

Action plan on Non Attainment City - Kota

Kota is situated at Latitude: 25° 9' 46.7928" N & Longitude: 75° 50' 43.1592" E and Elevation above sea level is 271 meters. According to the latest data of Census India, population of Kota in 2011 is 1,001,694. Kota is one of the fastest developing city of Rajasthan. Kota city is situated on the banks of Chambal River, the longest River of Rajasthan. Total no. of vehicles registered as on March, 2017 in Kota District with Transport Department is 763690 (Truck: 20425, Bus 3865, Car: 59497, Taxi: 4120, Jeep: 22396, Three Wheeler: 10184, Two Wheeler: 600084, Tractor: 27208, Trailers: 8618, Tempo (Pass): 3571, Tempo (Goods): 2068 and others: 1650).



The major sources of air pollution in Kota are road dust, vehicular Emission, construction and demolition activities, industrial emissions etc. State Board inspect industries time to time and take essential measures to control pollution emitted by the Industries. For monitoring ambient air quality in the Kota State Board have installed

one Continuous Ambient Air Quality Monitoring Station at Shrinathpuram, Kota. At the Station Particulate Matter (PM₁₀ and PM_{2.5}), Gaseous pollutants – SO₂, NO_x, O₃, CO, VOC and NH₃ and Meteorological parameters like Temperature, Relative Humidity, Wind Speed, Wind Direction, Pressure, Solar Radiation etc are measured continuously. Besides it, State Board has also installed 06 Manual Stations under the National Air Quality Monitoring Program at following locations:

1. Fire Station Nagar Nigam, Shrinathpuram, Kota
2. Municipal Corporation Building, kota
3. Rajasthan Technical University, Rawatbhata Road, Kota
4. Regional Office, Anantpura, Kota
5. Samcore Glass Ltd., Kota
6. Sewage Treatment Plant, Balita, Kota

Rajasthan lies in the arid and semi-arid agro-climatic zone of the country and hence presence of dust due to dry climatic conditions coupled with strong hot air movement is common.

Presence of Particulate Matter in the atmosphere goes particularly high during summer months and during winters when the phenomenon of thermal inversion occurs.

As per the available data, level of gaseous pollutants like SO₂ and NO_x are well within the prescribed limit of 80 micro gram per cubic metre. Due to the dry conditions prevailing over a major part of the year, levels of PM₁₀ is found to be in excess of the prescribed limit of 100 micro gram per cubic metre.

ACTION PLAN FOR CONTROL OF AIR POLLUTION IN NON-ATTAINMENT CITIES

Name of the cities:- **Kota- Rajasthan State.**

Air Pollution concern: **PM₁₀ and PM_{2.5}**

Source group	Action Points	Implementation period	Time Frame for implementation	Responsible agency(ies)
Vehicle Emission Control	1. Launch extensive drive against polluting vehicles for ensuring strict compliance and regular checking of vehicular emission and issue of PUC certificate	Short Term	April-2019	Dept. of Transport Traffic Police
	2. Launch Public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicle, lane discipline, etc.	Short Term	April-2019	Dept. of Transport Traffic Police
	3. Prevent parking of vehicles in the non-designed areas.	Short Term	April 2019	Traffic Police
	4. Initiate steps for retrofitting of particulate filters in diesel vehicles, when BS-V fuels are available.	Long Term	Dec-2020	Dept. of Transport
	5. Prepare action plan to check fuel adulteration and random monitoring of fuel quality data.	Short Term	April 2019	Dept. of Food & Supplies
	6. Prepare plan for widening of road and improvement of Infrastructure for decongestion of road.	Mid Term	Dec. 2019	LSG Development Authorities Municipal Corporations UITs in their jurisdiction
	7. Prepare plan for construction of expressways/bypasses to avoid congestion due to non-destined vehicles	Long Term	Dec. 2019	NHAI PWD
	8. Steps for promoting battery operated vehicles/ Promotion & operationalisation of E-rickshaw	Short Term	April-2019	Dept. of Transport
	9. Install weigh in motion bridge at borders of cities/towns and States to prevent overloading of vehicles	Long Term	Dec. 2019	NHAI PWD
	10. Synchronize traffic movements /Introduce intelligent traffic systems for lane-driving.	Long Term	Dec. 2019	Traffic Police

	11. Installation of remote sensor based PUC system	Long Term	Dec. 2019	Traffic Police
	12. Restriction on plying & phasing out of 15 years old commercial diesel driven vehicles.	Long Term	March-2020	Dept. of Transport
	13. Introduction of cleaner fuel for CNG/LPG vehicles	Long Term	April 2020	Dept. of Transport Food & Supplies
	14. Plan for restriction on the registration on diesel driven Auto-rickshaw & Tempo	Mid Term	Dec. 2019	Dept. of Transport
	15. Monitoring on vehicle fitness	Mid Term	Sept 2019	Dept. of Transport
	16. Periodic calibration test of vehicular emission monitoring instrument	Mid Term	July 2019	Dept. of Transport
	17. Preparation of plan for development Multi level Parking	Long Term	Dec. 2019	UDH Development authorities in their jurisdiction
	Re-Suspension of Road Dust and Other Fugitive Emission Control	1. Prepare plan for green buffers along the traffic corridors.	Mid Term	Sept 2019
2. Maintain potholes free roads for free roads for free flow of traffic		Mid Term	Sept 2019	NHAI, PWD, and Urban local body
3. Introduce water fountain at major traffic intersection wherever feasible		Mid Term	Sept 2019	Urban local body Development Authorities Municipal Corporations UITs in their jurisdiction
4. Greening of open areas, gardens, community places, schools and housing societies		Mid Term	Sept 2019	Urban local body Dept of Education
5. Blacktopping metaled road including pavement of road shoulders.		Mid Term	Sept 2019	NHAI PWD Urban local body
6. Widening of roads and construction of pucca footpath along main roads (RIICO Industrial Areas)		Long Term	Dec. 2019	RIICO as per requirement and feasibility
7. Regular cleaning of road		Long Term	March 2020	RIICO UDH

