

**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, deer and wild pigs. 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<sub>2</sub> 21.45(µg/m<sup>3</sup>) and SO<sub>2</sub> 7.97(µg/m<sup>3</sup>) at Indian Veterinary Research Institute, Izzat Nagar and ; NO<sub>2</sub> 24.20(µg/m<sup>3</sup>) and SO<sub>2</sub> 14.79 (µg/m<sup>3</sup>) at IOC Petrol Pump, Civil Line, Near Prabha Talkies.

#### 4.ANNUAL AVERAGE DATA OF AMBIENT AIR QUALITY PM<sub>10</sub> (µg/m<sup>3</sup>) 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<sub>10</sub>, SO<sub>2</sub> and NO<sub>2</sub> parameters. Annual Average data of Ambient Air Quality particularly PM<sub>10</sub> (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 µg/m <sup>3</sup>					

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<sub>2</sub> & NO<sub>2</sub> 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

**(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/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

<b>vii)</b>	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
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**(D) Control of industrial emissions**

**(a) Long Term Action Plan**

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

<b>Sl. No.</b>	<b>Action Points</b>	<b>Timeframe for implementation</b>	<b>Action Required to be Taken by Responsible Departments</b>
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 units	60 days, and thereafter, regular activity	U.P. Pollution Control Board, Lucknow
iv)	Bank guarantee should be taken for the compliance of conditions imposed in	60 days, and thereafter,	U.P. Pollution Control Board ,

	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..	regular activity	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**

<b>Sl. No.</b>	<b>Action Points</b>	<b>Timeframe for implementation</b>	<b>Action Required to be Taken by Responsible Departments</b>
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

**(b) Short Term Action Plan**

<b>Sl. No.</b>	<b>Action Points</b>	<b>Timeframe for implementation</b>	<b>Action Required to be Taken by Responsible Departments</b>
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
<b>vi)</b>	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
<b>vii)</b>	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
<b>viii)</b>	If Air Quality Index found severe or above grade, ensure availability of masks to public for protection.	90 days	Nagar Nigam