ACTION PLANS

FOR

THE CONTROL OF AIR POLLUTION

IN

15 NON-ATTAINMENT CITIES OF UTTAR PRADESH

(LUCKNOW, KANPUR, AGRA, PRAYAGRAJ, VARANASI, GHAZIABAD, NOIDA, KHURZA, FIROZABAD, ANPARA, GAJRAULA, JHANSI, MORADABAD, RAEBARELI AND BAREILLY)

UTTAR PRADESH POLLUTION CONTROL BOARD
TV-12V, VIBHUTI KHAND, GOMTI NAGAR,
LUCKNOW-226021

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1. Preface:

Central Pollution Control Board, Delhi, on the basis of values of Particulate Matter (PM10-Particle Matter Size less than 10 micron) in ambient air has identified 15 cities of Uttar Pradesh as Non-attainment cities:

1. Lucknow
2. Kanpur
3. Agra,
4. Prayagraj
5. Varanasi,
6. Ghaziabad,
7. Noida,
8. Khurza,
9. Firozabad
10. Anpara
11. Gajraula
12. Jhansi
13. Moradabad
14. Raebareli and
15. Bareilly

2. Salient Features of the Hon'ble NGT Order for preparation & Implementation of Action Plans:

Hon'ble National Green Tribunal (NGT) in O.A.No.681/2018 in News item published in "The Times of India" authored by Shri Vishwa Mohan Titled "NCAP with multiple timelines to clear air in 102 cities to be released around August 15 has given certain directions. The main directions are as follows:

I. All the States with non-attainment cities must prepare appropriate action plan within two months aimed at bringing the standards of air quality within the prescribed norms within six months from the date of finalization of action plan.

II. Action Plan may be prepared by 06 members Committee comprising of Directors of Environment, Transport, Industries, Urban Development, Agriculture and Member-Secretary State Pollution Control Board. The Committee may be called "Air

Quality Monitoring Committee" (AQMC). The AQMC will function under the overall supervision and coordination of Principle Secretary, Environment of concerned State.

III. Action plan may take in to account the GRAP, the CAP and the action plan prepared by CPCB as well as all other relevant factors.

IV. The action plan will indicate steps to be taken to check different sources of pollution having speedy, definite and specific timelines for execution.

V. Action Plan should be consistent with the carrying capacity assessment of non-attainment cities in terms of vehicular pollution, industrial emission and population density, extent of construction & construction activities etc.

VI. The committee constituting of (a) Shri Prashant Gargava, Member Secretary, CPCB (b) Dr. Mukesh Khare, Prof. IIT-Delhi & (c) Dr. Mukesh Sharma, Prof. IIT-Kanpur shall examine the action plans and on the recommendations of said committee, the Chairman CPCB shall approve the same.

VII. The Chief Secretaries of the States will be personally accountable for failure to formulate action plans as directed.

VIII. CPCB and all the State Pollution Control Boards and Pollution Control Committee shall collectively workout and design a robust nationwide ambient air quality monitoring program me in a revised format by strengthening the existing monitoring network with respect to coverage of more cities/towns.

3. Action Plan Implantation and approval:

I. U.P. Pollution Control Board prepared draft action plans for 15 non- attainment cities of Uttar Pradesh.

II. A Committee (AQMC) at the level of Government vides letter no. 01/55-Parya-2-2019-09(writ)/2016 on dated 02-01-2019 has been constituted. The members of the constituted Committee are as follows:-

a) Commissioner, Transport Department, Govt. of U.P. Member
b) Special Secretary, Urban Development Department, Government of U.P. Member
c) Director, Industries, Government of U.P. Member
d) Director, Environment, Government of U.P. Member
e) Director, Agriculture Department, Government of U.P. Member

f) Member secretary, UPPCB, Lucknow, Member & Coordinator

III. Draft Action Plans for 15 non-attainment cities has been reviewed by AQMC on 04-01-2019 and suggestions made for improvement.

IV. After incorporating suggestions of AQMC draft action plan for 15 Non-attainment Cities were sent to Central Pollution Control Board, Delhi vide letter no. H32113/CL/294/Action Plan/18-19 on dated 31-01-2019 for their approval in accordance with the directions of Hon'ble NGT.

V. On the basis of recommendations of 03 members Committee, Chairman Central Pollution Control Board has approved the Action Plans along with recommendations and issued Direction to the Government of U.P. under Section 31(A) of The Air(Prevention and Control of Pollution)Act, 1981 regarding preparation of action plans and its effective implementation vide letter no. AQM/AP/2019-20 dated 04.03.2019.

4. Salient Features of the action Plans-

i. The Action Plans comprises of 06 Major categories as given below:-
   a. Vehicle Emission Control
   b. Suspension of Road Dust and Fugitive Emission Control
   c. Control of Emissions form Biomass/ Crop residue/ Garbage/ Municipal Solid Waste burning
   d. Control of Industrial Emissions
   e. Control of Air Pollution from constructions and demolition activities.
   f. Other Steps to Control Air Pollution

ii. The Action Plans comprises of 58 Short and long term Action Points.
   - The short term (immediate) activities which don't need advance preparedness and are to be implemented by concerned department/ agencies immediately.

- The long term action points require preparedness including making of DPRs, Sanctions, Budget allocation and implementation.

iii. The Action Plan has to be implemented by 17 concerned Departments/ Agencies.

S. No.	Name of Department/Agencies	No. of Action Points
1	Transport Department	06
2	National Highway Authority of India(NHAI)	03
3	Public Works Department (PWD)	03
4	Nagar Nigam/Nagar Palika Parishad	23
5	Development Authorities	13
6	Vehicle Manufacturing Companies	01
7	Ministry of Road Transport & Highways	01
8	Traffic Police	02
9	Food & Civil Supply (District Supply Officer)	01
10	Oil companies	01
11	Forest Department	01
12	Irrigation Department	01
13	Agriculture Department	01
14	Urban Development Department	04
15	District Industries Centre (DIC)/ UPSIDC	01
16	U.P.Pollution Control Board	10
17	Housing companies	01

Note: some action points concerned with more than one department.

5. **Responsibilities of Departments/Agencies:**

I. Identify the personnel responsible for implementation and in-house monitoring of action plan.

II. Nominate and officer of the Level of special Secretary as Nodal Officer for implementation of action Plan.

III. Organize training/ orientation workshop at the city level.

IV. Start immediate implementation of the short term action points.

V. Prepare DPR and issue Government orders etc within four week required for implementation

VI. Sectioning of DPR within further two month.

VII. Decide timeline for work completion.

VIII. Ensure implementation of long term action plans.

IX. Furnish monthly compliance report to UPPCB and Environment department of U.P in Prescribe Format by 7th of every month.

Environment Department, Govt. of U.P. **Nodal Deaprtment**
U.P.Pollution Control Board **Nodal Agency for monitoring**
➢ **State level workshop for training/orientation of various Departments will be organized by UPPCB.** ➢ **Web portal Development for compliance reporting.** ➢ **Organizing monthly and quarterly review meeting.**

6. **Monitoring and Evaluation of Action Plans:**
   Monitoring & Evaluation of Implementation of Action Plan will be carried out Quarterly by Principle Secretary, Environment.

7. **Levels Of Air Pollution and effect on human health**
   - Air Quality Index (AQI) is a tool for effective communication of air quality status to people in terms, which are easy to understand. It transforms complex air quality data of various pollutants like PM10, PM2.5, SO_2, NO_2, CO etc. into a single number (index value), nomenclature and colour.
   - There are six AQI categories, namely Good, Satisfactory, Moderately polluted, Poor, Very Poor, and Severe. Each of these categories is decided based on ambient concentration values of air pollutants and their likely health impacts (known as health breakpoints).
   - AQI categories and health breakpoints are as follow:

Good (0-50)	**Minimal Impact**	**Poor (201-300)**	**Breathing discomfort to people on prolonged exposure**
Satisfactory (51-100)	**Minor breathing discomfort to sensitive people**	**Very poor (301-400)**	**Respiratory illness to the people on prolonged exposure**
Moderate (101-200)	**Breathing discomfort to the people with lung, heart disease, children and older adults**	**Severe (401-500)**	**Respiratory effect even on healthy people**

8. National Ambient Air Quality Standards

Notification No. B-29016/20/90/PCI-L, 18th November, 2009
Central Pollution Control Board New Delhi

S.No.	Pollutants	Time Weighted Average	Concentration in Ambient Air		
			Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (notified by Central Government)	Method of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur Dioxide (SO_2), μ g/m^3	Annual* 24 hours**	50 80	20 80	-Improved West and Gaeke -Ultraviolet fluorescence
2	Nitrogen Dioxide (SO_2), μ g/m^3	Annual* 24 hours**	40 80	30 80	-Modified Jacob & Hochheiser(Na-Arsenite) -Chemiluminescence
3	Particulate matter (Size less than 10 μ m), PM_{10} μ g/m^3	Annual* 24 hours**	60 100	60 100	-Gravimetric -TOEM -Beta attenuation
4	Particulate matter (Size less than 2.5 μ m), $PM_{2.5}$ μ g/m^3	Annual* 24 hours**	40 60	40 60	-Gravimetric -TOEM -Beta attenuation
5	Ozone (O_3), μ g/m^3	8 hours** 1 hour**	100 180	100 180	-UV photometric -Chemiluminescence -Chemical Method

6	Lead (Pb), μ g/m^3	Annual* 24 hours**	0.50 1.0	0.50 1.0	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper - ED-XRF using Teflon filter
7	Carbon Monoxide (CO), mg/m^3	8 hours** 1 hour**	02 04	02 04	-Non Dispersive Infra Red (NDR) spectroscopy
8	Ammonia (NH_3), μ g/m^3	Annual* 24 hours**	100 400	100 400	- Chemiluminescence - Indophenol blue method
9	Benzene(C_6H_6), μ g/m^3	Annual*	05	05	- Gas chromatography based continuous analyzer - Adsorption and Description followed by GC analysis
10	Benzo(a)Pyrene(BaP)-particle phase only, ng/m^3	Annual*	01	01	- Solvent extraction followed by HPLC/GC analysis
11	Arsenic(As), ng/m^3	Annual*	06	06	- AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni), ng/m^3	Annual*	20	20	- AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

9. Pollution levels/AQI can be obtained from:

- Samir App developed by CPCB, Delhi, Ministry of Environment, Forest & Climate Change.
- www.uppcb.com
- www.cpcb.nic.in

10. Ambient Air Quality of 15 Non-Attainment Cities of U.P: Year 2017-2018

The Board has been Monitoring Ambient Air Quality in 15 non-attainment cities of Uttar Pradesh namely Lucknow, Kanpur, Anpara, Agra, Ghaziabad, Gajraula, Noida, Varanasi, Firozabad, Jhansi, Khurja, Allahabad, Moradabad, Bareilly and Raibareily at 52 Locations under National Air Monitoring Programme (NAMP). On perusal of average ambient air quality data obtained in the year 2017-2018, following are the conclusions-

1. The Average Values of Particulate matter less than 10 micron (PM10) have been found above the prescribed standard in all the cities.
2. The average values of Sulphur dioxide have been found within the prescribed standards in all the cities.
3. The average values of Nitrogen dioxide have been found within the prescribed standard except Kanpur and Allahabad.

AMBIENT AIR QUALITY DATA OF NON ATTAINMENT CITIES OF UTTAR PRADESH
(YEAR 2017-2018)

S.No	Name of City	Year 2017 (µg/m^3)			Year 2018 (µg/m^3)		
		PM10	**SO_2**	**NO_2**	**PM10**	**SO_2**	**NO_2**
1	Lucknow	230.70	8.19	25.41	215.85	8.03	28.50
2	Kanpur	224.34	6.65	44.46	216.98	7.11	45.54
3	Agra	186.10	7.00	14.75	218.76	5.30	21.87
4	Anpara	173.20	16.80	31.50	201.90	18.20	27.59
5	Gajraula	205.40	22.15	34.95	225.67	19.92	32.71
6	Ghaziabad	275.45	16.60	39.30	234.90	17.76	34.07
7	Varanasi	250.86	10.24	39.18	200.73	9.04	35.26
8	Noida	209.65	11.40	37.95	239.80	17.41	38.53
9	Firozabad	219.77	8.50	31.10	223.01	8.05	30.89
10	Jhansi	112.85	6.60	19.35	95.99	5.92	18.07
11	Khurja	192.45	22.70	21.15	204.65	20.62	19.20
12	Allahabad	145.26	4.30	41.00	231.05	3.91	46.32
13	Moradabad	213.05	19.60	33.50	227.42	19.88	34.33
14	Bareilly	206.85	11.50	21.40	227.30	11.38	22.83
15	Raebareli	140.93	11.37	17.23	132.14	11.30	17.36
	Standard (Annual)	**60**	**50**	**40**	**60**	**50**	**40**

ANNEXURES

Annexure -1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 681 of 2018

IN THE MATTER OF:

News Item Published In 'The Times of India' Authored by Shri. Vishwa Mohan Titled
"NCAP with Multiple Timelines to Clear Air in 102 Cities to be released around August 15"

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

Dated: 08th October, 2018.

ORDER

1. Proceedings in this matter have been initiated on the basis of a newspaper item dated 03.08.2018 in the Times of India under the heading "*NCAP with multiple timelines to clean air in 102 cities to be released around August 15*"[1]. According to the news item, the National Clean Air Programme (NCAP) proposes to reduce pollution in 102 cities where standards of air pollution are in excess in the next 10 years- 35% in next 3 years, 50% in next 5 years and 70-80% in next 10 years.

2. The question that arises for consideration is whether the timeline of 10 years for bringing down pollution levels is in accordance with the mandate of law requiring pollution free environment especially when there is imminent threat to human health as a result of such pollution. According to a survey, 15,000 persons died prematurely in Delhi in the year 2016. Delhi was ranked as third in the list of cities reporting most deaths due to air pollution. Premature deaths in

[1] https://timesofindia.indiatimes.com/india/ncap-with-multiple-timelines-to-clean-air-in-102-cities-to-be-released-around-august-15/articleshow/65254122.cms

Mumbai, Kolkata, Bangalore and Chennai are reported to be between 5,000-10,000 in 2016.[2]

3. 102 cities have been identified as 'Non-attainment cities'. Non-attainment city is the one which does not meet the National Ambient Air Quality Standards (NAAQS). The said standards are prescribed under Section 16 (2) (h) of Air (Prevention and Control of Pollution) Act, 1981, (Air Act, 1981) vide Notification dated 18.11.2009 by the Central Pollution Control Board (CPCB).

4. Serious concerns have been expressed in the last four decades about the need to restore the standards of the air quality, in view of the adverse effect of air pollution on public health. Section 20 of the Air Act, 1981 provides for directions for ensuring standards for emission from automobiles by the State Pollution Control Boards. Section 21 of the Air Act, 1981 requires Consent to Establish (CTE) or operate an industrial plant in air pollution control areas. Conditions for such grant include installation of equipments for control of air pollution, use of specified chimneys and such other conditions as may be necessary. Section 22 provides for control of industrial pollution. State Boards can also seek injunction against air pollution from any source under Section 21-A. Section 31-A empowers a Pollution Board to give directions to close an industrial activity on the ground of pollution. It is, however, well known that the statutory mechanism under the Air Act, 1981 has not been successful in controlling air pollution. The result is that air pollution has been subject matter of consideration by the Hon'ble Supreme Court and other Courts as well as this Tribunal.

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[2]https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022.

5. Directions have been issued by the Hon'ble Supreme Court for control of vehicular pollution[3], industrial and construction sector pollution[4], power sector pollution[5] and agricultural sector pollution[6]. This Tribunal also dealt with some of such issues.[7] CPCB has also issued directions under Section 18(1)(b) of the Air Act, 1981 vide letter dated 29.12.2015 regarding prevention, control or abatement of air pollution and improvement of ambient air quality[8].

6. A Comprehensive Action Plan (CAP) for air pollution control for NCR was prepared in pursuance of order of the Hon'ble Supreme Court dated 06.2.2017 by the Environment Pollution (Prevention and Control) Authority (EPCA) in consultation with the CPCB and DPCC on 05.04.2017.[9] The said plan also provides for enforcement of Graded Response Action Plan (GRAP) notified by the MoEF&CC on 12.01.2017[10]. The GRAP envisages specific steps for different levels of air quality such as improvement in emission and fuel quality and other measures for vehicles, strategies to reduce vehicle numbers, non-motorised transport network, parking policy, traffic management, closure of polluting power plants and industries including brick kilns,

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[3] M.C. Mehta v. Union of India (1985)2 SCC 431, M.C. Mehta v. Union of India (2001) 3 SCC 756, M.C. Mehta v. Union of India (1998) 6 SCC 63, M.C. Mehta v. Union of India (2002) 3 SCC 356, M.C. Mehta v. Union of India (1998) 6 SCC 60

[4] M.C. Mehta v. Union of India (1997) 2 SCC 353, M.C. Mehta v. Union of India and Shriram Foods and Fertilizer Industries and Anr. (1986) 2 SCC 235, Rural Litigation and Entitlement Kendra, Dehradun v. State of U.P. (1985) 2SCC 431, Mohd. Haroon Ansari v. District Collector (1998) 6 SCC 60, Union of India v. Union Carbide Co. (1989) 1 SCC 674, M.C. Mehta v. Union of India (1992) 4 SCC 256, Sterlite Industries (India) Ltd. etc. v. Union of India & Ors.(2013) 4SCC 575 , M.C. Mehta v. Union of India (2004) 6 SCC 588, M.C. Mehta v. Kamal Nath (2000)6 SCC 213

[5] Consumer Education and Research Centre v. Union of India (1995)3 SCC 42, Dahanu Taluka Environment Protection group and Ors. v. Bombay Suburban Electricity Supply Company Ltd. and Ors (1991) 2SCC 539

[6] Arjun Gopal and Ors v. Union of India and Ors (2017) 16 SCC 280, Dr. B.L Wadhera v. Union of India and Ors (1996) 2 SCC 594

[7] Vardhman Kaushik v. Union of India and Ors. O.A no. 21 of 2014, Vikrant Kumar Tongad v. Environment Pollution (Prevention and Control) Authority and Ors, O.A No. 118 of 2013, Satish Kumar v. Union of India and Ors, O.A. No. 56 (T_{HC}) OF 2013, Smt. Ganga Lalwani V. Union of India and Ors. O.A No. 451 of 2018

[8] p. 38, http://envfor.nic.in/sites/default/files/NCAP%20with%20annex-ilovepdf-compressed.pdf

9 Report No.71, EPCA-R/2-17/L-21, Comprehensive Action Plan for air pollution control with the objective to meet ambient air quality standards in the National Capital Territory of Delhi and National Capital Region, including states of Haryana, Rajasthan and Uttar Pradesh.

10 S.O.118(E), Notification, Ministry of Environment, Forest and Climate Change

control of generator sets, open burning, open eateries, road dust, construction dust, etc.

7. The GRAP categorises levels of pollution as severe plus, severe, very poor, moderate to poor. The action to be taken in such situations includes stopping entry of trucks, stopping construction activities, odd and even scheme of private vehicles, shutting of schools, closing of brick kilns, stone crushers, hot mix plants, power plants, intensifying public transport services, mechanised cleaning of road, and sprinkling of water, stopping the use of diesel generator sets, enhancing parking fees, etc. Implementation of prescribed norms in the light of legal provisions and court directions remains a challenge. The consequence is that India is being ranked high in terms of level of pollution compared to many other countries with enormous adverse impact on public health. Most victims are children, senior citizens and the poor.[11]

8. A chamber meeting was held in this Tribunal on 05.09.2018 to review the situation. The same was attended by all the Members of the Tribunal, representatives of CPCB, Ministry of Road Transport and Highways (MoRTH), Ministry of Petroleum and Natural Gas, Ministry of Environment, Forest and Climate Change (MoEF&CC), Ministry of Agriculture, Cooperation and Farmers Welfare, Ministry of Heavy Industries, States of Haryana, Punjab, Uttar Pradesh and Rajasthan, NCT of Delhi, IIT Delhi, IIT Kanpur and NEERI. In the said meeting, presentation was given by CPCB to the effect that 102 cities have been declared as "non-attainment" cities based on study of data from 2011-2015 and directions were issued by the CPCB to concerned States to

[11] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece
https://www.ndtv.com/delhi-news/delhis-air-pollution-has-caused-of-death-of-15-000-people-study-1883022

frame city specific action plans. 73 such plans were received. 36 were finalized. 37 are pending. 29 are yet to be submitted.

