralized STPs for which land at 46 locations are being allotted by Delhi Govt. The details of decentralized STPs are mentioned in Table 3:

Table 3 : details of decentralized STPs

DETAILS OF DECENTRALIZED PLANTS		Capacity (MGD)
1)	Timarpur Oxidation Ponds	5.50
2)	Decentralised STP in Burari area	4.50
3)	8 nos. decentralized STP in Chatterpur area	5.00
4)	Decentralised STP in Kirari area	20.5
5)	Decentralised STP in Narela, Zindpur&Palla	25.30
6)	Decentralised STP in Bawana&Kanjhawla	44.70
7)	Decentralised STP in Badarpur area	10.00
8)	Decentralised STP in Mundka (part) area	3.30
9)	9+5 STPs in Najafgarh area	39.00
Total		157.8

- **STP capacity at Coronation Pillar**

Present Capacity 30 MGD (Ph I, 10 MGD– closed, Ph II, 20 MGD and Ph III, 10 MGD)

A new Plant of 70 MGD is under construction, thereafter existing 30 MGD will be put out of operation.

➤ NEW STPs PROPOSED

Table 4: Status of New STPs proposed

S.N o.	Name of the Plant	Capa city in MGD	Status	Remarks
1.	Tikrikalan	2.7	Notification was issued by Land & building deptt. 28.8.15. Payment made in 23 August, 2017. Acquisition of land is in progress.	Work of all STPs has already been awarded to M/s L&T on 21-04-2017. Likely date of completion of this project is 18 – 30 months. As per directions of Hon'ble NGT all 14 STPs are to be funded b
2	Mitrao	5.6	Land has allotted by Revenue deptt. to DJB.	NMCG. So far approval of funding for 7 STPs has been received from NMCG. land at six STP site are available with DJB .Process of allotment /acquisition of land at
3	Dichaokalan	5.6	Partial Gram Sabha Land allotted. After the investigation of Hon'ble NGT a joint inspection with Revenue Department was carried out on 01.12.2017 .for balance requirement. A private land was identified adjacent to existing Gram Sabha land. Hon'ble NGT directed Revenue Deptt. to start process of acquisition of land. Case for acquisition of land through Land & Building Deptt of Delhi Govt. is being processed separately.	balance 8 STPs site are still in process. During the meeting of joint review chaired by Hon'ble Minister of MOWR, RD & GR, Govt. of India and Hon'ble Chief Minister, Delhi held on

4	Kazipur	1.1	50% Gram Sabha land available with DJB. For balance pvt. land Notification was issued by Land & building deptt. 28.08.15. Payment made in 17 July 2017. Acquisition of land is in progress.	18-01-2018, it was apprised by Hon'ble CM that there is a need to re-examine the justification of the project to avoid any wasteful expenditure.
5	KheraDabar Extn	0.9	Land taken over by DJB	In pursuance to above, the work to ascertain the quantum of wastewater
6	Shikarpur	0.6	Alternate Gram Sabha land under allotment as earlier allotted land was shifted due to public resistance.	flow in the command of 9+5 STPs in Najafgarh catchment area was awarded to M/s
7	Kair	1.1	Notification was issued by Land & Building deptt. 28.08.15 Payment made in 17 July 2017. Acquisition of land is in progress.	WAPCOS Ltd.
8	Jaffarpur	2.2	Land taken over by DJB	M/s WAPCOS has submitted their report along with recommendations. As per report of M/s WAPCOS ,
9	Hasanpur	2.2	Alternate Gram Sabha land under allotment as earlier allotted land was shifted due to public resistance.	capacity of STPs at Khera Dabar and Zafarpur , where preliminary work were started by DJB (being funding and land were available) , has
10	Sarangpur	2.2	Land taken over by DJB	suggested less then the proposed capacity of STP
11	Galibpur	1.1	Land taken over by DJB	

12	Tajpurkhurd	8.0	Notification was issued by Land & building deptt. 28.08.15. Payment made in 20 July, 2017. Case for acquisition of additional 20 Bigha Land is in process. Acquisition of land is in progress.	as per SMP-2031. Accordingly it is recommended by M/s WAPCOS that STPs at these places be constructed in two modules instead of one in phase-I. Matter was
13	Goyalavihar (Kakorala)	2.5	Notification was issued by Land & Building Deptt. 28.08.15. Payment made in 17 July 2017. Acquisition of land is in progress.	placed before the Board in the meeting held on 27/02/2019 for appraisal of M/S WAPCOS report. Further necessary
14	Badu Sarai (Kanganheri)	1.4	Land taken over by DJB	action shall be taken after receipt of approval from the Board.