	8. Tree plantation along the roads (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO
Control of Emissions from Biomass/Crop Residue/Garbage/Municipal Solid Waste burning	1. Launch extensive drive against open burning of bio-mass, garbage, leaves, etc.	Short Term	April 2019	Urban local body
	2. Regular check and control of burning of municipal solid waste.	Short Term	April 2019	Urban local body
	3. Ensure ban on burning of agriculture waste and crop residues and its implementation	Long Term	Dec. 2019	Department of Agriculture Department of Revenue
	4. Plan for Construction of advanced waste management Site.	Mid Term	June-2019	Urban local body
	5. Restriction on open burning of biomass and plastic	Short Term	Regular activity	RIICO Urban local body
	6. Immediate lifting of solid waste generated from desilting and cleaning of drains for its disposal	Short Term	January 2019	RIICO Urban local body
	7. Transportation of solid waste, construction material and debris in covered system.	Short Term	April 2019	RIICO Urban local body
Control Of Industrial Emissions	1. Identification of brick kilns and their regular monitoring including use of designated fuel and closure of unauthorized units.	Mid Term	Sept-2019	State Pollution Control Board
	2. Conversion of natural draft brick kilns to induced draft.	Mid Term	Sept-2019	State Pollution Control Board
	3. Action against non-complying industrial units.	Short Term	Regular activity	State Pollution Control Board
	4. Regulation on setting up of new air polluting industries in industrial areas located in urban limits of these 5 cities.	Mid Term	Dec 2019	State Pollution Control Board RIICO
Control of Air	1. Enforcement of Construction and Demolition Waste Rules	Short Term	Regular activity	Urban Local Bodies

Pollution From Construction and Demolition activities	2. Control measures for fugitive emissions from material handling-conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units.			Development authorities under their jurisdiction
	3. Ensure carriage of construction material in closed / covered vessels.	Short Term	April 2019	Urban Local Bodies RIICO
	4. Covering of construction sites and Restriction on storage of construction materials along the road	Long Term	March 2020	RIICO Urban local body
	5. Restriction on storage of construction materials along the road.	Short Term	April 2019	RIICO Urban Local Bodies
Other Steps to control Air Pollution	1. Air Quality Index to be calculated and disseminated to the people through website and other media.(on maximum weekly basis for manually operated monitoring stations and real time basis for continuous monitoring stations)	Short Term	Regular activity	State Pollution Control Board
	2. Establish an Air Quality Management Division at SPCB/PCC Head Quarters to oversee air quality management activities in the State and interact CPCB.	Short Term	April 2019	State Pollution Control Board
	3. Set-up and publicize helpline in each city/town as well as SPCB/PCC HQ for complaints against reported non-compliance	Short Term	April 2019	State Pollution Control Board
	1. Engage with concerned authorities on continual basis for maximizing coverage of LPG /PNG for domestic and commercial cooking with target of 100% coverage.	Short Term	April 2019	State Govt.
	2. Monitoring of DG sets and action against violations.	Short Term	July 2019	State Pollution Control Board
	3. Involvement of industrial associations in awareness program (RIICO Industrial Areas)	Mid Term	March 2019	RIICO
	4. Development/maintenance of green areas, gardens and parks (RIICO Industrial Areas)	Long Term	Sept 2019	RIICO

COMPARATIVE STATEMENT												
Ambient Air Quality Monitoring Data of Kota City												
YEARLY AVERAGE LEVEL AT 3 DIFFERENT MONITORING STATIONS												
MONITORING SITES		Regional Office, Anantpura, Kota			Municipal Corporation Building, Kota			Samcore Glass Ltd., Kota				
S. No.	Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)		
		SO ₂	NO ₂	PM ₁₀		SO ₂	NO ₂	PM ₁₀		SO ₂	NO ₂	PM ₁₀
1	2012	9.1	33.2	177	2012	7.1	30.2	146	2012	7.1	30.2	147
2	2013	7.3	35.7	155.7	2013	6.8	32.3	110.1	2013	6.8	32.7	111.0
3	2014	7.2	37.7	148.1	2014	6.4	33.7	110.0	2014	6.4	34.6	121.1
4	2015	6.9	36.6	154	2015	6.2	31.8	122	2015	6.2	34.0	125.8
5	2016	7.5	35.9	152	2016	6.5	33.0	111	2016	6.6	34.1	120
6	2017	8.5	28.7	164	2017	9.5	28.9	112	2017	8.7	24.8	121
	AVERAGE	7.8	34.6	159	AVERAGE	7.1	31.7	119	AVERAGE	7.0	31.7	124

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S. No.	Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)			Year	MONTHLY AVERAGE IN($\mu\text{g}/\text{M}^3$)		
		SO ₂	NO ₂	PM ₁₀		SO ₂	NO ₂	PM ₁₀		SO ₂	NO ₂	PM ₁₀
1	2016	6.5	25.2	82	2016	6.8	25.3	78	2016	6.6	25.3	96
2	2017	7.9	27.7	123	2017	7.6	27.6	124	2017	7.7	27.9	144
	AVERAGE	7.2	26.4	103	AVERAGE	7.2	26.4	101	AVERAGE	7.2	26.6	120

Particulate Matter (PM₁₀)