9. Under the National Ambient Air Quality Monitoring Programme (NAAQM) of the CPCB, renamed as National Air Quality Monitoring Programme (NAMP), air quality data is compiled with reference to notified air standards. Four air pollutants viz. Sulphur Dioxide (SO_2), Oxides of Nitrogen as NO_2, Suspended Particulate Matter (PM_{10}) and fine Particulate Matter ($PM_{2.5}$) have been identified for regular monitoring at all the locations.[12] In addition to this, there are hundred and one (101) real-time Continuous Ambient Air Quality Monitoring stations (CAAQMS) in 57 cities monitoring 08 pollutants viz. PM_{10}, $PM_{2.5}$, SO_2, NOx, Ammonia (NH_3), Carbon Monoxide (CO), Ozone (O_3) and Benzene. PM_{10} are inhalable coarse particles, which are particles with a diameter between $PM_{2.5}$ and 10 micrometers (μm) and $PM_{2.5}$ are fine particles with a diameter of 2.5 μm or less. Particulates are the deadliest form of air pollutant due to their ability to penetrate deep into the lungs and blood streams unfiltered. The smaller $PM_{2.5}$ are particularly deadly as they can penetrate deeper into the lungs.

10. As already noted, there are 102 non-attainment cities where the air quality is worse than National Ambient Air Quality Standards consecutively in the last five years. The number of cities has increased from 94 identified earlier under the National Air Quality Monitoring Programme (2011-15). The highest number of cities are in Maharashtra (17) followed by Uttar Pradesh (15), Punjab (9), Himachal Pradesh (7), Odisha and Madhya Pradesh (6 each), Assam, Andhra Pradesh and Rajasthan (5 each), Karnataka (4), Bihar, Chhattisgarh and Telangana (3 each), Gujarat, Jammu and Kashmir, Nagaland and Uttarakhand (2 each) and Jharkhand, Delhi, Chandigarh, Meghalaya, Tamil Nadu and West Bengal (1 each).

[12] http://envfor.nic.in/sites/default/files/NCAP%20with%20annex-ilovepdf-compressed.pdf

11. The list of 102 cities identified by CPCB with status of parameters exceeded and major sources of pollution are as follows:

State Sl. No	State	Cities Sl. No	Cities	Status	Major Sources of Pollution
1	Andhra Pradesh	1	Guntur	PM10	i. Vehicular Emissions. ii. Road Dust/Re-suspension of dust and other fugitive emission. iii. Air Pollution from Bio-Mass Burning iv. Industrial Air Pollution. v. Air Pollution from Construction and Demolition Activities. vi. DG sets vii. LPG instead of coal in restaurants/ dhabas/ road side eateries.
		2	Kurnool	PM10	
		3	Nellore	PM10	
		4	Vijaywada	PM10	
		5	Vishakhapatnam	PM10	
		6	Guwahati	PM10	
		7	Nagaon	PM10	
2	Assam	8	Nalbari	PM10	
		9	Sibsagar	PM10	
		10	Silchar	PM10	
	Bihar	11	Gaya	N.A	
		12	Patna	N.A	
		13	Muzzafarpur	N.A	
3	Chandigarh	14	Chandigarh	PM10	
4	Chhattisgarh	15	Bhillai	PM10	
		16	Korba	PM10	
		17	Raipur	N.A	
5	Delhi	18	Delhi	PM10, NO2	
6	Gujarat	19	Surat	PM10	
		20	Amedabad	N.A	
		21	Baddi	PM10	
		22	Damtal	PM10	
		23	Kala Amb	PM10	
7	Himachal Pradesh	24	Nalagarh	PM10	
		25	Paonta-Sahib	PM10	
		26	Parwanoo	PM10	
		27	Sunder Nagar	PM10	
8	Jammu & Kashmir	28	Jammu	PM10	
		29	Srinagar	N.A	
9	Jharkhand	30	Dhanbad	PM10	
10	Karnataka	31	Bangalore	PM10	
		32	Devanagere	PM10	
		33	Gulburga	PM10	
		34	Hubli-Dharwad	PM10	
		35	Bhopal	PM10	
		36	Dewas	PM10	

State Sl. No	State	Cities Sl. No	Cities	Status	Major Sources of Pollution
11	Madhya Pradesh	37	Indore	PM10	i. Vehicular Emissions. ii. Road Dust/Re-suspension of dust and other fugitive emission. iii. Air Pollution from Bio-Mass Burning iv. Industrial Air Pollution. v. Air Pollution from Construction and Demolition Activities. vi. DG sets. vii. LPG instead of coal in restaurants/ dhabas/ road side eateries.
		38	Sagar	PM10	
		39	Ujjain	PM10	
		40	Gwalior	N.A	
		41	Akola	PM10	
		42	Amravati	PM10	
		43	Aurangabad	PM10	
		44	Badlapur	PM10, NO2	
		45	Chandrapur	PM10	
		46	Jalgaon	PM10	
		47	Jalna	PM10	
12	Maharashtra	48	Kolhapur	PM10	
		49	Latur	PM10	
		50	Mumbai	PM10	
		51	Nagpur	PM10	
		52	Nashik	PM10	
		53	Navi Mumbai	PM10	
		54	Pune	PM10, NO2	
		55	Sangli	PM10	
		56	Solapur	PM10	
		57	Ulhasnagar	PM10, NO2	
13	Meghalaya	58	Byrnihat	PM10	
14	Nagaland	59	Dimapur	PM10	
		60	Kohima	PM10	
15	Orissa	61	Angul	PM10	
		62	Balasore	PM10	
		63	Bhubneshwar	PM10	
		64	Cuttack	PM10	
		65	Rourkela	PM10	
		66	Talcher	PM10	
		67	Amritsar	N.A	
		68	DeraBassi	PM10	
		69	Gobindgarh	PM10	
		70	Jalandhar	PM10	

State Sl. No	State	Cities Sl. No	Cities	Status	Major Sources of Pollution
16	Punjab	71	Khanna	PM10	i. Vehicular Emissions. ii. Road Dust/Re-suspension of dust and other fugitive emission. iii. Air Pollution from Bio-Mass Burning iv. Industrial Air Pollution. v. Air Pollution from Construction and Demolition Activities. vi. DG sets. vii. LPG instead of coal in restaurants/ dhabas/ road side eateries.
		72	Ludhiana	PM10	
		73	NayaNangal	PM10	
		74	Pathankot/Dera Baba	PM10	
		75	Patiala	PM10	
		76	Alwar	PM10	
		77	Jaipur	PM10	
17	Rajasthan	78	Jodhpur	PM10	
		79	Kota	PM10	
		80	Udaipur	PM10	
18	Tamil Nadu	81	Tuticorin	PM10	
19	Telangana	82	Hydrabad	PM10	
		83	Nalgonda	PM10	
		84	Patencheru	PM10	
		85	Agra	PM10	
		86	Allahabad	PM10	
		87	Anpara	PM10	
		88	Bareily	PM10	
		89	Firozabad	PM10	
		90	Gajraula	PM10	
20	Uttar Pradesh	91	Ghaziabad	PM10	
		92	Jhansi	PM10	
		93	Kanpur	PM10	
		94	Khurja	PM10	
		95	Lucknow	PM10	
		96	Muradabad	PM10	
		97	Noida	PM10	
		98	Raebareli	PM10	
		99	Varanasi	PM10	
21	Uttarakhand	100	Kashipur	PM10	
		101	Rishikesh	PM10	
22	West Bengal	102	Kolkata	PM10, NO2	

12. The above chart shows that major violation of standard is of "PM_{10}" and identified sources are vehicular, industrial, biomass burning, road dust, construction and demolition, DG sets and road side eateries. The action plan proposed by the CPCB[13] with the timeline is as follows:

Action Plan:				
	Action	**Implementation period (Short/ Mid /Long-term)**	**Time target for Implementation**	**Responsible agency (ies)**
Source group	1. Restriction on plying and phasing out of 15 years old commercial diesel driven vehicles.	Mid	Dec. 18	Transport Department
Vehicles	2. Introduction of cleaner fuels (CNG/LPG) for vehicles.	Mid	June, 18	Transport Department & Oil companies
	3. Regular checking of vehicular emission and issue of Pollution under Control Certificate (PUC).	Short	March, 18	Transport Department & Traffic Police
	4. Good traffic management including re-direction of traffic movement to avoid.	Mid	July, 18	Traffic Police
	5. Ban on registration of Diesel driven auto-rickshaw /Tempo.	Short	April, 18	Transport Department
	6. Promotion and operationalization of E-rickshaw.	Mid	June, 18	Transport Department
	7. Development of Multi-layer parking.	Long	Dec. 18,	MC, UD&HD & District Adm
	8. Retrofitting of particulate filters in diesel driven vehicle.	Mid	Dec. 18	Transport Department
	9. Checking of fuel adulteration	Short	April, 18	District Adm & Oil Company
	10. Monitoring on vehicle fitness.	Short	April, 18	Transport Department & Traffic Police
	11.Periodic calibration test of vehicular emission monitoring instrument	Short	April, 18	SPCB & Transport Department
Road Dust	1. Regular cleaning of road dust.	Short	April, 18	MC

[13]presented by CPCB in chamber meeting at NGT on 05.09.2018

	2. Water spraying on road through tankers	Mid	April, 18	MC
	3. Construction of pucca pavement along the roads.	Long	Dec. 18	MC and Road Construction Department
	4. Tree plantation along the roads.	Long	Aug. 19	Department of Environment and Forest
	5. Development of green belt in open areas, gardens, parks/ community places, schools & housing societies.	Long	Aug. 19	Department of Environment and Forest
	6. Introduction of water fountains at major traffic intersection/ Golambar/circle.	Long	Aug.19	MC
Construction activities	1.Covering of construction site.	Short	April, 18	Building Construction Department and MC.
	2.Transporation of construction materials like sand, soil, stone chips etc. in covered system.	Short	April, 18	Transport Department District Adm. & Traffic Police.
	3. Restriction on storage of construction materials along the road.	Short	April, 18	MC
Biomass and garbage burning	1.Restriction on open burning of municipal solid waste, Biomass, plastic horticulture waste etc.	Short	March, 18	MC
	2. Immediate lifting of solid wastes generated from de-silting and cleaning of municipal drains for its disposal.	Short	April, 18	MC
	3.Transportation of municipal solid wastes, construction materials and debris in covered system.	Short	April, 18	MC
	4. Ensuring promotion & use of cleaner fuel for commercial purposes like local Dhaba/eateries	Long	Dec.19	District Adm. & Oil Company
Industries	1.Ensuring installation and operation of air pollution control devices in industries	short	April, 18	SPCB
	2.Ensuring emission standards in industries	short	April, 18	SPCB

	3.Adoption of cleaner technology in brick kilns at five blocks of City Name Viz. city Name Sadar, Danapur, Phulwarisharif, Maner and Fatuha by 31.08.2018	Mid	Aug. 18	SPCB
	4. Shifting of polluting industries,	Long	Dec. 19	SPCB & Industry Department
	5. ban on polluting industries	Short	April, 18	SPCB & Industry Department
Strengthening of AAQ monitoring	1.Installation of four CAAQMS at City Name A. Two CAAQMS stations under CSR funds of CPSU through Central Pollution Control Board at Eco-Park and IGIMS, City Name premise. b. Two CAAQM stations under State Govt. financial assistance	Mid	Aug.18	SPCB
	2. Source appointment study	Mid	Dec. 18	SPCB
Public Awareness	1.Issue of advisory to public for prevention and control of air pollution	Short	April, 18	SPCB & SDMA
	2.Involvement of school and other academic institution in awareness program	Mid	Aug. 18	SPCB
Others	1. Compliance of guidelines on D.G. sets and action against violation	Short	April, 18	SPCB & MC
	2. Help line to oversee non compliances on aforesaid issues.	Short	April, 18	SPCB & MC

13. The data of non-attainment cities is a matter of concern. Though, the MoEF&CC has announced NCAP, as noted earlier, the timeline for bringing down the pollution by 70-80% in next 10 years does not meet the mandate of law. The time line has to be revised. As per some studies, India ranks 177 out of 180 countries in Environmental Performance Index.[14]

[14] https://www.thehindu.com/sci-tech/energy-and-environment/india-ranks-177-out-of-180-in-environmental-performance-index/article22513016.ece

14. We are thus of the view that emergent measures are required to check sources of air pollution. Once the standards have been laid down in the statutory provisions of the Air Act, 1981, all the authorities as well as citizens are statutorily bound to follow the said standards.

15. Accordingly, we consider it appropriate to take cognizance of the alarming situation and issue directions as follows:

i. All the States and Union Territories with non-attainment cities must 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.

ii. The Action Plans may be prepared by six-member committee comprising of Directors of Environment, Transport, Industries, Urban Development, Agriculture and Member Secretary, State Pollution Control Board or Committee of the concerned State. The Committee may be called Air Quality Monitoring Committee (AQMC). The AQMC will function under the overall supervision and coordination of Principal Secretary, Environment of the concerned State/Union Territory. This may be further supervised by the Chief Secretaries concerned or their counterparts in Union Territories by ensuring intra-sectoral co-ordination.

iii. The Action Plans may take into account the GRAP, the CAP and the action plan prepared by CPCB as well as all other relevant factors. The Action Plans may be forwarded to the CPCB by 31.12.2018. The same may be placed before the Committee as directed in direction no. vi. The Action Plan will include components like identification of source and its apportionment considering sectors like vehicular pollution, industrial pollution, dust pollution, construction activities, garbage burning, agricultural pollution including pollution caused by burning of crop residue, residential and indoor pollution etc. The action plan

shall also consider measures for strengthening of Ambient Air Quality (AAQ) monitoring and steps for public awareness including issuing of advisory to public for prevention and control of air pollution and involvement of schools, colleges and other academic institutions and awareness programmes.

iv. The Action Plan will indicate steps to be taken to check different sources of pollution having speedy, definite and specific timelines for execution.

v. The Action Plan should be consistent with the carrying capacity assessment of the non-attainment cities in terms of vehicular pollution, industrial emissions and population density, extent of construction and construction activities etc. The carrying capacity assessment shall also lay emphasis on agricultural and indoor pollution in rural areas. Depending upon assessed carrying capacity and source apportionment, the authorities may consider the need for regulating number of vehicles and their parking and plying, population density, extent of construction and construction activities etc. Guidelines may accordingly be framed to regulate vehicles and industries in non-attainment cities in terms of carrying capacity assessment and source apportionment.

vi. The Committee comprising of (a) Shri. Prashant Gargava, Member Secretary, CPCB, (b) Dr. Mukesh Khare, Professor, IIT Delhi, and (c) Dr. Mukesh Sharma, Professor, IIT Kanpur shall examine the Action Plans and on the recommendations of the said Committee, the Chairman, CPCB shall approve the same by 31.01.2019.

vii. The Chief Secretaries of the State and Administrators/ Advisors to Administrators of the Union Territories will be personally accountable for failure to formulate Action Plans, as directed.

viii. The CPCB, SPCBs and State Pollution Control Committees shall develop a public grievance redressal portal for redressal of public

complaints on air pollution along with a supervisory mechanism for its disposal in a time bound manner. Any visible air pollution can be reported at such portal by email/SMS.

ix. The CPCB and all the State Pollution Control Boards and Pollution Control Committees shall collectively workout and design a robust nationwide ambient air quality monitoring programme in a revised format by strengthening the existing monitoring network with respect to coverage of more cities/towns. The scope of monitoring should be expanded to include all twelve (12) notified parameters as per Notification No B-29016/20/90/PCI-L dated 18th November, 2009 of CPCB. The continuous Ambient Air Quality Monitoring Stations (AAQMS) should be preferred in comparison to manual monitoring stations. The CPCB and States shall file a composite action plan with timelines for its execution which shall not be more than three months. It is expected that all such AAQMS shall be connected to central server of CPCB for reporting analysis of results in a form of Air Quality Bulletin for general public at regular intervals atleast on weekly basis and ambient air quality on continuous basis on e-portal. MoEF&CC will provide requisite funds for the purpose. MoEF&CC in consultation with Ministry of Housing and Urban Affairs, MoRTH, Ministry of Petroleum and Natural Gas, Ministry of Agriculture, Cooperation and Farmers Welfare or any other Ministry to lay down such guidelines as may be considered necessary for improvement of air quality in the country.

16. A copy of this be sent by e-mail to all the concerned i.e. Ministries of Environment, Forest & Climate Change, Housing and Urban Affairs, Road Transport and Highway, Agriculture, Petroleum and the Chief Secretaries of all the States and Union Territories for compliance.

17. We understand that some of the Zonal Benches of the National Green Tribunal have also passed directions on the subject of Ambient Air Quality and the States in those Zones are in the process of implementation of such directions. Specific reference may be made in this regard to judgement dated 11.08.2016 in O.A No. 33/2018/EZ in the matter of *Subhas Datta v. State of West Bengal & Ors.* We make it clear that this order shall not be considered as an impediment to those actions but as an addition or supplement thereto for achieving the object of this order at the macro level and of the said order at the micro level in the concerned cities.

18. Needless to say, that order of National Green Tribunal is binding as a decree of Court and non-compliance is actionable by way of punitive action including prosecution, in terms of the National Green Tribunal Act, 2010.

19. The CPCB may compile the data and furnish the same to this Tribunal by email at filing.ngt@gmail.com on or before 15.2.2019.