➤ **INTERCEPTOR SEWER PROJECT**

- Interceptor Sewage Project shall trap 108 drains out-falling into Najafgarh, Supplementary and Shahdara drains.
- The Interceptor Sewage Project is expected to be commissioned by June 2019.
- The amount of sewage now being intercepted is 118 MGD. By June 2019 all the 242 MGD of sewage is expected to be trapped and treated.

- With the commissioning of all the six packages of Interceptor Sewage Project, the BOD load reduction in the river will be of the order of 165 TPD. The details of six packages are at Table 5.

Table 5: Details of Interceptor Sewer Project in Delhi with timelines

S.No	ISP Package No	Flow to be trapped (MGD)	Name of STP & Treatment Capacity (MGD)	Capacity Available for Treatment of Intercepted Flow	Flow already trapped and being treated. (MGD)	Balance flow targeted to be trapped and treated with timeline (MGD)
1	Package-1	13.80 (Dwarka)	Dwarka-40 MGD	Yes	13.80	Already Trapped
2	Package-2	41.90 (Nilothi)	Nilothi-60 MGD	Yes	41.90	Already Trapped
		22.30 (Keshopur)	Keshopur – 72 MGD	Yes	10.90	11.40MGD BY June 2019
3	Package-3	50.02 (Coronation Pillar)	Coronation Pillar- 70 MGD (New) & Existing STP is 30 MGD	Construction of STP is in progress and likely to be commissioned (Liquid line) by June-2019	-	50.02 MGD by June-2019
		19.24 (Rithala)	Rithala – 80 MGD	Yes	-	19.24 MGD by June-2019

4	Package-4	13.50 (Rithala)	Rithala – 80 MGD	Yes	6.60	6.90 MGD by June2019
		12.50 (Rohini)	Rohini – 15 MGD	Yes	12.50	Already Trapped
5	Package-5	31.90 (Yamuna Vihar)	Yamuna Vihar – 35 MGD & 10 MGD (under Rehabilitation of AMRUT)	Yes	-	31.90 MGD by June 2019
6	Package-6	37.20 (Kondli)	Kondli-45 MGD new&45 (10+25+10) MGD to be rehabilitated under YAP-III out of which 25 MGD is still in operation. Presently, total operational capacity=70 MGD.	Rehabilitation of 10 MGD STP is in progress and likely to be commissione d (Liquid line) by Dec-2019. So, total capacity in Dec, 2019 will be 80 MGD.	23.70	13.50 MGD by Dec-2019
Total		242.36 MGD			109.4 MGD	132.96 MGD

➤ **SEPTAGE MANAGEMENT**

The Septage Management Regulations have been notified on 21.11.2018 and the main features of the Regulation are as under:

- Septic Tank Waste (Septage) shall be collected and transported only by vendor(s) having a valid License for this purpose issued by the Delhi Jal Board
- The Septage shall be transported only in the Vehicles approved for these purposes by the Designated Officer of Delhi Jal Board.
- The Licensee shall dispose of Septage only at the locations notified by the Delhi Jal Board from time to time.
- The worker(s) deployed by the Licensee shall be insured to cover compensation to be paid to the victims /their legal.