20. Put up for consideration in the last week of February, 2019.

.....,CP
(Adarsh Kumar Goel)

.....,JM
(Dr. Jawad Rahim)

.....,JM
(S.P. Wangdi)

.....,EM
(Dr. Nagin Nanda)

New Delhi
October, 08, 2018

Annexure -2

उत्तर प्रदेश शासन
पर्यावरण अनुभाग–2
संख्याः 01/55–पर्या–2–2019–09(रिट)/2016
लखनऊः दिनांकः 07 जनवरी, 2019

कार्यालय–ज्ञाप

मा0 राष्ट्रीय हरित अधिकरण नई दिल्ली में विचाराधीन, ओ0ए0संख्या 681/2018 News Items Published in "The Times of India" Authored By Shri Vishwa Mohan Titled "NCAP with multiple timelines to clear air in 102 cities to be released around August 15" के अंतर्गत दिनांक 08.10.18 को पारित आदेश के क्रम में केंद्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली द्वारा पी0एम0 10 की मात्रा के आधार पर चिन्हित किए गये 15 Non-Attainment Cities क्रमशः नोएडा, गाजियाबाद, लखनऊ, कानपुर, आगरा, वाराणसी, खुर्जा, फिरोजाबाद, इलाहाबाद, अनपरा, गजरौला, झाँसी, मुरादाबाद, रायबरेली एवं बरेली में वायुगुणता सुधार हेतु 'कार्ययोजना' बनाने के सबध मे निम्नवत् "Air Quality Monitoring Committee" (AQMC) का गठन किया जाता है:–

1	आयुक्त, परिवहन विभाग, उ0प्र0	सदस्य
2	विशेष सचिव, नगर विकास विभाग, उ0प्र0 शासन	सदस्य
3	निदेशक, उद्योग विभाग, उ0प्र0	सदस्य
4.	निदेशक, पर्यावरण, उ0प्र0	सदस्य
5	निदेशक, कृषि विभाग, उ0प्र0	सदस्य
6	सदस्य सचिव, उ0प्र0 प्रदूषण नियंत्रण बोर्ड, लखनऊ	सदस्य, समन्वयक

उपर्युक्त "Air Quality Monitoring Committee"(AQMC) माननीय एन0जी0टी0 के आदेशानुसार नगरों में वायु प्रदूषण की रोकथाम एवं वायु की गुणवत्ता बनाये रखने हेतु एक्शन प्लान तैयार करेगी तथा एक्शन प्लान के क्रियान्वयन की अनुश्रवण समिति भी होगी। प्रश्नगत कमेटी प्रमुख सचिव, पर्यावरण उ0प्र0 शासन के पर्यवेक्षण में कार्य करेगी ।

कल्पना अवस्थी
प्रमुख सचिव।

संख्या– /55–पर्या–2–2018–09(रिट)/2016, तद्दिनाक

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषितः–

1. प्रमुख सचिव, परिवहन/नगर विकास/उद्योग/कृषि विभाग, उ0प्र0 शासन।
2. कमेटी के संबंधित सदस्य।
3. आयुक्त, परिवहन विभाग।

आज्ञा से,

(भारत प्रसाद)
अनु सचिव

ACTION PLAN

FOR

THE CONTROL OF AIR POLLUTION

IN

LUCKNOW CITY

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
IVth FLOOR, PICUP BUILDING VIBHUTI KHAND,
GOMTI NAGAR, LUCKNOW-226021

1. INTRODUCTION

Lucknow is situated on the North western bank of Gomti River, is not only the largest but also the capital city of Uttar Pradesh. The city is bounded on the east by Barabanki, on the west by Unnao, on the south by Raebareli, and on the north by Sitapur & Hardoi. Modern Lucknow spread evenly on both sides of River Gomti initially the city was situated along the right bank of the river but now a days city is spreading very fast towards all sides & specially on the left side of river Gomti. Lucknow has a Humid subtropical climate with cool, dry winters from mid – November to February and dry, hot summer from late March to June. In winter, maximum temperature is around 25^0C and minimum is in the range of 3^0C- 7^0C is quite common from mid December to late January. Lucknow's coordinates are 26.840N 80.940 E and its population (2011) census 28,15,601 . Approximate area is 470.7km^2 and population density is 5981per km^2.

Like other cities, Lucknow is also developing very fast due to rapid increase in urbanization, industrialization & population growth. As reported by the census of India, 2011, Lucknow has a population of 2,815,601. There was an increase of 25.36% compared to 2001 figures. The initial provisional data suggests a population density of 5981per km^2 in 2011. As the total area covered by the Lucknow city is only about 470.7 sq. km., the population density was much higher than the 690 persons per km^{2}recorded at state level. There are 04 designated Industrial sites in and around Lucknow city viz., Amausi Industrial Area, Talkatora Udyog Asthan, Sarojini Nagar Industrial Area & Deva Road Chinhat Industrial Area where 10 large, 15 medium & 15 small industries of Red category are in operation, 03 large, 04 medium, 65 small scale Orange category industries are in operation and 01 medium, 131 small scale Green category industries are in operation. Besides these, different category industries including 255 brick kilns are also in operation around Lucknow City.

Two major Indian National Highways have their intersection at Lucknow's Hazratganj intersection NH-24 to Delhi, NH-30 to Allahabad. Multiple modes of public transport are available such as taxis, city buses, auto, tempos, Rickshaws, Jeeps cars and others. A number of different categories of vehicles registered with R.T.O, Lucknow is 1864556 as on 31 March 2016. UPSRTC also introduce bus services under the banner of "Lucknow Parivahan Seva" for different routes of Lucknow city. There are 125 filling stations of petrol/ diesel and 06 filling stations of CNG in 2015-16. As per oil marketing companies IOC, BPCL, HPCL the consumption/ sale of petrol & diesel was 173617 & 182481 Kilo Liter respectively as on 31 March 2016 and 30246000 kg approximately CNG in the year 2015-16.

Presently the city has more than 18 lakhs vehicles which are increasing at an average annual rate of about 9%. Also huge ongoing construction activities, metro rail construction, Roads and fly over construction, Multistory apartment construction have also been contributing to the air pollution in addition to domestic, commercial, industrial & vehicular sources in the city. Considering all the factors Ambient Air Quality of Lucknow city is being monitored by the Board at 07 locations manually and at 01 location by CAAQMS with respect to PM_{10}, $PM_{2.5}$, SO_2, NO_2 and other parameters.

Population growth, Urbanization, needs and rapid increase in energy consumption are major driving force of air pollution in large cities like Lucknow. The consequences of pollution have led to poor urban air quality in Lucknow. The air pollution can be attributed to emissions from transportation, industrial & domestic activities, Re-suspension of road dust, Construction

activities, Burning of Biomass/Crop residues/municipal solid waste/garbage & unapproved fuel, operation of Diesel generator sets during power failure.

Air pollution has been viewed seriously by the Hon'ble Supreme Court, Hon'ble High Court & Hon'ble National Green Tribunal and issued specific directions from time to time for the improvement the air quality of the city. Central Pollution Control Board has also issued direction under section 18 (1)(b) of the Air (Prevention & Control of Pollution) Act 1981, regarding prevention, control or abatement of Air pollution in various cities of Uttar Pradesh including Lucknow.

2. ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Lucknow city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981. Board has also issued directions under section31(A) of the Air (Prevention and Control of Pollution) Act, 1981 as amended regarding prevention and control of air pollution in Lucknow city on dated 14.11.2017.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Lucknow city manually at 07 locations viz. Aliganj, Chowk, Mahanagar, Hazratganj, Talkatora, Ansal Technical campus & Gomtinagar for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Nagar Nigam Building, Hazratganj	Commercial	185.9	171.9	168.0	217.7	315.5	244.95
2	Forensic Lab, Mahanagar	Residential	185.8	167.7	160.0	198.1	212.1	204.50
3	DIC Office, Talkatora	Industrial	202.3	184.6	179.7	219.7	214.1	229.43
4	Vishnupuri, Aliganj	Residential	193.9	170.8	163.3	208.8	199.3	174.72
5	Sarai Mali Khan, Chowk	Commercial	188.9	179.5	171.3	216.3	243.3	230.27

6	ATC, Sultanpur Road	Commercial	-	-	146.1	219.7	197.1	208.84
7	Nagar Nigam Building, Gomti Nagar	Commercial	-	-	159.0	184.1	233.5	218.26
	STANDARD (annual average)	60 µg/m^3						

It is clear from the data that the pollution levels are increasing year by year and the air quality index is getting worst. If we do not take steps now, this can lead to severe consequences. In spite of all the effort to control air pollution by regulatory authorities the data summarized above suggest that the air pollution level in Lucknow is on higher side. Lucknow has witnessed significant growth during last one & half decade and recorded similar trends of Air pollution to other cities in Northern Indian planes in India.

4. SOURCES OF POLLUTION IN LUCKNOW

Based on Spatial and Temporal GIS Based Emission Inventory of Air Pollutants and Green House Gases in Three Major Cities of Uttar Pradesh, the main sources of air pollution in Lucknow city are Vehicular (5%),Road dust (87%), Construction & Demolition activities, Industries (Point source & Areas source), Garbage burning (2%) & Agriculture waste burning (2%) etc. Data obtained from Continuous Ambient Air Quality Monitoring System (2018) at Nishatganj, Lucknow showed values of CO 2.43 (mg/m^3); O_3 44.7 (µg/m^3); NO_2 40.0(µg/m^3); SO_2 11.5 (µg/m^3); $PM_{2.5}$ 95.0 (µg/m^3); and Benzene 2.28(µg/m^3).

During 2001 to 2011 city recorded a growth of approximately 25 % population & 160% number of vehicles. The present review based on monitoring conducted in Lucknow identified particulate matter as main pollutant in the city. High traffic densities and abnormal meteorological factors adversely influenced Ambient Air Quality of Lucknow in winter. Degraded Air Quality has adverse effect on buildings, materials, Human health, Plants, historical monuments and material surface get degraded and decolorize due to air pollutants. Clean air is a "matter of right" and the steps are urgently required to improve air quality and also the steps require a multi prolonged, sustained and integrated approach including close monitoring of implementation. Hence a short term and long term action plan is an urgent need to control air Pollution of Lucknow city.

5. Short term & Long term Action Plan

(A) **Vehicle emission control**

(a)Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of Public transport for public transport including establishment of sufficient charging stations.	360 days	Transport Department

ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi-cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities
vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b)Short Term Action Plan

Sl. No	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies

v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	180 days	N.H.A.I. /PWD
vii	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
viii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
ix	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
x	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**

(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	360 days	Nagar Nigam/LDA/Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest Department/ NMCG

(b)Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/Nagar Nigam & Development Authorities

ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Nigam
iv)	Greening of open areas, gardens, community places, Residential welfare associations/societies (RWAS), schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Nigam
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Nigam
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Nigam

(C) **Control of emissions from biomass/crop residue/garbage/municipal solid waste burning**

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Nigam
ii)	Regular check and control of burning of municipal solid wastes Availability of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Nigam
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Nigam
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board

v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Nigam
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Nigam/LDA
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Nigam/LDA

(D) **Control of industrial emissions**

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units. Adoption of cleaner technology like zigzag in brick kilns.	60 days	U.P. Pollution Control Board/ Nagar Nigam
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed to take action against non-complying industrial units.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
v)	Shifting of Air polluting industries to conforming zone i.e., Aishbagh area & Tiwariganj Road, Plywood industries	360 days	UPPCB/DIC/UPSIDC/ District Administration
vi)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E) **Control of air pollution from constructions and demolition activities**

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Enforcement of Construction & Demolition Rules 2016. Fine should be imposed on defaulters.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels.		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Proposed Master Plan for Lucknow City 2021	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on website of the Board .i.e.,www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities

(F) **Other Steps to control Air Pollution**

(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	360 days	Nagar Nigam
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	Source Apportionment Study has been done by IIT Kanpur funded by DOE.	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Wind rose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b)Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations).	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations. Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board/ Nagar Nigam
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

ACTION PLAN

FOR

THE CONTROL OF AIR POLLUTION

IN

KANPUR CITY

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
243, AVAS VIKAS, PHASE III, SADBHAVNA NAGAR,
KALYANPUR, KANPUR-17

1. INTRODUCTION

Kanpur is the 12th most populous city in India and the second largest city in the state of Uttar Pradesh after Lucknow. The city is the administrative headquarters of Kanpur Nagar district and Kanpur division. The name of the city is believed to have derived from Karnapur (meaning "town of Karna", one of the heroes of the Mahabharata). Another theory is that it came from the nearby town of Makanpur, earlier known as Khairabad, where the Sufi saint of the Madariya Sufi order, Badiuddin Zinda Shah Madar, settled.

Area of city is 403.70 km^2 . It has an average elevation of 126 m. Kanpur is the second most populous city in Uttar Pradesh, after Lucknow, and its urban agglomeration is among the largest in India. It is an important road and rail hub and has an airport for domestic flights. The city is a major commercial and industrial centre and is especially renowned for its leather industry, which includes some of the world's largest tanneries. The central part of the city lies northwest of a cantonment (military installation); most of its industry is still farther northwest. The urban area also includes three railway colonies and Armapur, a suburb. There is a military airfield nearby. Kanpur has a university; colleges of medicine, law, and education; the Indian Institute of Technology, Kanpur (established 1959); and a government experimental farm. Notable buildings include a sacred Hindu glass temple and Kamla Retreat, a rest house on a small lake. There are several museums.

Air pollution has been viewed seriously by the Hon'ble Supreme Court, Hon'ble High Court & Hon'ble National Green Tribunal and issued specific directions from time to time for the improvement the air quality of the city.

Central Pollution Control Board has also issued direction under section 18 (1)(b) of the Air (Prevention & Control of Pollution) Act 1981, regarding prevention, control or abatement of Air pollution in various cities of Uttar Pradesh including Kanpur.

2. ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Kanpur city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981. Board has also issued directions under section31(A) of the Air (Prevention and Control of Pollution) Act, 1981 as amended regarding prevention and control of air pollution in Kanpur city on dated 14.11.2017.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. **ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) OF KANPUR CITY (**YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Kanpur city manually at 08 locations viz. Jareeb Chowki, Kidwai Nagar, Panki Site-I, Shastri Nagar, Awas vikas, Kalyanpur, Dadanagar, IIT Campus, Ramadevi crossing for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM10 (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Jareeb Chowki	Commercial	215.3	218.4	204.1	236.3	237.7	226.73
2	Kidwai Nagar	Residential	191.0	186.0	200.6	217.6	209.5	210.72
3	Panki Site-I	Industrial	206.4	218.4	219.2	240.7	241.7	237.17
4	Shastri Nagar	Residential	196.8	208.3	203.8	228.1	233.9	190.45
5	Awas vikas, Kalyanpur	Residential	195.8	195.6	200.0	206.1	228.1	202.60
6	Dadanagar	Residential	260.7	221.4	222.0	214.9	247.1	256.58
7	IIT Campus	Residential	117.8	110.2	118.4	128.0	118.4	120.32
8	Ramadevi crossing	Commercial	235.9	218.9	240.2	264.7	278.3	291.23
	STANDARD (annual average)	60 µg/m3						

It is clear from the data that the pollution levels are increasing year by year and the air quality index is getting worst. If we do not take steps now, this can lead to severe consequences. In spite of all the effort to control air pollution by regulatory authorities the data summarized above suggest that the air pollution level in Kanpur is on higher side. Kanpur has witnessed significant growth during last one & half decade and recorded similar trends of Air pollution to other cities in Northern Indian planes in India.

During 2001 to 2011 city recorded a growth of approximately 25 % population & 160% number of vehicles. The present review based on monitoring conducted in Kanpur identified particulate matter as main pollutant in the city. High traffic densities and abnormal meteorological factors adversely influenced Ambient Air Quality of Kanpur in winter. Degraded Air Quality has adverse effect on buildings, materials, Human health, Plants, historical monuments and material surface get degraded and decolorize due to air pollutants. Clean air is a "matter of right" and the steps are urgently required to improve air quality and also the steps require a multi prolonged, sustained and integrated approach including close monitoring of

implementation. Hence a short term and long term action plan is an urgent need to control air Pollution of Kanpur city.

4. SOURCES OF POLLUTION IN KANPUR

Based on source apportionment study carried out by IIT-Kanpur during 2008-10 for Central Pollution Control Board, Delhi, the main sources of air pollution in Kanpur city are Industries (Point source-26% & Areas source 7%), Vehicular (20%), Construction & Demolition activities (19%), Road dust (14%), Garbage burning (5%) & Agriculture waste burning (4%) etc. Data obtained from Continuous Ambient Air Quality Monitoring System (2018) at Kanpur showed values of CO 2.64 (mg/m^3); O_3 26.78 (µg/m^3); NO_2 73.63(µg/m^3); SO_2 11.3 (µg/m^3); $PM_{2.5}$ 102.52 (µg/m^3); and Benzene 1.28(µg/m^3), Toluene 2.55(µg/m^3), Xylene 1.92(µg/m^3).

5. SHORT TERM & LONG TERM ACTION PLAN

(A) Vehicle emission control

(a) Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi- cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities
vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) Short Term Action Plan

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**

(a) Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	360 days	Nagar Nigam/KDA/Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest Department/NMCG

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/ Nagar Nigam & Development Authorities
ii)	Maintain potholes free roads for free-flow of traffic.	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible.	90 days	Nagar Nigam
iv)	Greening of open areas, gardens, community places, Residential welfare associations/societies (RWAS), schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Nigam
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Nigam
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Nigam

(C) **Control of emissions from biomass/crop residue/garbage/municipal solid waste burning**

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Nigam
ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Nigam
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Nigam

iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Nigam
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Nigam/KDA
vii)	No plot should be left open for more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Nigam/KDA

(D) Control of industrial emissions

(a) Long Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased manner.	360 days	U.P. Pollution Control Board
ii)	Installation of Electro Static Precipitators (ESP) or appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units.	60 days	U.P. Pollution Control Board
ii)	Monitoring of industrial emission including real time online monitoring through OCEMS	60 days, and thereafter,	U.P. Pollution

	(Online Continuous Emission Monitoring System) and live camera feed to take action against non-complying industrial units.	regular activity	Control Board
iii)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E) Control of air pollution from constructions and demolition activities

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Enforcement of Construction & Demolition Rules 2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Proposed Master Plan for Kanpur City 2021	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies

	website of the Board .i.e., www.uppcb.com.		
vi)	All construction areas must be covered to avoid dispersion of particulate matter.	30 days	Nagar Nigam /Development Authorities

(F) Other Steps to control Air Pollution

(a) Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc.	360 days	Nagar Nigam
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	Source Apportionment Study is being carried out by IIT Kanpur	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Windrose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15 days, and thereafter, continue as regular activity	U.P. Pollution Control Board, Lucknow

ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations. Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board/ Nagar Nigam
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

ACTION PLAN

FOR

THE CONTROL OF AIR POLLUTION

IN

PRAYAGRAJ

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
SECTOR-6, YOJNA No.3 AVAS VIKAS PARISHAD
COLONY, JHUSI, PRAYAGRAJ

1. INTRODUCTION

Prayagraj is a city in Uttar Pradesh state, north India. Triveni Sangam, the confluence of the Ganges, Yamuna and "invisible" Saraswati rivers, is considered holy by Hindus. It's near the 16th-century Allahabad Fort, built by Mughal Emperor Akbar. In the fort are the ancient sandstone Ashoka Pillar, the underground Patalpuri Temple and a sacred banyan tree. The Museum has Rajasthani miniature paintings. Area of city is approximately 70.5 km² with a Population of 1.117 million. The city is located at 25.4358° N, 81.8463° E.

2. ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Prayagraj city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) OF PRAYAGRAJ CITY

U.P. Pollution Control Board is monitoring ambient air quality of Prayagraj city manually at 05 locations viz. Mahalaxmi Talkies crossing, Bharat Yantra Nigam, Sewage Pumping Station, Alopibagh, Cooperative Bank, Jhonstonganj and Parag Dairy Rambagh for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Mahalaxmi Talkies crossing	Commercial	253.7	264.1	269.9	224.6	227.0	232.33
2	Bharat Yantra Nigam	Residential	218.0	236.6	233.5	179.3	174.8	191.92
3	Sewage Pumping Station, Alopibagh	Commercial	249.4	193.8	220.1	195.5	109.8	266.27
4	Cooperative Bank, Jhonstonganj	Commercial	211.7	183.7	207.0	182.2	115.8	236.23
5	Parag Dairy Rambagh	Commercial	219.0	182.3	208.9	179.2	99.0	228.48
	STANDARD (annual average)	60 $\mu g/m^3$						

4. SOURCES OF POLLUTION IN PRAYAGRAJ

The main sources of air pollution in Prayagraj city are Vehicular, Road dust, Domestic Cooking, Industries (Point source & Areas source), Garbage burning & Agriculture waste burning etc. Data obtained from Manual monitoring under National Ambient Monitoring Programme (NAMP) (2018) at Prayagraj showed values of NO_2 34.47(µg/m^3) and SO_2 4.87 (µg/m^3) at Mahalaxmi Talkies crossing; NO_2 33.66(µg/m^3) and SO_2 4.18 (µg/m^3) at Bharat Yantra Nigam; ; NO_2 57.06(µg/m^3) and SO_2 3.79 (µg/m^3) at Sewage Pumping Station, Alopibagh; NO_2 54.07(µg/m^3) and SO_2 3.59 (µg/m^3) at Cooperative Bank, Jhonstonganj and ; NO_2 49.33(µg/m^3) and SO_2 3.13 (µg/m^3) at Parag Dairy Rambagh.

Air pollution has been viewed seriously by the Hon'ble Supreme Court,Hon'ble High Court & Hon'ble National Green Tribunal and issued specific directions from time to time for the improvement the air Quality of the city. Central Pollution Control Board has also issued direction under section 18 (1) (b) of the Air (Prevention & control of pollution) Act 1981, regarding prevention, control or abatement of Air pollution in various cities of Uttar Pradesh. Action taken by the Board Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

5. Short term & Long term Action Plan

(A) **Vehicle emission control**

(a)Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of	360 days	Transport Department

	sufficient charging stations.		
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi-cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities
vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) Short Term Action Plan

Sl. No	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies

v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**

(a)Long Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	360 days	Nagar Nigam/ADA/Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest Department/NMCG

(a)Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/Nagar Nigam & Development Authorities

ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Nigam
iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Nigam
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Nigam
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Nigam

(C) **Control of emissions from biomass/crop residue/garbage/municipal solid waste burning**

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Nigam
ii)	Regular check and control of burning of municipal solid wastes. Availability of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Nigam
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Nigam
iv)	Ensure ban on burning of agriculture waste and crop residues and its	180 days	Agriculture Department & U.P. Pollution Control

	implementation		Board, Lucknow
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Nigam
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Nigam/ADA
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Nigam/ADA

(D) **Control of industrial emissions**

(a) Long term action plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased manner.	360 days	U.P. Pollution Control Board
ii)	Installation of Electrostatic Precipitators and appropriate air pollution control devices in factory units/industries.	360 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board,
ii)	Conversion of natural draft brick kilns to	120 days	U.P. Pollution

	induced draft		Control Board,
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial units	60 days, and thereafter, regular activity	U.P. Pollution Control Board ,
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
v)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E) **Control of air pollution from constructions and demolition activities**

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Enforcement of Construction & Demolition Rules2016. Fine should be imposed on defaulters.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Within a reasonable timeframe	Urban Development/Development Authorities

v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated16.02.2018 available on website of the Board .i.e., www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities

(F) **Other Steps to control Air Pollution**

(a)Long Term Action Plan

(G)

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	360 days	Nagar Nigam
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	04 years	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Windrose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b)Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board,

	monitoring stations		
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board,
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board,
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations. Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board/ Nagar Nigam
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

Action Plan

For

The Control of Air Pollution
in
Varanasi City

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
AVAS VIKAS OFFICE CUM COMMERCIAL COMPLEX, JAWAHAR NAGAR,
BHELUPUR, VARANASI

1. INTRODUCTION

Varanasi, also known as **Benares**, **Banaras** or **Kashi** , is a city on the banks of the river Ganga in the Uttar Pradesh state of North India, 320 kilometers south-east of the state capital, Lucknow, and 121 kilometers east of Allahabad. Varanasi lies along National Highway 2, which connects it to Kolkata, Kanpur, Agra, and Delhi, and is served by Varanasi Junction railway station and Lal Bahadur Shastri International Airport. Varanasi is also one of 72 districts in the Indian state of Uttar Pradesh. At the time of the 2011 census, there were a total of 8 blocks and 1329 villages in this district. The main native languages of Varanasi are Hindi and Bhojpuri.

Varanasi grew as an important industrial centre, famous for its muslin and silk fabrics, perfumes, ivory works, and sculpture. Buddha is believed to have founded Buddhism here around 528 BCE when he gave his first sermon, "The Setting in Motion of the Wheel of Dharma", at nearby Sarnath. The city's religious importance continued to grow in the 8th century, when Adi Shankara established the worship of Shiva as an official sect of Varanasi. During the Muslim rule through middle Ages, the city continued as an important centre of Hindu devotion, pilgrimage, mysticism and poetry which further contributed to its reputation as a centre of cultural importance and religious education. Guru Nanak visited Varanasi for Maha Shivaratri in 1507, a trip that played a large role in the founding of Sikhism.

The Kingdom of Benares was given official status by the Mughals in 1737, and continued as a dynasty-governed area until Indian independence in 1947. The city is governed by the Varanasi Nagar Nigam (Municipal Corporation). Silk weaving, carpets and crafts and tourism employ a significant number of the local population, as do the Diesel Locomotive Works.

Varanasi is known worldwide for its many ghats, embankments made in steps of stone slabs along the river bank where pilgrims perform ritual ablutions. Of particular note are the Dashashwamedh Ghat, the Panchganga Ghat, the Manikarnika Ghatand the Harishchandra Ghat, the last two being where Hindus cremate their dead and the Hindu genealogy registers at Varanasi are kept here.

2. ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Varanasi city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981. Board has also issued directions under section31(A) of the Air (Prevention and Control of Pollution) Act, 1981 as amended regarding prevention and control of air pollution in Varanasi city on dated 14.11.2017.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) OF VARANASI CITY (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Varanasi city manually at 05 locations viz Jawahar nagar, Sigra, BHU campus, Saketnagar, Chandpur for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Jawahar nagar	Residential	145.1	142.2	144.1	195.5	242.1	202.09
2	Sigra	Commertial	150.7	142.7	146.2	203.0	233.4	202.33
3	BHU campus	Residential	-	190.2	178.1	218.1	222.9	171.65
4	Saketnagar	Residential	-	235.3	179.9	254.3	261.0	200.89
5	Chandpur	Industrial	-	239.2	226.7	199.7	294.9	226.65
	STANDARD (annual average)	60 $\mu g/m^3$						

4. SOURCES OF POLLUTION IN VARANASI

Based on Spatial and Temporal GIS Based Emission Inventory of Air Pollutants and Green House Gases in Three Major Cities of Uttar Pradesh, the main sources of air pollution in Varanasi city are Vehicular (2%),Road dust (92%), Domestic Cooking (3%), Industries (Point source & Areas source), Garbage burning (2%) & Agriculture waste burning (2%) etc. Data obtained from Continuous Ambient Air Quality Monitoring System (2018) at Varanasi showed values of CO 1.00 (mg/m^3); O_3 24.80 ($\mu g/m^3$); NO_2 45.20($\mu g/m^3$); SO_2 9.3 ($\mu g/m^3$); $PM_{2.5}$ 95.0 ($\mu g/m^3$); and Benzene 0.9($\mu g/m^3$), Toluene 1.93($\mu g/m^3$), Xylene 0.49($\mu g/m^3$).

5. Short term & Long term Action Plan

(A) **Vehicle emission control**

(a)Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid	360 days	N.H.A.I. /PWD

	congestion due to non-destined vehicles.		
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi-cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities
vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b)Short Term Action Plan

Sl. No	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies

v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**

(a)Long Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest Department/NMCG
ii)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	180 days	Nagar Nigam/VDA/Forest Department

(b)Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are	90 days	Forest Department/Horticulture/Nagar Nigam & Development

	helpful in pollution control.		Authorities
ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Nigam
iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Nigam
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Nigam
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Nigam

(C) Control of emissions from biomass/crop residue/garbage/municipal solid waste burning

(b) Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Nigam
ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Nigam
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following		Nagar Nigam

	composting-cum-gardening approach		
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Nigam
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Nigam/VDA
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Nigam/VDA

(D) **Control of industrial emissions**

(a) Long Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased manner.	360 days	U.P. Pollution Control Board
ii)	Installation of Electrostatic precipitators and appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**

i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial units	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
v)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E) **Control of air pollution from constructions and demolition activities**

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Enforcement of Construction & Demolition Rules2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department

iv)	Environmental aspects should be included during preparation of master plan for development of city.	Proposed Master Plan for Varanasi City 2021	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on website of the Board .i.e.,www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam/ Traffic Police
vii)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam/ Traffic Police
viii)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam/ Traffic Police

(F) **Other Steps to control Air Pollution**

(a)Long Term Action Plan

(G)

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	360 days	Nagar Nigam
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	Source Apportionment Study has been done by IIT Kanpur funded by DOE	U.P. Pollution Control Board

iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Wind rose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b)Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations. Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board/ Nagar Nigam
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities

vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

Action Plan

For

The Control of Air Pollution
in
Ghaziabad City

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
2-INS, SECTOR - 16, VASUNDHARA, POST-PRAHLAD GARHI
GHAZIABAD

1. INTRODUCTION

Ghaziabad is a city in the Indian state of Uttar Pradesh. It is sometimes referred to as the "Gateway of UP" because it is close to New Delhi, on the main route into Uttar Pradesh. It is a part of the National Capital Region of Delhi. It is a large and planned industrial city, with a population of 2,358,525. Well connected by roads and railways, and is the administrative headquarters of Ghaziabad District as well as being the primary commercial, industrial and educational centre of western Uttar Pradesh and a major rail junction for North India. Recent construction works have led to the city being described by a City Mayors Foundation survey as the second fastest-growing in the world. Situated in the Upper Gangetic Plains, the city has two major divisions separated by the Hindon River, namely: Trans-Hindon on the west and Cis-Hindon on the east side.

Although connected by railway since 1865, it was not until 1940 that the first modern industry appeared in Ghaziabad. However, it was in the post-independence period that industry really expanded, with a further 22 factories opening in the four years after 1947. This development can be attributed to the influx of people from the newly formed Pakistan and the relocation of businesses from what was now the Pakistani province of Punjab. Subsequently, the Mohan Meakin breweries were also set up in the year 1949. This period also saw the development of Ghaziabad as one of India's most famous centers of the Oil Engines industry.

The period (1967-1970) also saw the emergence of the Electronics industry, with the setting up of Bharat Electronics Limited and Central Electronics Limited Over the years, planned Industrial development saw participation from major industrial houses of the country including Mohans (Mohan Nagar Industrial Estate, 1949), Tatas (Tata Oil Mills), Modis (Modinagar, 1933; International Tobacco Co. 1967), Shri Rams (Shri Ram Pistons, 1964), Jaipurias etc. and also significant participation through foreign capital in concerns such as Danfoss India Ltd., Indo-Bulgar Food Ltd. and International Tobacco Company (estd. 1967).

Ghaziabad, the headquarters of the district of the same name that was established in 1976, lies on the Grand Trunk road about a mile east of the Hindon river in Lat. 280 40' North and Long. 770 25' East, 19 km. east of Delhi and 46 km. south-west of Meerut with which it is connected by a metalled road. Other roads lead west to Loni and Baghpat and east to Hapur and Garhmukteshwar. Buses run at frequent intervals from here to Delhi, Meerut, Aligarh, Bulandshahr, Moradabad, Lucknow and to other districts also. Bulandshahr and Gautambudh Nagar, on the south-west by Delhi and on the east by the newly formed district of Hapur. As its boundary is adjacent to Delhi, it acts as the main entrance to Uttar Pradesh and hence is also called the Gateway of Uttar Pradesh. The provisional data derived from the 2011 census shows that Ghaziabad urban agglomeration had a population of 2,358,525. Ghaziabad is a subcategory B1 district of category B i.e. having socioeconomic parameters below the national average.

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Ghaziabad city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

2. ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Ghaziabad city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981. Board has also issued directions under section31(A) of the Air (Prevention and Control of Pollution) Act, 1981 as amended regarding prevention and control of air pollution in Ghaziabad city on dated 14.11.2017.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM10 (µg/m^3) OF GHAZIABAD CITY (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Ghaziabad city manually at 04 locations viz. Sahibabad, Bulandshahar Road, Khora Colony, and Lohia Nagar for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Sahibabad	Commercial	257.1	269.3	269.2	249.9	254.81	260.94
2	Bulandshahar Road	Residential	235.8	247.7	247.8	221.6	224.64	236.11
3.	Khora Colony	Residential	-	-	-	-	-	239.87
4.	Vinoba Bhave Park, Lohia Nagar	Residential	-	-	-	-	-	202.69
	STANDARD (annual average)	60 µg/m^3						

4. SOURCES OF POLLUTION IN GHAZIABAD

The main sources of air pollution in Ghaziabad city are Vehicular, Road dust, Construction & Demolition activities, Industries (Point source & Areas source), Garbage burning & Agriculture waste burning etc. Data obtained from Continuous Ambient Air Quality Monitoring System (2018) at Ghaziabad showed values of CO 1.80 (mg/m^3); O_3 42.1 ($\mu g/m^3$); NO_2 71.1($\mu g/m^3$); SO_2 28.0 ($\mu g/m^3$); $PM_{2.5}$ 127.0 ($\mu g/m^3$); NH_3 52.8 ($\mu g/m^3$); and Benzene 0.74($\mu g/m^3$), Toluene 9.91($\mu g/m^3$), Xylene 1.08($\mu g/m^3$).

It is clear from the data that the pollution levels are increasing year by year and the air quality index is getting worst. If we do not take steps now, this can lead to severe consequences. In spite of all the effort to control air pollution by regulatory authorities the data summarized above suggest that the air pollution level in Ghaziabad is on higher side.

During 2001 to 2011 city recorded a growth of approximately 25 % population & 160% number of vehicles. High traffic densities and abnormal meteorological factors adversely influenced Ambient Air Quality of Ghaziabad in winter. Degraded Air Quality has adverse effect on buildings, materials, Human health, Plants, historical monuments and material surface get degraded and decolorize due to air pollutants. Clean air is a "matter of right" and the steps are urgently required to improve air quality and also the steps require a multi prolonged, sustained and integrated approach including close monitoring of implementation. Hence a short term and long term action plan is an urgent need to control air Pollution of Ghaziabad city.

5. Short term & Long term Action Plan

(A) **Vehicle emission control**

(a) Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi-cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities

vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) **Short Term Action Plan**

Sl. No	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**

(a)Long Term Action Plan

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	180 days	Nagar Nigam/GDA/Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest department/NMCG

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/Nagar Nigam & Development Authorities
iii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iv)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Nigam
v)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
vi)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Nigam
vii)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Nigam
viii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Nigam

(C) **Control of emissions from biomass/crop residue/garbage/municipal solid waste burning**

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Nigam
ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Nigam
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Nigam
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Nigam
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Nigam/GDA
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Nigam/GDA

(D) **Control of industrial emissions**

(a) Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a	360 days	U.P. Pollution

	phased manner.		Control Board
ii)	Installation of Electrostatic precipitators and appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial units	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
v)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E) **Control of air pollution from constructions and demolition activities**

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Enforcement of Construction & Demolition Rules 2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Proposed Master Plan for Ghaziabad City 2021	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on website of the Board .i.e.,www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam/Development Authorities

(F) **Other Steps to control Air Pollution**

(a)Long Term Action Plan

(G)

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc.	360 days	Nagar Nigam
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board

iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	Source Apportionment Study is being carried out by IIT Delhi	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Windrose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b)Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations. Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board,
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation	30 days	Nagar Nigam/Develop

	& source collection at source of MSW to be implemented.		ment Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

ACTION PLAN

FOR

THE CONTROL OF AIR POLLUTION

IN

AGRA CITY

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
14, SECTOR-3 B, AWAS VIKAS, SIKANDRA YOJNA
AGRA

1.INTRODUCTION

Agra is a city on the banks of the river Yamuna in the northern state of Uttar Pradesh, India. It is 378 kilometres west of the state capital, Lucknow, 206 kilometres south of the national capital New Delhi, 58 kilometres south from Mathura and 125 kilometres north of Gwalior. Agra is one of the most populous cities in Uttar Pradesh, and the 24th most populous in India.Agra is a major tourist destination because of its many Mughal-era buildings, most notably the Tāj Mahal, Agra Fort and Fatehpūr Sikrī, all three of which are UNESCO World Heritage Sites. Agra is included on the Golden Triangle tourist circuit, along with Delhi and Jaipur; and the Uttar Pradesh Heritage Arc, tourist circuit of UP state, along Lucknow the capital of the state and Varanasi. Agra city has a population of 1,585,704, while the population of Agra cantonment is 53,053. The urban agglomeration of Agra has a population of 1,760,285 .The city is located at 27.1767° N, 78.0081° E.

2. ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Agra city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981. Board has also issued directions under section31(A) of the Air (Prevention and Control of Pollution) Act, 1981 as amended regarding prevention and control of air pollution in Agra city on dated 14.11.2017.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Agra city manually at 02 locations viz. for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Bodla	Sensitive	184.1	190.8	182	170.1	174.4	195.84
2	Nunhai	Sensitive	216.4	229.1	218	229.8	220	241.67
	STANDARD (annual average)	60 $\mu g/m^3$						

4. SOURCES OF POLLUTION IN AGRA

The main sources of air pollution in Agra city are Vehicular, Road dust, Domestic Cooking, Industries (Point source & Areas source), Garbage burning & Agriculture waste burning etc. Data obtained from Continuous Ambient Air Quality Monitoring System (2018) at Agra showed values of CO 1.19 (mg/m^3); O_3 25.00 (µg/m^3); NO_2 53.50(µg/m^3); SO_2 14.4 (µg/m^3); $PM_{2.5}$ 113.0 (µg/m^3); and Benzene 1.46(µg/m^3), Toluene 4.12(µg/m^3), Xylene 2.82(µg/m^3).

Air pollution has been viewed seriously by the Hon'ble Supreme Court,Hon'ble High Court & Hon'ble National Green Tribunal and issued specific directions from time to time for the improvement the air Quality of the city. Central Pollution Control Board has also issued direction under section 18 (1) (b) of the Air (Prevention & control of pollution) Act 1981, regarding prevention, control or abatement of Air pollution in various cities of Uttar Pradesh. Action taken by the Board Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

5. Short term & Long term Action Plan

(A) Vehicle emission control

(a) Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi-cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities

vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) Short Term Action Plan

Sl. No	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) Suspension of road dust and other fugitive emissions control

(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	180 days	Nagar Nigam/ADA/ Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest Department/ NMCG

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/ Horticulture/ Nagar Nigam & Development Authorities
ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Nigam
iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Nigam
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Nigam

vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Nigam

(C) Control of emissions from biomass/crop residue/garbage/municipal solid waste burning

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Nigam
ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Nigam
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Nigam
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Nigam
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Nigam/ADA
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Nigam/ADA

(D) Control of industrial emissions

(a) Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased manner.	360 days	U.P. Pollution Control Board
ii)	Installation of Electrostatic precipitators and appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board,
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board,
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial units	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third	60 days, and thereafter, regular activity	U.P. Pollution Control Board

	Party Institutions/Quality control agencies etc.		
v)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E) Control of air pollution from constructions and demolition activities

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Enforcement of Construction & Demolition Rules 2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels.		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Proposed Master Plan for Agra City 2021	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on website of the Board .i.e.,www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities

(F) Other Steps to control Air Pollution

(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc.	360 days	Nagar Nigam
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	Source Apportionment Study is being carried out by IIT Kanpur	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Windrose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b)Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15 days, and thereafter, continue as regular activity	U.P. Pollution Control Board,
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board,
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board,

iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board,
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

Action Plan

For

The Control of Air Pollution
in
Noida City

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
E-12/1, SECTOR 1, NOIDA, GAUTAMBUDH NAGAR

1.INTRODUCTION

Noida, short form of the New Okhla Industrial Development Authority, is a planned city under the management of the New Okhla Industrial Development Authority. It is a satellite city of Delhi and is part of the National Capital Region of India. As per provisional reports of Census of India, the population of Noida in 2011 was 642,381. Noida is located in Gautam Buddh Nagar district of Uttar Pradesh state in close proximity to NCT of Delhi. The district's administrative headquarters are in the nearby town of Greater Noida. However, the district's highest government official, the District Magistrate (DM), has its official camp office in Noida. The city is a part of the Noida Vidhan Sabha (state assembly) constituency and Gautam Buddha Nagar (Lok Sabha constituency). Minister of State for Culture, Tourism of Civil Aviation Mahesh Sharma of the BJP is the current MP of Noida.

Noida replaced Mumbai as the second-best realty destination, according to an analyst report. Roads in Noida are lined by trees and it is considered to be India's greenest city with about 50% green cover, the highest of any city in India. Noida is located in the Gautam Buddh Nagar district of Uttar Pradesh state India. Noida is about 25 kilometers southeast of New Delhi, 20 kilometers northwest of the district headquarters - Greater Noida and 457 kilometers northwest of the state capital, Lucknow. It is bound on the west and southwest by the Yamuna River, on the north and northwest by the city of Delhi, on the northeast by the cities of Delhi and Ghaziabad, India and on the north-east, east and south-east by the Hindon River. Noida falls under the catchment area of the Yamuna River, and is located on the old river bed. The soil is rich and loamy.