➤ **UTILIZATION OF TREATED WASTE WATER**

- Out of 459 MGD of treated waste water DJB is mandated to release 267 MGD of treated waste water into Yamuna. However, what is being released through drains is not only the treated waste water but treated waste water mixed with untreated waste water.
- The DJB has plans to release 195 MGD of treated waste water (<10 BOD), after necessary tertiary treatment, at Palla which would be captured at Wazirabad to be used in the Water Treatment Plant. Though this is subject to the approval of the UYRB. Timeline: Next 3 years
- Proposed 10 MGD quantity to be used for Water Bodies, Parks, Groundwater Recharge and use by other agencies in next 2 years
- Proposed use for irrigation in U.P. in next 4 years subject to consent of U.P. irrigation department – Govt. of U.P in U.P. in lieu of raw water supply for proposed 140 MGD WTP at Sonia Vihar.

- DDA has formulated action plans to ensure the use of treated effluent from STPs. Separate schemes have been prepared by DDA for parks upto 10 acres area, parks between 10-50 acres area and parks above 50 acres area. The target date of completion is 31st December 2019. Further, DDA has made dual plumbing system mandatory in all new constructions.
- The DJB has also decided to use some of the treated waste water for recharging the Water bodies which will additionally help recharge ground water and indirectly contribute to lean season flows in the river Yamuna. In all 201 water bodies are proposed to be rejuvenated by the DJB and another 96 water bodies are proposed to be rejuvenated by the IFCD in technical collaboration with NEERI.
- Irrigation & Flood (I & F) has formulated the following action plans for the use of treated effluent:-
 - (i). Treatment and polishing of wastewater before it is used for ground water recharge in respect of 5 irrigation minors and 5 drains shall be completed by 30th September 2020 and 30th March 2021 respectively.
 - (ii). In-situ treatment of waste water drains shall be taken up for 22 drains. The work for 16 drains shall be completed by 30th December 2019 and the work in respect of remaining 6 drains shall be completed in phases between 30th March 2021 to 30th June 2021. As regards, Gazipur and Shahdra outfall drains, professor C.R. Babu has been engaged to give technical advice. The work shall be completed by 15th April 2021.
 - (iii). Ensure that sewage falling in abandon portion of Bhawan Escape drain to be taken to wet land. The project shall be completed by 30th June 2020.
 - (iv). Formulate action plans to ensure aeration and ozonation of 22 drains. RFP has been floated and opened.
 - (v). The projects have been prepared to use treated waste water for recharging 35 water bodies. All the projects shall be completed by 30th December 2020.

ACTION PLAN: SOLID WASTE

> MUNICIPAL SOLID WASTE MANAGEMENT

• REMEDIATION OF EXISTING SLFS

(i) Remediation of SLF at Bhalaswa by North DMC

Department of Science and Technology/GOI had constituted a 9 member Scientific Advisory Committee for Landfill Remediation consisting of luminaries from IIT and other fields/Departments. Dr. Manoj Dutta, Professor, IIT Delhi has been engaged by the North DMC as Technical advisor/consultant for slope stabilization, part capping, Methane Gas extraction, Leachate extraction and treatment etc. for remediation of Bhalaswa Landfill Site. The report submitted by the Dr. Manoj Dutta, Professor, IIT Delhi on 12.02.2018 for remediation work which comprises in 2 Stages,

Stage (A) : Investigation and design of the project

Stage (B): Execution of project

Timeline proposed for remediation/execution of the Bhalaswa Landfill Site :- 31/03/2020

(ii) Remediation of SLF at Ghazipur by East DMC

Extraction of landfill gas in association with GAIL. 35 Lac landfill gas already extracted and flared, thereby reducing green house emission in atmosphere. Now the Methane concentration in extracted landfill gas has gone considerably down. However, to reach at nil level it will take further longer period, as biodegradation rate goes down.

Memorandum of Association (MoA) with NHA to use segregated useful material for road construction (65-70%). Once successful, the entire landfill can be reclaimed within two years. The reclaimed land could be used for setting up a modern facility to cater future

needs of waste processing and disposal. However, NHA is reluctant to undertake the reclamation project envisaged under the MoA.

A pilot project of 200 TPD legacy waste with zero waste technology was awarded on 03.08.2018 for one year to be evaluated by the experts. The agency is in process of obtaining environmental clearances but till date the same has not been granted by MoEF GOI. On successful evaluation of the technology the capacity will be enhanced to 1500 TPD for 20 years.