As per provisional data of 2011 census, Noida had a population of 642,381. Noida stands at 17th place when it comes to cleanliness among cities in India. The creation of associated physical infrastructure is higher in Noida and Greater Noida. Most of the land in Noida is not very fertile and the agricultural output is low. It is in the flood plains of the Yamuna River on one side and the Hindon River on the other. Many villages are visible from the Noida Expressway, beginning from the Mahamaya flyover to Greater Noida on both sides. One end of Taj expressway terminates on Noida Expressway near the Hindon River and the other at Agra. Up until the 1980s these villages were flooded every 2–3 years, resulting in people temporarily moving to other places in Noida, and even as far as Mehrauli in Delhi. Noida is also famous for its tall buildings and comes 2nd in India after Mumbai in this parameter.

The Noida-Greater Noida Expressway is poised to become a self-sustaining urban pocket in Noida with good infrastructure. This 23 km long corridor has attracted real estate Noida Extension investors and buyers with its good infrastructure facilities and connectivity to the other regions of NCR.This area is getting Metro connectivity which will make this region easily accessible from other parts of NCR. The proposed Metro line in this corridor will have 22 stations, out of which 15 stations will come up in Noida and 7 in Greater Noida. This line would be an extension of Noida City Centre line in sector 32. The Noida-Greater Noida Expressway is one of the prime development corridors in the country, and is unique as connectivity options are already functional or are making good progress. Another Expressway connecting Faridabad, Noida and Ghaziabad is being constructed.

2. ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Noida city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981. Board has also issued directions under section31(A) of the Air (Prevention and Control of Pollution) Act, 1981 as amended regarding prevention and control of air pollution in Noida city on dated 14.11.2017.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) OF NOIDA CITY (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Noida city manually at four locations viz. Regional Office, Sector-1, Sector-6, Golf course, Sector-37, and Subrose Ltd, Phase II Noida for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM10 (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Regional Office, Sector-1, Noida	Residential	134.6	127.4	143.4	190.5	216.2	280.19
2	Sector-6, Noida	Industrial	145.1	141.4	152.8	199.7	203.1	253.48
3	Golf course, Sector-37, Noida	Residential	-	-	-	-	213.7	218.09
4	Subrose Ltd, Phase II, Noida	Residential	-	-	-	-	201.7	207.42
	STANDARD (annual average)		60 $\mu g/m^3$					

4. SOURCES OF POLLUTION IN NOIDA

The main sources of air pollution in Noida city are Vehicular, Road dust, Construction & Demolition activities, Industries (Point source & Areas source), Garbage burning & Agriculture waste burning etc. Data obtained from Continuous Ambient Air Quality Monitoring System (2018) at Noida showed values of CO 1.72 (mg/m^3); O_3 39.8 ($\mu g/m^3$); NO_2 65.5($\mu g/m^3$); SO_2

20.4 (µg/m^3); $PM_{2.5}$ 126.0 (µg/m^3); NH_3 57.9 (µg/m^3); and Benzene 0.52(µg/m^3), Toluene 5.91(µg/m^3), Xylene 1.70(µg/m^3).

5. Short term & Long term Action Plan

(A) **Vehicle emission control**

(a) Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi-cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities
vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) Short Term Action Plan

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments

i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**

a) Long Term Action Plan

Sl. No	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Agencies/Departments**
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	180 days	Nagar Nigam/CEO NOIDA/Forest Department

ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest department/NMCG

(b) Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/ Nagar Nigam & Development Authorities
ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Nigam/CEO
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Nigam/CEO
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Nigam/CEO

(C) **Control of emissions from biomass/crop residue/garbage/municipal solid waste burning**

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**

i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Nigam/CEO
ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Nigam/CEO
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Nigam/CEO
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Nigam/CEO
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Nigam/CEO
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Nigam/CEO

(D)Control of industrial emissions

(a) Long Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased manner.	360 days	U.P. Pollution Control Board
ii)	Installation of Electrostatic precipitators and appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for	360 days	Nagar Nigam

	different localities.		

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial units	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
v)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E)Control of air pollution from constructions and demolition activities

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Enforcement of Construction & Demolition Rules2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as	Urban Development/Development Authorities

ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;	regular activity	Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Proposed Master Plan for Noida City 2021	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on website of the Board .i.e.,www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities

(F)Other Steps to control Air Pollution
(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	360 days	Nagar Nigam
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	4 years	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Windrose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b)Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board/ Nagar Nigam
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

ACTION PLAN

FOR

THE CONTROL OF AIR POLLUTION

IN

ANPARA

REGIONAL OFFICE
U.P. POLLUTION CONTROL BOARD
HOUSE No.162, UTTAR MOHAL, ROBERTSGANJ
SONBHADRA - 231216

1.INTRODUCTION

Anpara is a city in Myorpur Block in Sonbhadra District of Uttar Pradesh State, India. It belongs to Mirzapur Division. It is located 71 Km towards South from District head quarters Robertsganj. 33 KM from Myorpur. 403 Km. from State capital Lucknow. Parasi (3 Km) , Kakari (4 Km) , Kuldomari (4 Km) , Garabandha (5 Km) , Basi (6 Km) are the nearby Villages to Anpara. Anpara is surrounded by Myorpur Block towards East , Waidhan Block towards west , Obra Block towards North , Chitrangi Block towards North . Coordinates: 24.206°N 82.765°E Singrauli , Renukoot , Obra , Kota are the nearby cities to Anpara.

2. ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Anpara city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981. Board has also issued directions under section31(A) of the Air (Prevention and Control of Pollution) Act, 1981 as amended regarding prevention and control of air pollution in Anpara city on dated 14.11.2017.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) OF Anpara CITY (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Anpara city manually at 02 locations viz. Anpara colony and Renusagar colony for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Anpara colony	Residential	125.8	128.6	130.2	133.3	173.2	201.90
2	Renusagar colony	Residential	133.6	133.4	133.3	133.2	144.5	172.72
	STANDARD (annual average)	60 $\mu g/m^3$						

Air pollution has been viewed seriously by the Hon'ble Supreme Court, Hon'ble High Court & Hon'ble National Green Tribunal and issued specific directions from time to time for the improvement the air Quality of the city. Central Pollution Control Board has also issued direction under section 18 (1) (b) of the Air (Prevention & control of pollution) Act 1981, regarding prevention, control or abatement of Air pollution in various cities of Uttar Pradesh. Action taken by the Board Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

4. SOURCES OF POLLUTION IN ANPARA

The main sources of air pollution in Anpara are Vehicular, Road dust, Construction & Demolition activities, Thermal power plants, Garbage burning & Agriculture waste burning etc. Data obtained from Manual monitoring under National Ambient Monitoring Programme (NAMP) (2018) at Anpara showed values of NO_2 27.59($\mu g/m^3$) and SO_2 18.20 ($\mu g/m^3$) at Anpara colony and ; NO_2 29.33($\mu g/m^3$) and SO_2 18.06 ($\mu g/m^3$) at Renusagar colony.

5. Short term & Long term Action Plan

(A) Vehicle emission control

(a)Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi-cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities

vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) Short Term Action Plan

Sl. No	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**

(a) Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	360 days	Nagar Palika Parishad, Sonbhadra /SADA/Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest department/NMCG

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/ Nagar Nigam & Development Authorities
ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Palika Parishad, Sonbhadra
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days and thereafter continue as regular activity	Nagar Palika Parishad, Sonbhadra
iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Palika Parishad, Sonbhadra
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants,	90 days	Nagar Palika Parishad, Sonbhadra

	sprinkling for dust suppression purposes.		
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days and thereafter continue as regular activity	Nagar Palika Parishad, Sonbhadra
viii)	Strict enforcement of supply of coal to the thermal power stations and industries by railway wagons only	60 days and thereafter as regular activity	RTO/Police/Coal companies

(C) Control of emissions from biomass/crop residue/garbage/municipal solid waste burning

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days and thereafter continue as regular activity	Nagar Palika Parishad, Sonbhadra
ii)	Regular check and control of burning of municipal solid wastes		Nagar Palika Parishad, Sonbhadra
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Palika Parishad, Sonbhadra
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Palika Parishad, Sonbhadra
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Palika Parishad, Sonbhadra /SADA

vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots..	90 days	Nagar Palika Parishad, Sonbhadra /SADA

(D) Control of industrial emissions

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Establishment of online emission monitoring equipments in the stacks of the industries (Thermal Power Stations). Connect it to server of CPCB & SPCB)	180 days	UPRVUNL Anpara A, B & D Lanco Anpara Power Co., HINDALCO Power Div.
ii)	Up gradation of Electrostatic Precipitators installed in the Thermal Power Stations in order to bring PM emission concentration below 100mg/M^3	180 days	UPRVUNL Anpara A, B & D Lanco Anpara Power Co., HINDALCO Power Div.
iii)	Ensure supply of beneficiated coal having ash content below 34% to the power stations on quarterly average basis	60 days	Northern Coal Fields Ltd., Khadia, Bina, Krishnashila, Kakri & Duddichua.
iv)	Engage a third party to check the ash content in the coal	60 days, and thereafter, as regular activity	Northern Coal Fields Ltd., Singrauli, M.P. UPRVUNL Anpara A, B & D Lanco Anpara Power Co., HINDALCO Power Div.
v)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed to take action against non-complying industrial units.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
vi)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any	60 days, and thereafter, regular activity	U.P. Pollution Control Board

	violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc.		
vii)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E) **Control of air pollution from constructions and demolition activities**

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Enforcement of Construction & Demolition Rules 2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Within a reasonable timeframe	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on website of the Board .i.e.,www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities

(F) **Other Steps to control Air Pollution**

(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	360 days	Nagar Palika Parishad, Sonbhadra
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	4 years	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Wind rose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b)Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board / CPCB
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	within a reasonable time	U.P. Pollution Control Board
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	within a reasonable time	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	within a reasonable time	District Supply Officer

v)	Monitoring of DG sets and action against violations Fine should be imposed on defaulters.	within a reasonable time	U.P. Pollution Control Board/ Nagar Nigam
vi)	To ensure 24 X 7 electricity supply in order to minimize use of D.G. sets.	within a reasonable time	UPRVUNL Anpara A, B & D Lanco Anpara Power Co., HINDALCO Power Div.
vii)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
viii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
ix)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

Action Plan

For

The Control of Air Pollution in Bareilly City

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
E-1219/1, RAJENDRA NAGAR
BAREILLY-243122

1. INTRODUCTION

Bareilly is a city in Bareilly district in the northern Indian state of Uttar Pradesh. Located on the Ramganga River, there is Ramganga barrage build for canal irrigation. It's the capital of Bareilly division and the geographical region of Rohilkhand. The city is 252 kilometres north of the state capital, Lucknow, and 250 kilometres (155 mi) east of the national capital, New Delhi. It is the Eight largest metropolis in Uttar Pradesh and the 50th-largest city in India. Bareilly also figured amongst the PM Narendra Modi's ambitious 100 Smart City list in India

The city is a centre for furniture manufacturing and trade in cotton, cereal and sugar. Its status grew with its inclusion in the "counter magnets" list of the National Capital Region (NCR), a list also including Hissar, Patiala, Kota and Gwalior. The city is also known as Bans-Bareilly. Although Bareilly is a production centre for cane (bans) furniture, "Bans Bareilly" is not derived from the bans market; it was named for two princes: Bansaldev and Baraldev, sons of Jagat Singh Katehriya, who founded the city in 1537. Bareilly is level and well-watered, sloping towards the south. Its soil is fertile, with groves of trees. A rain forest in the north, known as the tarai, contains tigers, bears, and deers. The river Sarda (or Gogra) forms the eastern boundary and is the principal waterway. The Ramganga receives most of the drainage from the Kumaon mountains, and the Deoha also receives many small streams. The Gomati is also nearby.

Air pollution has been viewed seriously by the Hon'ble Supreme Court,Hon'ble High Court & Hon'ble National Green Tribunal and issued specific directions from time to time for the improvement the air Quality of the city. Central Pollution Control Board has also issued direction under section 18 (1) (b) of the Air (Prevention & control of pollution) Act 1981, regarding prevention, control or abatement of Air pollution in various cities of Uttar Pradesh. Action taken by the Board Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

2. ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Bareilly city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. SOURCES OF POLLUTION IN BAREILLY

The main sources of air pollution in Bareilly city are Vehicular, Road dust, Construction & Demolition activities, Industries, Garbage burning & Agriculture waste burning etc. Data

obtained from Manual monitoring under National Ambient Monitoring Programme (NAMP) (2018) at Bareilly showed values of NO_2 21.45($\mu g/m^3$) and SO_2 7.97($\mu g/m^3$) at Indian Veterinary Research Institute, Izzat Nagar and ; NO_2 24.20($\mu g/m^3$) and SO_2 14.79 ($\mu g/m^3$) at IOC Petrol Pump, Civil Line, Near Prabha Talkies.

4.ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) OF BAREILLY CITY (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Bareilly city manually at 02 locations viz Indian Veterinary Research Institute, Izzat Nagar (IVRI) & IOC Petrol Pump, Civil Line, Near Prabha Talkies for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Indian Veterinary Research Institute, Izzat Nagar	Commercial	217.4	224.8	207.1	205.5	188.0	195.36
2	IOC Petrol Pump, Civil Line, Near Prabha Talkies	Commercial	260.3	268.9	270.4	246.7	225.7	259.24
	STANDARD (annual average)		60 $\mu g/m^3$					

It is clear from the data that the pollution levels are increasing year by year and the air quality index is getting worst. If we do not take steps now, this can lead to severe consequencesAlthough SO_2 & NO_2 levels are within prescribed standards but the level of other pollutants have increased considerably over the years. Bareilly has witnessed significant growth during last one & half decade and recorded similar trends of Air pollution to other cities in Northern Indian planes in India. During 2001 to 2011 city recorded a growth of approximately 27.66% population & number of vehicles. The present review based on monitoring conducted in Bareilly identified particulate matter as main pollutant in the city. High traffic densities and abnormal meteorological factors adversely influenced Ambient Air Quality of Bareilly in winter.

Degraded Air Quality has adverse effect on buildings, materials, Human health, Plants, historical monuments and material surface get degraded and decolorize due to air pollutants. Hence clean air is a "matter of right" and the steps are urgently required to improve air quality and also the step require a multi prolonged, sustained and integrated approach including close monitoring of implementation. Hence a long term and short term Graded Action plan is an urgent need to control air pollution of Bareilly city which is given below:-

5. Short term & Long term Action Plan

(A) **Vehicle emission control**

(a)Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments

i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi- cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities
vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) Short Term Action Plan

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam

vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**

(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	360 days	Nagar Nigam/BDA/Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest department/NMCG

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/Nagar Nigam & Development Authorities
ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Nigam

iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Nigam
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Nigam
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Nigam

(C) **Control of emissions from biomass/crop residue/garbage/municipal solid waste burning**

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Nigam
ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Nigam
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Nigam
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board, Lucknow
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Nigam

vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Nigam/BDA
vii)	No plot should be left open for more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Nigam/BDA

(D) **Control of industrial emissions**

(a) Long Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased manner.	360 days	U.P. Pollution Control Board
ii)	Installation of Electrostatic precipitators and appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board, Lucknow
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board, Lucknow
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial	60 days, and thereafter, regular activity	U.P. Pollution Control Board , Lucknow

	units		
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc..	60 days, and thereafter, regular activity	U.P. Pollution Control Board , Lucknow
v)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E) **Control of air pollution from constructions and demolition activities**

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Enforcement of Construction & Demolition Rules 2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Proposed Master Plan for Bareilly City 2021	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities

(F) **Other Steps to control Air Pollution**

(a) Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	360 days	Nagar Nigam
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	4 years	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Windrose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board, Lucknow
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board, Lucknow

iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board, Lucknow
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board, Lucknow/ Nagar Nigam
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

ACTION PLAN

FOR

THE CONTROL OF AIR POLLUTION

IN

FIROZABAD

REGIONAL OFFICE
HOUSE NO. 77, GALI NO. 2,
MAHAVIR NAGAR
FIROZABAD

1. INTRODUCTION

Firozabad is a city in India, in the state of Uttar Pradesh also known as the City of Glass Suhag Nagari.From early times, it was famous for glass and bangle works, and its related small scale industry is famous throughou the world. Due to underdeveloped industry, literacy rates are very low. The city suffers from low literacy and pollution. The landowners of Firozabad hail from the Sayed, Manihar, Pathan and the Hindu Rajput castes. Firozabad is located in north central India, in Uttar Pradesh, 40 km from Agra and around 240 km away from Delhi, at the northern edge of the Deccan Plateau, at 27°09′N 78°24′E. It is located 164 meters (540 ft). \ above sea level.Firozabad City had a population of 603,797. Firozabad with the changing time has entered into new era of Glass Manufacturing, it has become a major hub of manufacturing different Glass based items and has registered its global presence, diversifying its industrial base and encouraging ancillary industries including Chemicals, Packaging and more of service sector based industries have flourished in a short span of time.

2. ACTION TAKEN BY THE BOARD

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) OF FIROZABAD CITY (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Firozabad city manually at 03 locations viz. for PM_{10}, SO_2 and NO_2 parameters under NAMP programmes. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	CDGI	Sensitive	266.4	320	196.6	224.5	216.9	214.27
2	Tilak Nagar	Sensitive	242.2	285.4	203.9	221.4	222.6	221.92
3	Raja ka Taal	Sensitive	234.4	304	192.3	223.7	219.8	232.83
	STANDARD (annual average)		60 $\mu g/m^3$					

It is clear from the data that the pollution levels are increasing year by year and the air quality index is getting worst. If we do not take steps now, this can lead to severe consequences Although SO_2 & NO_2 levels are within prescribed standards but the level of other pollutants have increased considerably over the years.

Air pollution has been viewed seriously by the Hon'ble Supreme Court,Hon'ble High Court & Hon'ble National Green Tribunal and issued specific directions from time to time for the improvement the air Quality of the city. Central Pollution Control Board has also issued direction

under section 18 (1) (b) of the Air (Prevention & control of pollution) Act 1981, regarding prevention, control or abatement of Air pollution in various cities of Uttar Pradesh.

4. SOURCES OF POLLUTION IN FIROZABAD

The main sources of air pollution in Firozabad city are Vehicular, Road dust, Construction & Demolition activities, Industries (Point source & Areas source), Garbage burning & Agriculture waste burning etc. Data obtained from Manual monitoring under National Ambient Monitoring Programme (NAMP) (2018) at Firozabad showed values of NO_2 30.17($\mu g/m^3$) and SO_2 7.83($\mu g/m^3$) at CDGI; NO_2 31.50($\mu g/m^3$) and SO_2 8.25($\mu g/m^3$) at Tilak Nagar and ; NO_2 31.00($\mu g/m^3$) and SO_2 8.08 ($\mu g/m^3$) at Raja ka Taal.

Degraded Air Quality has adverse effect on buildings, materials, Human health, Plants, historical monuments and material surface get degraded and decolorize due to air pollutants. Hence clean air is a "matter of right" and the steps are urgently required to improve air quality and also the step require a multi prolonged, sustained and integrated approach including close monitoring of implementation. Hence a long term and short term Action plan is an urgent need to control air pollution of Firozabad city which is given below:-

5. Short term & Long term Action Plan

(A) **Vehicle emission control**

(a)Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi- cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities

vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b)Short Term Action Plan

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
vi	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
viii	Construction of peripheral road around the city to avoid decongestion.	360 days	N.H.A.I./PWD
ix	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days and thereafter continue as regular activity	Transport Department/Nagar Nigam & Development Authorities
x	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days and thereafter continue as regular activity	Transport Department

xi	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**

(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	360 days	Nagar Nigam/ Firozabad Municipal Corporation /Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest Department/NMCG

(b)Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/ Nagar Nigam & Development Authorities
ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Nigam
iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Nigam
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants,	90 days	Nagar Nigam

	sprinkling for dust suppression purposes.		
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Nigam

(C) **Control of emissions from biomass/crop residue/garbage/municipal solid waste burning**

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Nigam/ Firozabad Municipal Corporation
ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and bio mass.		Firozabad Municipal Corporation /Nagar Nigam
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Firozabad Municipal Corporation /Nagar Nigam
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board, Lucknow
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Firozabad Municipal Corporation /Nagar Nigam
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Nigam/Firozabad Municipal Corporation
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Nigam/ Firozabad Municipal Corporation

(D) **Control of industrial emissions**

(a)Long Term Action Plan

(E)

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased manner.	360 days	U.P. Pollution Control Board
ii)	Installation of Electrostatic precipitators and appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial units	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies	60 days, and thereafter, regular activity	U.P. Pollution Control Board

	etc.		
v)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E)Control of air pollution from constructions and demolition activities

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Enforcement of Construction & Demolition Rules 2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Within a reasonable timeframe	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on website of the Board .i.e., www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities
vii)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	60 days	Nagar Nigam/ Traffic Police
viii)	Complete ban on littering of streets with municipal solid wastes (MSW)	60 days	Nagar Nigam/ Traffic Police

	from source collection of MSW to be implemented.		

(F) **Other Steps to control Air Pollution**

(a) Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	360 days	Firozabad Municipal Corporation /Nagar Nigam
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	Source Apportionment study has been completed by NEERI Nagpur funded by District Administration	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Windrose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in	30 days	U.P. Pollution Control Board

	the State and interact with CPCB		
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board/Nagar Nigam
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

ACTION PLAN

FOR

THE CONTROL OF AIR POLLUTION

IN

GAJRAULA CITY

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
108/11, AVAS VIKAS COLONY,
BIJNOR

1. INTRODUCTION

Gajraula Town is situated on NH-24, between Delhi and Moradabad city. Gajraula is a main Industrial town of District – Amroha (J.P. Nagar). Gajraula is a Small city/ Town but known as a Developed Town due to its, Location, Rail and Road connectivity and Industrial activity. Most of The Nearby area is well developed forming area and dairy Milk producing area as well as good forming of sugarcane also. Local drain/River Bagad is the main Rainy drain which carry the storm water and industrial treated waste water and ultimately meet to River Ganga. Gajraula has a humid subtropical climate with cool, dry winter form mid November to February and dry hot summer from late March to June. Due to local sugar crop growing and Ganga River bed December January is mostly full of Fog weather. Gajraula Town is under limit of Nagar Palika Parishad Gajraula. It is an important industrial area of Uttar Pradesh.

Ambient air quality monitoring in Gajraula Town is carried out by UPPCB on out sourcing basis at two location (i) Raunak Automotive Ltd, U.P.S.I.D.C. industrial area and (ii) Indira Chowk, Gajraula. Ambient air quality monitoring is carried out at above two main location of this town. The ambient air quality (PM_{10}) is increasing periodically due to development of industrial, commercial and residential activities in this area. Besides this NHAI work for 06 lining of NH-24 is also in progress and dust emission is prominent due to this activity.

The Ambient Air Quality trends are show that SPM levels are exceeding the national standard. Due to that CPCB has declared this city as non attainment city in U.P. The average concentration of particulate matter in ambient air of urban area mainly contributed by vehicular emission, industrial emission, process emission, fuel quality used in this area, M.S.W. Management, road construction activities. Industries located around this city are also main source of particulate matter emission. The details of industries situated in Gajraula Town and nearby area are as under.

S.No.	Name of Industry	Product Cap.	Fuel used	Air, Pollution, control status
1	Jubilant Agri and Consumer Products Limited (Fertilizer Unit) Bhartiagram, Gajraula, Amroha.	H_2SO_4 Acid 7500 Ton/Month, SSP-15000 MT/Month & GSP-15000 MT/Month	Coal-31 MTD & Rice Husk-27 MTD	Dust collector, Wet Scrubber Installed

2	Jubilant Agri and Consumer Products Limited (Polymer Unit) Bhartiagram, Gajraula, Amroha.	Soild PVA and Derivatives-2458 MT/Month, Polyurethane Devivatives – 500 MT/Month & Wood finished 450 MT/Month	HSD- 1200 ltr/day	30 mtr. stack.
3	Jubilant Life Sciences Limited (Chemical Unit I) Bhartiagram, Gajraula, Amroha.	Acetic Acid, Ethyl acetate , Acetaldehyde, Acetic Anhydride	Common Steam Header provider by thermal Plant	Scrubber and Absorption tower Installed.
4	Jubilant Life Sciences Limited (Chemical Unit II) Bhartiagram, Gajraula, Amroha.	Pyridine , Picoline, Chino peridene, Lutidine & Derivatives	Common Steam Header provider by thermal Plant	Thermo Oxidizer, Scrubber and Absorption tower Installed.
5	Jubilant Life Sciences Limited (Distillery Unit) Bhartiagram, Gajraula Amroha.	Rectified Sprit 183 KLD	Common Steam Header provider by thermal Plant	Bag filter and 50 mtr. stack installed.
6	Jubilant Life Sciences Limited (Power Plant) Bhartiagram, Gajraula Amroha.	Power Generation 48 M.W.	Coal-32400 MT/M, Bio Gas-4659120 nm^3/M, R.F.O-300 MT/M, L.D.-330 MT/M,	ESP, Dust collector Mist Eliminator, and 55 mtr. stack installed.
7	Coral News Prints Ltd. Gajraula, Amroha.	Craft Paper 20 Ton/day	Wood/Rice Husk 10 ton/day	Dust collector & 30 mtr. stack installed.
8	Kamakshi Papers Pvt. Ltd., Gajraula, District Amroha	News print Paper 60 Ton/day	Wood/Rice Husk 30 ton/day	Dust collector & 30 mtr. stack installed.
9	Teva API India Ltd, A- 2/1, A-2/2, UPSIDC Industrial Area, Bijnor Road, Gajraula, Amroha.	Bulk durks Intermediate I & II,- 620 MT/Years	LDO-09 KLD, HSD-3800 KLD	Dust collector, Wet Scrubber, Spray Dryer & 30, 45 mtr. stack installed.
10	Insilco Ltd, A-5 UPSIDC ind area Gajraula, Amroha.	Precipitated silica-21000 Ton/Year	Bio Bricate-15 Ton/day & HSD for DG Set.	Dust collector & 30 mtr. stack installed.
11	Umang Dairies Ltd. 3 Km. Hasanpur road Gajraula, Amroha	Pasteurized Milk, Butter Ghee, Dahi By	Rice Husk/Agro waste 72 MT/day	Dust collector, Bag Filter & 40 mtr. stack

		handling of 11.5 lac liter milk.		installed.
12	Dairy India Pvt Ltd. Gajraula, Amroha.	Pasteurized Milk, Butter Ghee, Dahi By handling of 70000 liter milk.	Rice Husk/Agro waste 30 MT/day & Diesel oil for DG Set.	Dust collector & 30 mtr. stack installed.
13	Best Crop Science LLP (Old Name Chemtura Chemicals India Pvt. Ltd.), C-2, Industrial Area Gajraula, Amroha.	Formulation of Pesticides, Insecticides & Herbicides	HSD for DG Set.	Bag Filter
14	Best Agro Chem. Pvt. Ltd., Gajraula, Amroha.	Formulation of Pesticides, Insecticides & Herbicides	Bio Bricate-01 Ton/day & HSD for DG Set.	Dust collector & 30 mtr. stack installed.
15	Raunak Automotive Ltd, Gajraula, Amroha.	Automotive Gear & shaft 30 MT/day	LPG 1800 Kg/day & Diesel oil 400 Ltr/day for DG set.	10 mtr. stack installed.
16	Irachem Pvt. Ltd, Gajraula, Amroha.	Formulation of Pesticides, Insecticides & Herbicides	HSD for DG Set.	Bag Filter
17	Madhur Ceramic Pvt. Ltd, A-8, UPSIDC, Gajraula, Amroha.	Fine bone China ware (Crockery) 05 MT/day	Diesel Oil 2000 Lit/day	10 mtr. stack installed.
18	Kaushambi Paper Mill Pvt. Ltd., Khasra No-138, Village Naipura Khadar, Dhanaura, Gajraula, Amroha	Craft Paer 35 Ton/day	Wood/Rice Husk 09 ton/day	Dust collector, Wet Scrubber & 30 mtr. stack installed.
19	A.S.P Sealing Products Ltd. Gajraula, Amroha	EPDM , Rubber Industrial Profile & Industrial Housing	Diesel oil 1000 Ltr/day	Dust collector, Bag filter & 10 mtr. stack installed.
20	Nirmal Fiber Pvt. Ltd., Gajraula, Amroha	Polyester Staple Fiber 900 Ton/Month & Rexene / Coated fabrics 03 lac mtr. /month.	Coal/wood -2500 kg/day & Diesel oil for DG set.	Dust collector & 15 mtr. stack installed.

2. ACTION TAKEN BY THE BOARD

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. SOURCE OF AIR POLLUTION

The source of air pollution in Gajraula are Industrial Air emission, Road dust, Vehicular emission, domestic fuel burning, open waste burning, construction activities, M.S.W. garbage dumping, Bio-mass and garbage burning, crop residue burning etc. Major contribution of air pollution load in town is due to Jubilant organdies Group of Industries because it is the major fuel (like coal, Diesel/furnace oil) consumer in the town. Notices has been issued to submit their action plan for improvement and effective control of Air pollution. Data obtained from Manual monitoring under National Ambient Monitoring Programme (NAMP) (2018) at Gajraula showed values of NO_2 29.33($\mu g/m^3$) and SO_2 17.75($\mu g/m^3$) at Raunaq Auto and ; NO_2 36.08($\mu g/m^3$) and SO_2 22.08 ($\mu g/m^3$) at Indira Chowk.

Air pollution has been viewed seriously by the Hon'ble Supreme Court, Hon'ble High Court & Hon'ble National Green Tribunal and issued specific directions from time to time for the improvement the air quality of the city.

Central Pollution Control Board has also issued direction under section 18 (1)(b) of the Air (Prevention & Control of Pollution) Act 1981, regarding prevention, control or abatement of Air pollution in various cities of Uttar Pradesh. Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

4.ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM10 ($\mu g/m^3$) OF GAJRAULA CITY (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Gajraula city manually at 02 locations viz. Raunaq Auto and Indira Chowk for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Raunaq Auto	Industrial	131.3	173.9	167.0	183.0	194.3	205.58
2	Indira Chowk	Commercial	141.4	190.9	180.8	198.9	216.5	245.75
	STANDARD (annual average)		60 $\mu g/m^3$					

5. Short term & Long term Action Plan

(A) Vehicle emission control

(a)Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi- cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities
vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) Short Term Action Plan

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police

ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Palika Parishad Gajraula
v	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
vi	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Palika Parishad Gajraula
ix	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/ Nagar Palika Parishad Gajraula & Development Authorities
x	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
xi	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
xii	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**
(a)Long Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	360 days	Nagar Palika Parishad Gajraula /Forest Department
ii)	All the canals/nullah's side roads should be	360 days	Irrigation Department/

	brick lined. Proper plantation also carried out.		Forest Department/NMCG

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/ Nagar Palika Parishad Gajraula & Development Authorities
ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Palika Parishad Gajraula
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Palika Parishad Gajraula
iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Palika Parishad Gajraula
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Palika Parishad Gajraula
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Palika Parishad Gajraula

(C) **Control of emissions from biomass/crop residue/garbage/municipal solid waste burning**

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Palika Parishad Gajraula

ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Palika Parishad Gajraula
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Palika Parishad Gajraula
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Palika Parishad Gajraula
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Palika Parishad Gajraula
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Palika Parishad Gajraula

(D) **Control of industrial emissions**

(a) Long Term Action Plan

(E)

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased manner.	360 days	U.P. Pollution Control Board
ii)	Installation of Electrostatic precipitators and appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial units	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
v)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E) **Control of air pollution from constructions and demolition activities**

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Enforcement of Construction & Demolition Rules 2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations		Urban Development/Development Authorities

	through water sprinkling, curtains, barriers and dust suppression units;		
iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Within a reasonable timeframe	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on website of the Board .i.e.,www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities

(F) **Other Steps to control Air Pollution**

(a) Long Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	360 days	Nagar Palika Parishad Gajraula
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	4 years	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Windrose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board/ Nagar Palika Parishad Gajraula
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

ACTION PLAN

FOR

THE CONTROL OF AIR POLLUTION

IN

KHURJA CITY

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
F-5, JAMUNAPURAM COLONY, BULANDSHAHAR

1. INTRODUCTION

Khurja is a city (and a municipal board) in the Bulandshahr district in the Indian state of Uttar Pradesh. It is situated around 85 km from Delhi. Khurja supplies a large portion of the ceramics used in the country, hence it is sometimes called The Ceramics City. The town is also famous for its special sweet, known as "khurchan". The name Khurja is derived from the Urdu word kharija meaning, cancelledor condemned, as the revenue for this town was waived because this land included many swamps and the agricultural possibilities were rare.

Khurja is now famous for its ceramics. With over 500 factories producing ceramic works, its skyline is dotted with chimneys. Khurja is located at 28.25°N 77.85°E. It has an average elevation of 197 metres (646 foot).A s per provisional data of 2011 census, Khurja urban agglomeration had a population of 142,636, out of which males were 75,384 and females were 67,252. The development activities of U.P. Small Industrial Corporation Ltd. resulted in setting up of UPSIC Potteries Ltd. in 1976–77. There was a widespread complaint about the efficiency of the UPSIC Potteries Ltd., primarily because of high costs. The Government of Uttar Pradesh set up a panel in Nov.1990 to examine the working of the corporation and to consider the proposal of the passing of the commercial activities back to the Pottery Development Centre (Local Office of Directorate of Industries).

Though an industrial region, Khurja lacks the infrastructure for good industry by European standards. Since there are often power cuts lasting around eight hours, all factories and most homes have private generators. The municipality water supply is insufficient or everybody's need so many have water pumps to extract groundwater. The city is located at 28.2514° N, 77.8539° E

Air pollution has been viewed seriously by the Hon'ble Supreme Court, Hon'ble High Court & Hon'ble National Green Tribunal and issued specific directions from time to time for the improvement the air quality of the city. Central Pollution Control Board has also issued direction under section 18 (1)(b) of the Air (Prevention & Control of Pollution) Act 1981, regarding prevention, control or abatement of Air pollution in various cities of Uttar Pradesh including Khurja.

2. ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Khurja city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) OF KHURJA CITY

U.P. Pollution Control Board is monitoring ambient air quality of Khurja city manually at 02 locations viz. CGCRI Campus and Ahirpara for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	CGCRI Campus	Industrial	174.4	173.2	181.2	176.0	204.8	212.75
2.	Ahirpara	Residential	148.2	141.2	153.6	163.9	180.1	196.54
	STANDARD (annual average)		60 $\mu g/m^3$					

4. SOURCES OF POLLUTION IN KHURJA

The main sources of air pollution in Khurja city are Vehicular, Road dust, Construction & Demolition activities, Industries (Point source & Areas source), Garbage burning & Agriculture waste burning etc. Data obtained from Manual monitoring under National Ambient Monitoring Programme (NAMP) (2018) at Khurja showed values of NO_2 19.80($\mu g/m^3$) and SO_2 21.27 ($\mu g/m^3$) at CGCRI Campus and ; NO_2 18.60($\mu g/m^3$) and SO_2 19.97 ($\mu g/m^3$) at Ahirpara.

5. Short term & Long term Action Plan

(A) Vehicle emission control

(a) Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities

v	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi- cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities
vi	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
vii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) Short Term Action Plan

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**

(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	360 days	Nagar Palika Parishad, Khurja /Devlopment Authority/Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest Department/NMCG

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/ Nagar Palika Parishad, Khurja & Development Authorities
ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Palika Parishad, Khurja / Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Palika Parishad, Khurja
iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Palika Parishad, Khurja
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Palika Parishad

vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Palika Parishad

(C)Control of emissions from biomass/crop residue/garbage/municipal solid waste burning

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Palika Parishad
ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Palika Parishad
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Palika Parishad
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Palika Parishad, Khurja
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Palika Parishad, Khurja / Development Authority
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Palika Parishad, Khurja / Development Authority

(C) **Control of industrial emissions**

(a) Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased manner.	360 days	U.P. Pollution Control Board
ii)	Installation of Electrostatic precipitators and appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial units.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies	60 days, and thereafter, regular activity	U.P. Pollution Control Board

	etc.		
v)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(D) **Control of air pollution from constructions and demolition activities**

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Enforcement of Construction & Demolition Rules 2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Within a reasonable timeframe	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No.H16405/220/2018/02 dated 16.02.201 available on website of the Board .i.e.,www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities

(E) **Other Steps to control Air Pollution**

(a) Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Dead Bodies of Animals should be disposed through proper treatment facility	360 days	Nagar Palika Parishad, Khurja

	like rendering plant etc		
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	4 years	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Windrose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b) Short Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board/Nagar Palika Parishad,

			Khurja
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Palika Parishad, Khurja

Action Plan

For

The Control of Air Pollution
in
Moradabad City

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
1-A/I.N.S.-1 AVAS VIKAS COLONY, BUDDHA VIHAR DELHI ROAD,
MORADABAD

1.INTRODUCTION

Moradabad is a city, commissionary, and a municipal corporation in Moradabad district of Indian state of Uttar Pradesh. Moradabad is situated on the banks of the Ramganga river, at a distance of 167 km (104 mi) from the national capital, New Delhi and 344 km north-west of the state capital Lucknow. The city is known as Pital Nagri ("Brass City") for its famous brass handicrafts industry. It is also the divisional headquarters of Northern Railway (NR). Moradabad was established as an office for the Chaupala pargana during emperor Akbar's regime. In AD 1624 it was captured by Rustam Khan, the then Governor of Sambhal who named it Rustam Nagar.

Moradabad is situated on the banks of the Ramganga river, that originates from the Doodhatoli ranges and is a part of the Namik Glacier, originating from the high altitude zone of 800 m to 900 m. The Ramganga flows to the south west from the Kumaun Himalaya. It is a tributary of the Ganga. It flows by the Corbett National Park near Ramnagar of Nainital district, from where it descends upon the Gangetic plain. The Ramganga Dam has been built on the Ramganga river at Kalagarh for irrigation and electricity generation. According to the 2011 census Moradabad city has a population of 887,871.The population of Moradabad district was 4,772,006,and the second most populated district in the state of Uttar Pradesh. This gives it a ranking of 26th in India (out of a total of 640). The district has a population density of 1,284 inhabitants per square kilometer (3,330/sq mi). Its population growth rate over the decade 2001-2011 was 25.25%.

Moradabad Special Economic Zone (SEZ) the only Uttar Pradesh Government Developed SEZ in northern India, headed by the Development Commissioner, Noida SEZ and locally governed by the Assistant Development Commissioner, was set up in 2003 at Pakbara – Dingarpur Road in Moradabad on a 421.565 acre plot of land. Government of UP through UPSIDC being developers to this SEZ project has so far invested a sum of ₹1100 million on its development. Moradabad SEZ provides excellent infrastructure, supportive services and sector specific facilities for the Handicraft Trade. Proximity to Delhi/ NCR and availability of skilled and dedicated manpower makes it ideal for setting up various industries in Handicrafts & its allied filed. Moradabad SEZ was operationalised since April, 2007 when it started with only one unit, however till today in spite of global slowdown in the handicraft trade for past four years; this zone has now 22 operational Units. Moradabad SEZ has 465 developed plots of varying sizes. Future expansion of this has been strategically planned and soon it will be available for few more export sectors.