Department of Science and Technology (DST) constituted "Scientific Advisory Committee which recommended slope stabilization on one side of the SLF. Tender was called but the same could not be awarded due to single tender and high rates. The tender were again called and two bids have been received which are under evaluation.

The matter has also been discussed with Prof. Vijay Raghvan, Principal Scientific "Advisor to GOI for a pilot on the line of reclamation and proposal is still awaited.

However in accordance advice of IIT Delhi, EDMC has initiated the Slope stabilization of Ghazipur land fill site parallel to hindon canal side for which tenders were called and is in process of negotiation with the L 1 vendor and the work will be awarded after expiry of model code of conduct subject to availability of funds. EDMC has already taken up with UD / DDA for 94.00 Crore. So far sanction of fund under UDF has not been granted despite repeated reminders under the signature of Commissioner EDMC.

In addition NEERI is engaged by DST for detailed investigation, study and monitoring issue of landfill fire at Ghazipur for three years.

(iii) Remediation of SLF at Okhla by South DMC

1. Under the guidance of IIT (Delhi) work of remediation started in January, 2018
2. Work requires flattening of slopes and providing drainage arrangement.
3. Heavy duty machines such as Bulldozers (04 Nos.) and Excavators (05 Nos.) were deployed

4. As on date 40-50% slope correction work is completed and complete slope correction by June, 2019.
5. Due to non availability of alternate site for dumping, about 1800 MTs of Municipal Solid Waste is being dumped at Okhla dumpsite every day.
6. The work on engineered landfill site in close vicinity measuring 32 acres will start shortly.
7. Environmental clearance granted by MoEF&CC, GoI on 29/10/18.
8. Application for grant of consent to establish (CTE) submitted to DPCC, CTE yet to be received.

➤ **WASTE TO ENERGY PLANTS (EXPANSION AND NEW PROPOSED) + other decentralized waste management options WITH TIMELINES**

9. SOUTH MCD

- (i) **500 TPD expansion at Okhla (Env. Clearance under process) + 2000 TPD New at Tehkhand (by March 2020)**

- Four compost plants of (1 TPD)

Two plants commissioned.

Two plants likely to be commissioned by 15/5/2019

- Four Bio-methanation plants (5 TPD).

One plant commissioned

One plant likely to be commissioned by 30/4/2019

Two plants likely to be commissioned by 31/5/2019

LOA for establishment of 02 Nos. of 200TPD Bio-gas plants (to process Cattle dung and vegetable waste) at Nangli Dairy and Goyla Dairy colony Najafgarh issued on 22.10.2018. These plants are likely to be commissioned on BOT basis by June, 2020.

- **NORTH MCD**

- (i) North MCD has decided to setup a centralized plant (Integrated Municipal Solid Waste processing facility and Engineering Sanitary Landfill facility) of 1500 TPD capacity at Narela Bhawana. The plant shall be completed by 31.03.2020.
- (ii) North DMC has taken up to set up following decentralized processing of bio-degradable waste under UDF:--

- 1. Accelerated Composter/Bio-Methanisation/Plant 1 TPD capacity, 6 nos.:-**
Lowest bidder is M/s. Alfa-Them finalized through GeM. Work Order issued on 05.06.2018. The civil work in progress & the plant is likely to be commissioned by 30.06.2019.
- 2. Bio-methanisation: Plant 5-TPD capacity 4 nos.:-** Work order issued on 21.08.2018. The work is in progress & the plant is likely to be commissioned by 30.06.2019.
- 3. Bio-methanisation Plant of 200 TPD Capacity based on cow dung/bio-degradable at Bhalswa Dairy.**

Tender invited on 03.05.18. Case is under approval of House (Corporation) for Rate and Agency. Target date is 31.03.2020. However, anticipated approval from Hon'ble Mayor has been obtained on 13.12.2018. The LOA issued on 14.12.2018. The plant is likely to be commissioned by 31.03.2020.

- **EAST MCD**

- (i) Earlier 1200 TPD expansion at Ghazipur was proposed by East MCD. IL&FS was engaged for this task of expanding the capacity of plant from 1300 to 2500 TPD.