Presently the city has more than 18 lakhs vehicles which are increasing at an average annual rate of about 9%. Also huge ongoing construction activities, metro rail construction, Roads and fly over construction, Multistory apartment construction have also been contributing to the air pollution in addition to domestic, commercial, industrial & vehicular sources in the city. Considering all the factors Ambient Air Quality of Moradabad city is being monitored by the Board at 02 locations manually and at 01 location by CAAQMS with respect to PM_{10}, $PM_{2.5}$, SO_2, NO_2 and other parameters.

Population growth, Urbanization, needs and rapid increase in energy consumption are major driving force of air pollution in large cities like Moradabad. The consequences of pollution have led to poor urban air quality in Moradabad. The air pollution can be attributed to emissions from transportation, industrial & domestic activities, Re-suspension of road dust, Construction activities, Burning of Biomass/Crop residues/municipal solid waste/garbage & unapproved fuel, operation of Diesel generator sets during power failure.

Air pollution has been viewed seriously by the Hon'ble Supreme Court, Hon'ble High Court & Hon'ble National Green Tribunal and issued specific directions from time to time for the improvement the air quality of the city. Central Pollution Control Board has also issued direction under section 18 (1)(b) of the Air (Prevention & Control of Pollution) Act 1981, regarding prevention, control or abatement of Air pollution in various cities of Uttar Pradesh including Moradabad.

2. ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Moradabad city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981. Board has also issued directions under section31(A) of the Air (Prevention and Control of Pollution) Act, 1981 as amended regarding prevention and control of air pollution in Moradabad city on dated 14.11.2017.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM10 (µg/m^3) OF MORADABAD CITY (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Moradabad city manually at 02 locations viz. Police Training Centre and Buddha bazaar for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Police Training Centre	Residential	128.8	158	146.8	171.6	179.2	202.58
2	Buddha bazaar	Commercial	202.1	240.9	198.9	219.3	246.9	252.25
	STANDARD (annual average)		60 µg/m^3					

4. SOURCES OF POLLUTION IN MORADABAD

Data obtained from Continuous Ambient Air Quality Monitoring System (2018) at Moradabad showed values of CO 1.49 (mg/m^3); O_3 40.4 ($\mu g/m^3$); NO_2 51.1($\mu g/m^3$); SO_2 19.5 ($\mu g/m^3$); $PM_{2.5}$ 196.0 ($\mu g/m^3$); NH_3 44.2 ($\mu g/m^3$); and Benzene 1.28($\mu g/m^3$), Toluene 10.67($\mu g/m^3$), Xylene 4.03($\mu g/m^3$).

5.SHORT TERM & LONG TERM ACTION PLAN

(A) Vehicle emission control

(a) Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi- cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities
vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) Short Term Action Plan

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) Suspension of road dust and other fugitive emissions control

(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	360 days	Nagar Nigam/MDA/Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest Department/NMCG

(b)Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/ Nagar Nigam & Development Authorities
ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Nigam
iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Nigam
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Nigam
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Nigam

(C) **Control of emissions from biomass/crop residue/garbage/municipal solid waste burning**

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Nigam
ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal		Nagar Nigam

	solid waste and bio mass.		
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Nigam
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Nigam
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Nigam/MDA
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Nigam/MDA

(D) **Control of industrial emissions**

(a) Long Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased manner.	360 days	U.P. Pollution Control Board
ii)	Installation of Electrostatic precipitators and appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial units	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
v)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E) **Control of air pollution from constructions and demolition activities**

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Enforcement of Construction & Demolition Rules 2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities

iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Proposed Master Plan for Moradabad City 2021	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on website of the Board .i.e.,www.uppcb.com	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities

(F) **Other Steps to Control Air Pollution**

(a) Long Term Action Plan

(E)

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc.	360 days	Nagar Nigam
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	4 years	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Windrose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations).	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board/Nagar Nigam
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

Action Plan

For

The Control of Air Pollution
in
Raebareli City

REGIONAL OFFICE
U.P POLLUTION CONTROL BOARD
C-BLOCK, AVAS VIKAS COLONY, INDIRA NAGAR,
RAEBARELI

1. INTRODUCTION

The district of Raebareli, which was created by the British in 1858, is named after its headquarters town. Tradition has it that the town was founded by the *Bhars*and was known as *Bharauli* or *Barauli* which in course of time got corrupted into Bareli. The prefix, Rae, is said to be a corruption of Rahi, a village 5km. west of the town. It is also said that the prefix, Rae, represents Rae, the common title of the Kayasths who were masters of the town for a considerable period of time. Since about the begining of the media level period of indian history the region in the south of which the area covered by the district of Raebareli lies has been known as avadh or subhah of avadh. In the north it streched as far as the foothills of the Himmalays and in the south as far as the Ganga beyond which lay the Vatsa country. There is no doubt that the district has been civilised and settled life since very early times.The Quit India movement was inagurated on August 8, 1942 and the district did not lag behind any others. Again there was mass arrests, imposition of collective fines, lathi charges and police firing. At Sareni the police opened fire at an agitated crowed, killing and maiming many. The people of this district enthusiastically respond to the call of individual Satyagragha and large numbers courted arrest. At last, on August 15,1947, the country shook off the foreign yoke and achieved its long-awaited independence. Raebareli celeberated the event with benefiting glee and rejoicing in every home along with the rest of the country.

Raebareli district is a district of Uttar Pradesh state in northern India. The town of Raebareli is the district headquarters. Many freedom fighters who fought against the British hail from Raebareli. According to the 2011census Raebareli district has a population of 3,404,004, roughly equal to the nation of Panama or the US state of Connecticut. This gives it a ranking of 97th in India (out of a total of 640). The district has a population density of 739 inhabitants per square kilometre (1,910/sq mi). Its population growth rate over the decade 2001-2011 was 18.51%.

The district had an area of 4,609 km2. The principal rivers of the district are the Ganges and the Sai. The population of Raebareli (Nagar Palika Parishad) as per 2011 census is 1,91,056 out of which male and female are 99,844 and 91,212 respectively. Considering the population statistics from the last century, the city faced a decrease in population in the decade 1911-1921 and thereafter the decadal population increased successively.

Raebareli situated in the central part of Uttar Pradesh state is well connected to the other parts of state and country both by road and railways. As Raebareli is surrounded by the five districts of Lucknow, Unnao, Allahabad, Pratapgarh and Sultanpur the city is well connected to all of them. On road Raebareli is situated 77 kms south to Lucknow, 134 kms east of Unnnav, 127 kms east west to Allahabad, 98 kms north west to Pratapgarh, 90 kms west to sultanpur and at a distance of 111 kms to Kanpur. Four National Highways pass through the city, the National Highway (NH) 24B linking Lucknow to Allahabad, NH 231, NH 232 and NH 330A connecting different regions of the state are passing through the city. The Raebareli Railway station situated on the Lucknow - Howrah railway line is a major junction of Northern railways. The station is well connected by rail to major cities of Uttar Pradesh like Lucknow, Varanasi, Allahabad and Kanpur and to the major cities of India like Delhi, Kolkata, Amritsar, Dehradun etc.

Famous for its rich inheritance, architectural brilliance, and historical importance of being a part of Indian Freedom Movement and for its industrial base with famous companies like Indian Telephone Industries, Rail Coach factory, Birla Cement Factory and NTPC Ltd the district

is a popular destination for tourist visit throughout the year. Apart from this the district is also well populated which needs better service in all factors.

2. ACTION TAKEN BY THE STATE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Raebareili city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) OF RAEBARELI CITY (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Raebareli city manually at 03 locations viz. Town Hall Colony, Gulab Road ,Ahmad Nagar ,Khoya Mandi Tiraha, and Amawan Road, Industrial Area for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the previous years are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Town Hall Colony, Gulab Road ,Ahmad Nagar	Residential	163.5	148.8	144.5	129.3	128.8	132.48
2	Khoya Mandi Tiraha, Lucknow,Road	Commercial	179.8	164.7	163.8	145.6	146.9	115.38
3	Amawan Road, Industrial Area	Industrial	185..0	164.5	163.2	146.3	147.1	148.55
	STANDARD (annual average)		60 $\mu g/m^3$					

4. SOURCES OF POLLUTION IN RAEBARELI

The main sources of air pollution in Raebareli city are Vehicular, Road dust, Construction & Demolition activities, Industries (Point source & Areas source), Garbage burning & Agriculture waste burning etc. Data obtained from Manual monitoring under National Ambient Monitoring Programme (NAMP) (2018) at Raebareli showed values of NO_2 14.96($\mu g/m^3$) and SO_2 8.64($\mu g/m^3$) at Town Hall Colony, Gulab Road ,Ahmad Nagar; NO_2 19.91($\mu g/m^3$) and SO_2 14.49($\mu g/m^3$) at Khoya Mandi Tiraha, Lucknow,Road and ; NO_2 17.22($\mu g/m^3$) and SO_2 10.76 ($\mu g/m^3$) at Amawan Road, Industrial Area.

5. Short term & Long term Action Plan

(A) Vehicle emission control

(a) Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD
iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi- cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities
vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) Short Term Action Plan

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) Suspension of road dust and other fugitive emissions control

(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
ii)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	180 days	Nagar Palika Parishad, Raibareli /Devlopment Authority/Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried	360 days	Irrigation Department/ Forest

	out.		Department/NMCG

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department/Horticulture/ Nagar Plaika Parishad, Raibareli & Development Authorities
ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Palika Parishad, Raibareli / Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Palika Parishad, Raibareli
iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Palika Parishad, Raibareli
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Palika Parishad, Raibareli
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Palika Parishad, Raibareli

(C) **Control of emissions from biomass/crop residue/garbage/municipal solid waste burning**

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Palika Parishad, Raibareli

ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Palika Parishad, Raibareli
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Palika Parishad, Raibareli
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Palika Parishad, Raibareli
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Palika Parishad, Raibareli
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Palika Parishad, Raibareli

(D)Control of industrial emissions

(a) Long Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased manner.	360 days	U.P. Pollution Control Board
ii)	Installation of Electrostatic precipitators and appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial units	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc.	60 days, and thereafter, regular activity	U.P. Pollution Control Board

(E) **Control of air pollution from constructions and demolition activities**

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Enforcement of Construction & Demolition Rules 2016. Fine should be imposed on defaulting units.	15 days , and thereafter, continue as regular activity	Urban Development/Development Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities

iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Proposed Master Plan for Raebareli City 2021	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on website of the Board .i.e.,www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities

(F) **Other Steps to control Air Pollution**

(a) Long Term Action Plan

Sl. No.	**Action Points**	**Timeframe for implementation**	**Action Required to be Taken by Responsible Departments**
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	360 days	Nagar Palika Parishad, Raibareli
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	4 years	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air pollution based open location of pollution sources and Windrose data	360 days	Forest department/Development Authority/IMD/Regional Office & UPPCB

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board/ Nagar Palika Parishad, Raibareli
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam

Action Plan

For

The Control of Air Pollution
in
Jhansi City

REGIONAL OFFICE
UTTAR PRADESH POLLUTION CONTROL BOARD
AVAS VIKAS COLONY, TALPURA YOJNA, KANPUR ROAD, JHANSI

1.INTRODUCTION

Jhansi is a historic city in the Indian state of Uttar Pradesh. It lies in the region of Bundelkhand on the banks of the Pahuj River, in the extreme south of Uttar Pradesh. Jhansi is the administrative headquarters of Jhansi district and Jhansi division. Jhansi is well connected to all other major towns in Uttar Pradesh by road and railway networks. The National Highways Development Project has supported development of Jhansi. Srinagar to Kanyakumari North-South corridor passes through Jhansi as does the East-West corridor; consequently there has been a sudden rush of infrastructure and real estate development in the city. A greenfield airport development has been planned. On 28 August, 2015 Jhansi was selected among 98 cities for smart city initiative by Government of India.

According to the 2011 census, Jhansi has a population of 1,998,603, its urban agglomeration a population of 547,638. The literacy rate of Jhansi is 83.02%, higher than the state average of 67.68%. Jhansi city has 231st rank among the most populated cities of India, according to the 2011 census. Jhansi is located at 25.4333 N 78.5833 E. The city has a natural slope in the north as it is on the south western border of the vast Tarai plains of Uttar Pradesh and the elevation rises on the south. The region relies heavily on Monsoon the rains for irrigation purposes.

Presently the city has more than 18 lakhs vehicles which are increasing at an average annual rate of about 9%. Also huge ongoing construction activities, Roads and fly over construction, Multistorey apartment construction have also been contributing to the air pollution in addition to domestic, commercial, industrial & vehicular sources in the city. Considering all the factors Ambient Air Quality of Jhansi city is being monitored by the Board at 02 locations manually with respect to PM_{10}, $PM_{2.5}$, SO_2, NO_2 and other parameters.

Air pollution has been viewed seriously by the Hon'ble Supreme Court, Hon'ble High Court & Hon'ble National Green Tribunal and issued specific directions from time to time for the improvement the air quality of the city.

Central Pollution Control Board has also issued direction under section 18 (1)(b) of the Air (Prevention & Control of Pollution) Act 1981, regarding prevention, control or abatement of Air pollution in various cities of Uttar Pradesh including Lucknow.

2.ACTION TAKEN BY THE BOARD

Board has issued directions to Principal Secretary Urban Development, Principal Secretary Forests, Principal Secretary Transport, Principal Secretary Agriculture, Managing Director Central U.P. Gas Ltd., Managing Director Indraprastha Gas Ltd, and Managing Director Green Gas Ltd. under section 31 (A) of the Air (Prevention and Control of Pollution) Act, 1981 regarding prevention and control of air pollution in Jhansi city on dated 05.09.2016 in compliance of directions issued by Central Pollution Control Board, Delhi under section 18(1) (b) of the Air (Prevention and Control of Pollution) Act, 1981.

Ambient Air is being monitored regularly by the Board. At source emission monitoring i.e. stack monitoring of industries is also being done regularly and action is being taken accordingly on the basis of analysis report. If any industry is found violating the standards firstly

show-cause notice is issued to the industry followed by closure under Air (Prevention and Control of Pollution) Act, 1981.

3.SOURCES OF POLLUTION IN JHANSI

The main sources of air pollution in Jhansi city are Vehicular, Road dust, Construction & Demolition activities, Industries (Point source & Areas source), Garbage burning & Agriculture waste burning etc.Data obtained from Manual monitoring under National Ambient Monitoring Programme (NAMP) (2018) at Jhansi showed values of NO_2 17.30($\mu g/m^3$) and SO_2 5.57($\mu g/m^3$) at Veerangna Nagar and ; NO_2 18.83($\mu g/m^3$) and SO_2 6.26 ($\mu g/m^3$) at Maanik Chowk.

4. ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM_{10} ($\mu g/m^3$) OF JHANSI CITY (YEAR 2013-2018)

U.P. Pollution Control Board is monitoring ambient air quality of Jhansi city manually at 02 locations viz. Veerangna Nagar and Maanik Chowk for PM_{10}, SO_2 and NO_2 parameters. Annual Average data of Ambient Air Quality particularly PM_{10} (Particulate Matter size less than 10 microns) were observed during the year 2013-18 are as given below.

S.No.	Name of Location	Category	2013	2014	2015	2016	2017	2018
1	Veerangna Nagar	Residential	89.3	95.4	106.9	95.7	101.1	88.67
2	Maanik Chowk	Commercial	111.7	123.6	130	120.9	124.6	103.31
	STANDARD (annual average)	60 $\mu g/m^3$						

5.Short term & Long term Action Plan

(A) Vehicle emission control

(a) Long Term Action Plan: Reduce congestion

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Plying of electric buses for public transport including establishment of sufficient charging stations.	360 days	Transport Department
ii	Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles.	360 days	N.H.A.I. /PWD
iii	Construction of peripheral road around the city to avoid congestion.	360 days	N.H.A.I./PWD

iv	Arrangement of Multilevel Parking Facilities	360 days	Nagar Nigam/Development Authorities
vi	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi- cycle to reach the destination.	360 days	Nagar Nigam/Development Authorities
vii	Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-VI fuels are available	360 days	Vehicle Manufacturing Companies/Ministry of Road Transport & Highways (MoRTH)
viii	Use of Bio-Ethanol in the city/urban transport system/waste to energy.	360 days	Transport Department

(b) Short Term Action Plan

Sl. No	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i	Launch extensive drive against polluting vehicles for ensuring strict compliance	As regular activity	R.T.O/Traffic Police
ii	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
iii	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ Nagar Nigam
iv	Prepare & implement action plan to check fuel adulteration and random monitoring of fuel quality data	30 days	District Supply Officer/Oil companies
v	Prepare & implement plan for widening of roads and improvement of infrastructure for decongestion of road	90 days	Nagar Nigam
vi	Steps for promoting battery operated vehicles including establishment of charging stations.	120 days	Transport Department/Nagar Nigam & Development Authorities
vii	Install weigh in motion bridges at the borders of cities/towns and States to prevent overloading of vehicles	180 days	Transport Department
viii	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving	180 days	Traffic Police
ix	Installation of remote sensor based PUC system	180 days	Traffic Police

(B) **Suspension of road dust and other fugitive emissions control**

(a)Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Implementation of maintaining at least 33% forest cover area in the city in master plan.	360 days	Nagar Nigam/JDA/Forest Department
ii)	All the canals/nullah's side roads should be brick lined. Proper plantation also carried out.	360 days	Irrigation Department/ Forest Department/NMCG

(b)Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Concerning Departments
i)	Prepare plan for creation of green buffers along the traffic corridors. Plantation of specific types of species of plants which are helpful in pollution control.	90 days	Forest Department Nagar Nigam/Horticulture/ & Development Authorities
ii)	Maintain potholes free roads for free-flow of traffic	90 days & as regular activity afterwards.	Nagar Nigam/ Development Authorities
iii)	Introduce water fountains at major traffic intersection, wherever feasible	90 days	Nagar Nigam
iv)	Greening of open areas, gardens, community places, schools and housing societies	90 days	Forest Department
v)	Blacktopping of metalled road including pavement of road shoulders	180 days	Nagar Nigam
vi)	Use of treated effluent of STPs in Pollution Control Measure such as watering of Plants, sprinkling for dust suppression purposes.	90 days	Nagar Nigam
vii)	Wall to Wall pavement for control of dust from road. Design the footpath pavement/tiles having capacity to grow grass in between.	180 days	Nagar Nigam

(C) **Control of emissions from biomass/crop residue/garbage/municipal solid waste burning**

Sl. No.	Action Points	Timeframe for implementation	Concerning Departments
i)	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.	90 days	Nagar Nigam
ii)	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and bio mass.		Nagar Nigam
iii)	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach		Nagar Nigam
iv)	Ensure ban on burning of agriculture waste and crop residues and its implementation	180 days	Agriculture Department & U.P. Pollution Control Board
v)	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.	90 days	Nagar Nigam
vi)	Establishment of composting pits in Parks/ residential societies etc for management of biodegradable waste.	90 days	Nagar Nigam/JDA
vii)	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.	90 days	Nagar Nigam/JDA

(D)Control of industrial emissions

(a) Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Conversion of natural draft brick kilns to induced draft using zigzag technique in a phased	360 days	U.P. Pollution Control Board

	manner.		
ii)	Installation of Electrostatic precipitators and appropriate air pollution control devices in factory units/industries.	180 days	U.P. Pollution Control Board
iii)	Development of mobile facility/van for continuous ambient air quality monitoring for different localities.	360 days	Nagar Nigam

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Concerning Departments
i)	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units	60 days	U.P. Pollution Control Board
ii)	Conversion of natural draft brick kilns to induced draft	120 days	U.P. Pollution Control Board
iii)	Monitoring of industrial emission including real time online monitoring through OCEMS (Online Continuous Emission Monitoring System) and live camera feed and to take action against non-complying industrial units	60 days, and thereafter, regular activity	U.P. Pollution Control Board
iv)	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by UPPCB/selected Third Party Institutions/Quality control agencies etc.	60 days, and thereafter, regular activity	U.P. Pollution Control Board
v)	Installation of web cams and OCEMS in Grossly Polluting Industries.	60 days	U.P. Pollution Control Board

(E)Control of air pollution from constructions and demolition activities

Sl. No.	Action Points	Timeframe for implementation	Concerning Departments
i)	Enforcement of Construction & Demolition Rules 2016. Fine should	15 days , and thereafter,	Urban Development/Development

	be imposed on defaulting units.	continue as regular activity	Authorities
ii)	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		Urban Development/Development Authorities
iii)	Ensure carriage of construction material in closed/covered vessels		Development authorities/ Regional Transport Department
iv)	Environmental aspects should be included during preparation of master plan for development of city.	Proposed Master Plan for Jhansi City 2021	Urban Development/Development Authorities
v)	Builders should leave 33% area for green belt in residential colonies. Plantation should be done as per Office order No. H16405/220/2018/02 dated 16.02.2018 available on website of the Board .i.e.,www.uppcb.com.	Within a reasonable timeframe	Urban Development/Development Authorities/ housing companies
vi)	All construction areas must be covered to avoid dispersion of particulate matter	30 days	Nagar Nigam /Development Authorities

(F)Other Steps to control Air Pollution

(a) Long Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
i)	Dead Bodies of Animals should be disposed through proper treatment facility like rendering plant etc	360 days	Nagar Nigam
ii)	Installation of CAAQMS by polluting units/institutions etc. under "Polluters Pay Principles".	360 days	U.P. Pollution Control Board
iii)	Source Apportionment, Emission Inventory & Carrying Capacity Assessment	4 years	U.P. Pollution Control Board
iv)	Tree Plantation for mitigation of air	360 days	Forest

	pollution based open location of pollution sources and Wind rose data		department/Development Authority/IMD/Regional Office & UPPCB

(b) Short Term Action Plan

Sl. No.	Action Points	Timeframe for implementation	Concerning Departments
i)	Air Quality Index to be calculated and disseminated to the people through website and other media (on maximum fortnightly basis for manually operated monitoring stations and real time basis for continuous monitoring stations	15days, and thereafter, continue as regular activity	U.P. Pollution Control Board
ii)	Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact with CPCB	30 days	U.P. Pollution Control Board
iii)	Set-up and publicize helpline in the city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	30 days	U.P. Pollution Control Board
iv)	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage	30 days	District Supply Officer
v)	Monitoring of DG sets and action against violations Fine should be imposed on defaulters.	30 days	U.P. Pollution Control Board/ Nagar Nigam
vi)	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation	30 days	Nagar Nigam /Development Authorities
vii)	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation & source collection at source of MSW to be implemented.	30 days	Nagar Nigam /Development Authorities
viii)	If Air Quality Index found severe or above grade, ensure availability of masks to public	90 days	Nagar Nigam

	for protection.		

पत्रांक 520/CPCB./ एम एस सेल/2019
दिनांक.....18/03/19.........

Annexure-4

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE GOVT. OF INDIA

SPEED POST

AQM/AP/2019-20/ March 14, 2019

Principal Secretary, Environment
Govt. of Uttar Pradesh
Bapu Bhawan Secretariat
Vidhan Sabha Marg, Lucknow
Uttar Pradesh – 226001

Sub.: Directions under Section 31A of The Air (Prevention and Control of Pollution) Act, 1981 regarding preparation of action plans for non-attainment cities as per Hon'ble NGT order dated 08-10-2018-reg.

WHEREAS, under Section 16 (2) (b) (d) (g) and (j) of The Air (Prevention and Control of Pollution) Act, 1981, mandates Central Pollution Control Board (hereinafter referred as CPCB) to execute nation-wide programme, provide technical assistance and guidance to the State Boards for prevention, control or abatement of air pollution; collect, compile and publish technical and statistical data relating to air pollution control and abatement of air pollution and perform such other functions as may be prescribed;

WHEREAS, air pollution particularly PM_{10} and $PM_{2.5}$ has emerged as a major health concern in most of the cities & towns, with air quality reaching to alarming levels;

WHEREAS, based on the data for the period 2011–2015 and WHO report 2014/2018, 102 cities failed to meet the prescribed standards are identified as non-attainment cities;

WHEREAS, seven regional workshops were organized to sensitize SPCBs and Stakeholders to develop city specific action plans for control of air pollution in these non-attainment cities;

WHEREAS, in pursuant to Hon'ble National Green Tribunal order dated 08-10-2018, all the States and Union Territories with non-attainment cities were required to constitute Air Quality Monitoring Committee (AQMC), and AQMCs 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;

Imp. Timebound / Hon'ble NGT Matter
CEO (C-Lab)
15/03/19 (आशीष तिवारी) सदस्य सचिव

CEO (Lab)
26-03-19 (आशीष तिवारी) सदस्य सचिव

SO
26/03

Contd....

WHEREAS, city action plans for Agra, Allahabad, Anpara, Bareily, Firozabad, Gajraula, Ghaziabad, Jhansi, Kanpur, Khurja, Lucknow, Moradabad, Noida, Raebareli and Varanasi was submitted to CPCB on January 31, 2019;

WHEREAS, as per order of Hon'ble National Green Tribunal, a three member committee shall examine the Action Plans and on the recommendations of the said Committee, the Chairman, CPCB shall approve the same by 31.01.2019;

WHEREAS, the plans received till January 23, 2019, was examined by three member committee on 24-25 January, 2019, and compliance report submitted to Hon'ble NGT on February 15, 2019;

WHEREAS, the three member committee examined the city plans of Uttar Pradesh on March 11, 2019 and recommendations of committee is placed at Annexure-I and Annexure-II;

WHEREAS, based on the recommendations of the three member committee, Chairman, CPCB has approved the city plans for Agra, Allahabad, Anpara, Bareily, Firozabad, Gajraula, Ghaziabad, Jhansi, Kanpur, Khurja, Lucknow, Moradabad, Noida, Raebareli and Varanasi, along with the recommendations enclosed at Annexure-I, for ground implementation with immediate effect;

Now, therefore, in exercise of powers under Section 31 A of The Air (Prevention and Control of Pollution) Act, 1981, you are directed to implement the city action plans and submit the progress report of the same to CPCB on quarterly basis;

The receipt of this direction shall be acknowledged immediately and action taken shall be communicated to CPCB within 07 days.

(S. P. S. Parihar)
Chairman

Annexure – I

- **State:** Uttar Pradesh
- **City:** Agra
- **Plan received on date:** 31-01-2019

Key Component	**Observations**	**Remarks**
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	Major sources identified except Coal combustion and fly ash emission (Apportionment of Air Pollution Sources at Taj Mahal, Agra, Summer Analysis – 2019, IIT Kanpur Report)
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources except Coal Combustion and Flyash Emission	Action plan to address Coal Combustion and Flyash Emission
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Prayagraj (Allahabad)
- **Plan received on date:** 31-01-2019

Key Component	**Observations**	**Remarks**
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	-
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with minor revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Anpara
- **Plan received on date:** 31-01-2019

Key Component	**Observations**	**Remarks**
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Thermal Power Plant, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	-
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with minor revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Bareilly
- **Plan received on date:** 31-01-2019

Key Component	**Observations**	**Remarks**
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	-
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with minor revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Firozabad
- **Plan received on date:** 31-01-2019

Key Component	**Observations**	**Remarks**
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	Address Environmental Management for cluster of glass industries
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Gajraula
- **Plan received on date:** 31-01-2019

Key Component	**Observations**	**Remarks**
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	-
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with minor revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Ghaziabad
- **Plan received on date:** 31-01-2019

Key Component	**Observations**	**Remarks**
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	Major sources identified except NTPC Thermal Power Plant at Dadri which is within 25 KM from city
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources except Thermal Power Plant	Action plan to address Thermal Power Plant emissions
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Jhansi
- **Plan received on date:** 31-01-2019

Key Component	Observations	Remarks
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	-
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with minor revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Kanpur
- **Plan received on date:** 31-01-2019

Key Component	**Observations**	**Remarks**
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	-
Source Apportionment (SA) and Emission Inventory (EI)	SA and EI done during 2008-10	-
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with minor revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Khurja
- **Plan received on date:** 31-01-2019

Key Component	**Observations**	**Remarks**
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	Address Environmental Management for cluster of Pottery Industries
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Lucknow
- **Plan received on date:** 31-01-2019

Key Component	Observations	Remarks
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	-
Source Apportionment (SA) and Emission Inventory (EI)	EI Prepared. SA not quantified.	Mention the Year of EI. Carryout SA estimates.
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with minor revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Moradabad
- **Plan received on date:** 31-01-2019

Key Component	**Observations**	**Remarks**
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	Address Environmental Management for cluster of Brass Industries
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support.	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Noida
- **Plan received on date:** 31-01-2019

Key Component	Observations	Remarks
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	-
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with minor revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Raebareli
- **Plan received on date:** 31-01-2019

Key Component	**Observations**	**Remarks**
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	-
Source Apportionment (SA) and Emission Inventory (EI)	EI & SA not quantified	Carryout EI & SA estimates
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with minor revisions (See Remarks).**	

- **State:** Uttar Pradesh
- **City:** Varanasi
- **Plan received on date:** 31-01-2019

Key Component	Observations	Remarks
Air Quality Monitoring Network	Expansion plan proposed	-
Source Identification	Industries, Road Dust, Vehicles, Open Burning, Construction Activities, Domestic Fuel	-
Source Apportionment (SA) and Emission Inventory (EI)	EI Prepared. SA not quantified.	Mention the Year of EI. Carryout SA estimates.
Action Points	Addresses all major sources	-
Long-term Strategy	Long-term actions proposed	-
Timeframe	Timelines proposed for various actions (up to one year)	-
Executing Agencies	Identified	-
Public Awareness and Complaint Redressal Mechanism	Specific plans and public complaints redressal mechanism outlined	-
Budget Support	Not given	Broad estimates be made for financial layout
Overall Recommendation	**Recommended with minor revisions (See Remarks).**	

ANNEXURE II

General observations made by three member committee for further improvements in the plans:

1. **Emission Inventory , Source Apportionment and Carrying Capacity Assessment: Vehicular Pollution, Industrial Emissions, Population Density, Construction Activities**
   The AQMCs should duly address the above issues so that the cities remain air quality compliant in future and some activities, if required, are restricted in future planning. It is expected the knowledge from EI, SA and carrying capacity assessment will upgrade the action plans.

2. **Interim Emission Reduction Targets**
   The plans should include auditable and verifiable interim emission reduction targets. This will ensure continuous and timely implementation of actions.

3. **Challenges in Implementation: Role of Central Agencies**
   Some actions proposed in the plans (e.g. supply of CNG or PNG) will require coordination and commitment from Central agencies. It is desirable that such actions are discussed with concerned agencies for effective implementation.

4. **Consideration to Graded Response Action Plan (GRAP)**
   The GRAP is an important contingency plan in NCR. The SPCBs may give due consideration to the GRAP and develop a suitable plan relevant to the emissions in the city and likelihood of their impact on air quality.

5. **District Level Monitoring Committee**
   Besides AQMC, a monitoring committee headed by the Municipal Commissioner or District Magistrate comprising senior officers from concerned departments may be considered to review the progress and ensure smooth implementation of the plan.

Annexure-5

8. National Ambient Air Quality Standards

रजिस्ट्री सं. डी.एल.-33004/99

REGD. NO. D. L.-33004/99

भारत का राजपत्र

The Gazette of India

असाधारण

EXTRAORDINARY

भाग III—खण्ड 4

PART III—Section 4

प्राधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

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राष्ट्रीय परिवेशी वायु गुणवत्ता मानक

केन्द्रीय प्रदूषण नियंत्रण बोर्ड

अधिसूचना

नई दिल्ली, 18 नवम्बर, 2009

सं. बी-29016/20/90/पी.सी.आई.-I.—वायु (प्रदूषण निवारण एवं नियंत्रण) अधिनियम, 1981 (1981 का 14) की धारा 16 की उपधारा (2) (ज) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए तथा अधिसूचना संख्या का.आ. 384(ई), दिनांक 11 अप्रैल, 1994 और का.आ. 935 (ई) दिनांक 14 अक्तूबर, 1998 के अधिक्रमण में केन्द्रीय प्रदूषण नियंत्रण बोर्ड इसके द्वारा तत्काल प्रभाव से राष्ट्रीय परिवेशी वायु गुणवत्ता मानक अधिसूचित करता है, जो इस प्रकार है-

राष्ट्रीय परिवेशी वायु गुणवत्ता मानक

क्र. सं.	प्रदूषक	समय - आधारित औसत	परिवेशी वायु में सान्द्रण		
			औद्योगिक, रिहायशी, ग्रामीण और अन्य क्षेत्र	पारिस्थितिकी य संवेदनशील क्षेत्र (केन्द्र सरकार द्वारा अधिसूचित)	प्रबोधन की पद्धति
(1)	(2)	(3)	(4)	(5)	(6)
1	सल्फर डाई आक्साइड (SO_2), µg/m^3	वार्षिक* 24 घंटे**	50 80	20 80	-उन्नत वेस्ट और गाईक -पराबैंगनी परिदीप्ती
2	नाइट्रोजन डाई आक्साइड (NO_2), µg/m^3	वार्षिक* 24 घंटे**	40 80	30 80	-उपांतरित जैकब और हॉचाइजर (सोडियम-आर्सेनाईट) -रसायनिक संदीप्ति
3	विविक्त पदार्थ (10 माइक्रान से कम आकार) या PM_{10}, µg/m^3	वार्षिक* 24 घंटे**	60 100	60 100	-गुरुत्वीय विश्लेषण -टोयम -बीटा तनुकरण पद्धति

4	विविक्त पदार्थ (2.5 माइक्रान से कम आकार का $PM_{2.5}$, $\mu g/m^3$	वार्षिक* 24 घंटे**	40 60	40 60	-गुरुत्वीय विश्लेषण -टीओम -बीटा तनूकरण पद्धति
5	ओजोन (O_3) $\mu g/m^3$	8 घंटे** 1 घंटा**	100 180	100 180	-पराबैंगनी द्वीप्तिकाल -रासायनिक संदीप्ति -रासायनिक पद्धति
6	सीसा (Pb) $\mu g/m^3$	वार्षिक* 24 घंटे**	0.50 1.0	0.50 1.0	ई.पी.एम. 2000 या समरूप फिल्टर पेपर का प्रयोग करके AAS/ICP पद्धति -टैफलॉन फिल्टर पेपर का प्रयोग करते हुए ED-XRF
7	कार्बन मोनोक्साइड (CO) mg/m^3	8 घंटे** 1 घंटा**	02 04	02 04	-अभिषेपी अवरक्त (NDIR) स्पैक्ट्रम मापन
8	अमोनिया (NH_3) $\mu g/m^3$	वार्षिक* 24 घंटे**	100 400	100 400	-रासायनिक संदीप्ती -इण्डोफिनॉल ब्लू पद्धति
9	बैन्जीन (C_6H_6) $\mu g/m^3$	वार्षिक*	05	05	- गैस क्रोमेटोग्राफी आधारित सतत् विश्लेषक -अधिशोषण तथा निशोषण के बाद गैस क्रोमेटोग्राफी
10	बैन्जो (ए) पाईरीन (BaP) केवल विविक्त चरण, ng/m^3	वार्षिक*	01	01	-विलायक निष्कर्षण के बाद HPLC/GC द्वारा विश्लेषण
11	आर्सेनिक (As) ng/m^3	वार्षिक*	06	06	-अपवितरक अवरक्त स्पैक्ट्रामिती ई.पी.एम. 2000 या समरूप फिल्टर पेपर का प्रयोग करके ICP/AAS पद्धति
12	निकिल (Ni) ng/m^3	वार्षिक*	20	20	ई.पी.एम. 2000 या समरूप फिल्टर पेपर का प्रयोग करके ICP/AAS पद्धति

* वर्ष में एक समान अंतरालों पर सप्ताह में दो बार अति 24 घंटे तक किसी एक स्थान विशेष पर लिये गये न्यूनतम 104 मापों का वार्षिक अंकगणितीय औसत ।

** वर्ष में 98 प्रतिशत समय पर 24 घंटे या 8 घंटे या 1 घंटा के मानीटर मापमान, जो लागू हो, अनुपालन किये जाएंगे । यह प्रतिशत समय पर यह मापमान अधिक हो सकता है, किन्तु क्रमिक दो मानीटर करने के दिनों पर नहीं ।

टिप्पणी:

1. जब कभी और जहां भी किसी अपने-अपने प्रवर्ग के लिये दो क्रमिक प्रेक्षण दिनों पर मापित मूल्य, उससे विनिर्दिष्ट सीमा से अधिक हो तो इसे नियमित या निरंतर प्रेक्षण तथा अतिरिक्त अन्वेषण करवाने के लिये पर्याप्त कारण समझा जायेगा ।

सतो प्रसाद गौतम, अपर सचिव

[फा.सं.-III/4/184/09/अप्र]

टिप्पणी: राष्ट्रीय परिवेशी वायु गुणवत्ता मानक संबंधी अधिसूचनाएं, केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा भारत के राजपत्र असाधारण में अधिसूचना संख्या का.आ. 384 (अ), दिनांक 11 अप्रैल, 1994 एवं का. आ. 935 (अ), दिनांक 14 नवम्बर, 1998 द्वारा प्रकाशित की गयी थी ।

NATIONAL AMBIENT AIR QUALITY STANDARDS
CENTRAL POLLUTION CONTROL BOARD
NOTIFICATION

New Delhi, the 16th November, 2009

No. B-29016/20/90/PCI-L.—In exercise of the powers conferred by Sub-section (2) (h) of section 16 of the Air (Prevention and Control of Pollution) Act, 1981 (Act No.14 of 1981), and in supersession of the Notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect, namely:-

NATIONAL AMBIENT AIR QUALITY STANDARDS

S. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air		Methods of Measurement
			Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (notified by Central Government)	
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur Dioxide (SO_2), µg/m³	Annual*	50	20	-Improved West and Gaeke -Ultraviolet fluorescence
		24 hours**	80	80	
2	Nitrogen Dioxide (NO_2), µg/m³	Annual*	40	30	-Modified Jacob & Hochheiser (Na-Arsenite) -Chemiluminescence
		24 hours**	80	80	
3	Particulate Matter (size less than 10µm) or PM_{10} µg/m³	Annual*	60	60	- Gravimetric - TOEM - Beta attenuation
		24 hours**	100	100	
4	Particulate Matter (size less than 2.5µm) or $PM_{2.5}$ µg/m³	Annual*	40	40	- Gravimetric - TOEM - Beta attenuation
		24 hours**	60	60	
5	Ozone (O_3) µg/m³	8 hours**	100	100	-UV photometric -Chemiluminescence -Chemical Method
		1 hour**	180	180	
6	Lead (Pb) µg/m³	Annual*	0.50	0.50	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper -ED-XRF using Teflon filter
		24 hours**	1.0	1.0	
7	Carbon Monoxide (CO) mg/m³	8 hours**	02	02	-Non Dispersive Infra Red (NDIR) spectroscopy
		1 hour**	04	04	
8	Ammonia (NH_3) µg/m³	Annual*	100	100	-Chemiluminescence -Indophenol blue method
		24 hours**	400	400	

(1)	(2)	(3)	(4)	(5)	(6)
9	Benzene (C_6H_6) µg/m³	Annual*	05	05	- Gas chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10	Benzo(a)Pyrene (BaP) - particulate phase only, ng/m³	Annual*	01	01	- Solvent extraction followed by HPLC/GC analysis
11	Arsenic (As), ng/m³	Annual*	06	06	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni), ng/m³	Annual*	20	20	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note. — Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.

SANT PRASAD GAUTAM, Chairman
[ADVT-III/4/184/09/Exty.]

Note: The notifications on National Ambient Air Quality Standards were published by the Central Pollution Control Board in the Gazette of India, Extraordinary vide notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998.