However, due to some internal reasons the company could not be able to expand the capacity of the plant and the same has now been dropped. Instead, DDA has recently allotted 42.5 acres land at Ghonda Gujran for development of integrated Solid Waste Management processing and disposal facility. The facility shall consist of Pre-Processing facilities for MSW, Bio-Methanation Plant, Construction and Demolition (C&D) Plant and Power Plant alongwith value added product plant from rejects/residue.

EDMC has signed an MoU for setting up a joint venture company with NTPC for development of integrated Solid Waste Management Facility of 2000 TPD capacity which will be able to process remaining entire Solid Waste generated in EDMC area targeting almost zero residue and resulting in minimal/ negligible disposal of garbage at landfill. This facility will be developed at Ghonda Gujran. After signing of Joint Venture Agreement, the JV will required to obtain environmental clearances and other statutory clearances which would take approximate six months time and development of facility will take another one & half year thereafter facility will be operational.

(ii). Decentralized Waste Processing Facilities

145 TPD decentralized plants are expected to be completed by 30.06.2019 with the help of Urban Development fund from Govt. of India. EDMC has installed decentralized Waste Management Facilities at various places. 10 nos, of 1 TPD Composters are being installed across EDMC. 2 such 1 TPD accelerated in-vessel composters have already been commissioned and rest 8 are at advance stage of completion.

All the above decentralized plants are expected to be operational by 30.06.19. The main reason in delay of execution of work is public resistance based on NIMBY.

EDMC is also in process of establishing 100 TPD Biogas plant at Ghazipur. Clearance from PESO along with CTE is awaited.

➤ **PREVENTION OF DUMPING OF SOLID WASTE IN THE DRAINS :**

For preventing the dumping of solid waste in the drains, all the concerned Departments / Agencies have been directed vide order dated 09.01.2019 of Chief Secretary and Order Dated 15.01.2019 of UD Department, GNCTD as following :

- All field officers of North DMC, East DMC, South DMC, New Delhi Municipal Council, Delhi Cantonment Board, Delhi Urban Shelter Improvement Board (DUSIB), Delhi Jal Board(DJB), Public Works Department (PWD), GNCTD & Irrigation & Flood Control Department (I&FC), GNCTD and Delhi State Industrial and Infrastructure Development Corporation (DSIIDC), comprising of Executive Engineer (EE)/ Assistant Engineer (AE)/ Junior Engineer (JE) are to ensure that environmental compensation of Rs. 50,000/- be levied on those found dumping Solid Waste into drains in their respective jurisdiction and in respect of those drains being maintained by their respective Urban Local Body (ULB)/ Department / Organization. The levy of environmental compensation on the defaulters will be the prime responsibility of the EE/AE/JE of the concerned ULB/ Department / Organization which is responsible for maintaining the said drain.
- In addition to this, appropriate action as per provisions of Delhi Municipal Corporation Act 1957 / New Delhi Municipal Council Act, 1994, Cantonment Act 2006, Solid Waste management Rules 2016 and Solid Waste Management Bye-Laws framed by respective Urban Local Body in exercise of powers under Solid Waste Management Rules, 2016 will also be initiated for challenging the prosecuting of the defaulters by the EE/AE/JE of the concerned Urban Local Body.
- This action needs to be taken in respect of all drains owned / maintained by the respective Urban Local Body / DJB/ DSIIDC/ PWD/ I&FC / DUSIB etc.

- The Executive Engineer of the DSIIDC, PWD, DJB I&FC and DUSIB who is responsible for maintaining the said drain shall liaise on a regular basis with the concerned Executive Engineer of the ULB to ensure proper and regular action.
- Negligence on the part of individual officer in enforcing the above instructions shall attract disciplinary proceedings. The Executive Engineer in-charge of maintenance of that particular section of the drain of the DJB/PWD/I&FC/DUSIB and DSIIDC and the area Executive Engineer of the concerned Urban Local Body would be held jointly accountable in case Solid Waste is found dumped in the drain and / or on its embankment.