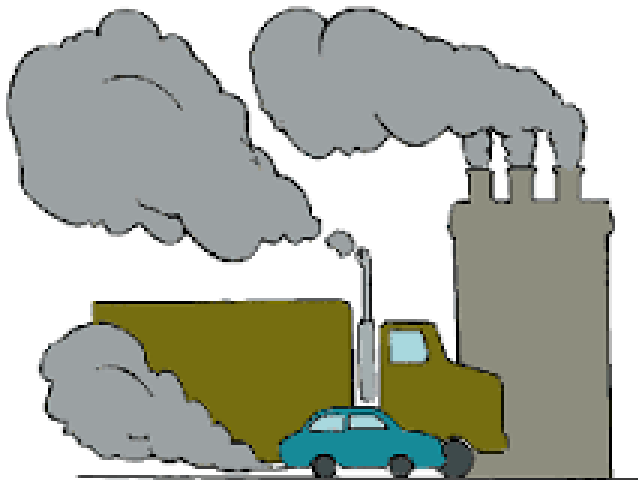





Control of Pollution (CP) Division

Air Pollution



Officers Present

	Name	Designation	Mobile No.	E-mail
	Dr. Rashid Hasan	Advisor	9891370656	hasan-mef@nic.in
	Shri Arun Kumar Mehta	Chairman CPCB	9868688419	akmehta@ nic.in ccb.cpcb@nic.in
	Mr. Sharath Kumar Pallerla	Director CP&HSM	9205319757	sharath.kr@gov.in
	Dr. A.B.Akolkar	Member Secretary (CPCB)	9911110236	adaba.cpcb@nic.in
	Dr. Harendra Kharkwal	Joint Director	9868829996	h.kharkwal@nic.in

Structure of presentation

- Work allocation
- Status of Air Pollution
- Regulatory Framework
- Current issues
- Recent accomplishments
- Important court matters
- Plan of action

Work Allocation

- Air and Noise Pollution including Automobile Pollution
- Air (Prevention & Control of Pollution) Act, 1981
- Taj Trapezium Zone (TTZ)
- Formulation and review of Environmental Standards
- Environment Pollution (Prevention and Control) Authority (EPCA) for NCR

Work Allocation

- Recognition of laboratories under E(P) Act
- Administrative and Financial matters of CPCB
- Bilateral and Multilateral programmes related to Air Pollution
- Source apportionment studies
- Matter relating to 17 highly polluted sectors and critically polluted areas (CPAs)

Status of Air Pollution

- Non-attainment cities w.r.t PM_{10} : 194
- Multiple and complex source of air pollution both due to man made and natural causes
- WHO Rating of Indian Cities
- Geographical and climatic conditions
- Increasing of air pollution in rural areas
- Direct impact on life support system

Regulatory Framework

Policy Framework

- Policy Statement for Abatement of Pollution, 1992
- National Environment Policy, 2006

Legal Framework

- Air (Prevention and Control of Pollution) Act, 1981
- Environment (Protection) Act, 1986
- Rules and notifications issued under the above Acts

Current issues

- Air Pollution in cities, Million plus cities, rural areas
- Air Pollution in NCR including NCT of Delhi, EPCA, burning of crop residue, etc
- Vehicular pollution, ban on >2000 CC diesel vehicles, ECC, Taxing on polluted vehicles,
- Review of standards for Thermal Power Plant, Cement, Ternaries, Textiles, Airport Noise, etc
- National Air Quality Index
- Strengthening of monitoring network, monitoring of PM₁
- Source apportionment studies
- Environmental Health, study of WHO / IITM scientist on pre-matured death.
- Background Concentration of particulate matter in northern states of India

Recent Accomplishments

■ National Air Quality Index

- Launched on 06.04.2015
- One Number - One Colour - One Description
- Based on 8 criterion pollutants
- Classified into six categories such as Good, Satisfactory, moderately polluted, poor, very poor and severe.
- At present in 23 cities proposed to expand to 46 million plus cities and 20 state capitals

■ EPCA

- Constituted on 29.01.1998
- To assist Hon'ble SC on air pollution issues of Delhi & NCR
- Periodical review meetings on air pollution in Delhi
- Reconstituted as per Hon'ble SC order dated 30.4.2016.

Accomplishments

■ Standards

- Total 115 Standards notified for different industries
- National Ambient Air Quality Standards(2009) for 12 pollutants.
- Ambient Noise Standards for Different Areas/Zones(2000)
- Primary Water Quality Criteria for bathing - 5 parameters notified.

■ Revised/ new standards ready for issuance

- Notified : 08
- Under Notification : 08
- Uploaded for comments : 04
- Under process : 01

Accomplishments

- **National Air Quality Monitoring Programme (NAMP)**
 - NAMP was started in 1984 - 85
 - Total Operating Stations – 614 covered in 254 cities of 28 States & 5 UTs.
 - Total monitoring stations (Operating + Sanctioned) – 700
 - 44 - real time 24X7 stations in 25 cities covering 10 States.
 - Monitoring agencies : CPCB, SPCBs, PCCs, NEERI
 - Parameters:
 - Regular - SO_2 , NO_2 , PM_{10} ;
 - Selected- NH_3 , CO , O_3 , $\text{PM}_{2.5}$, Pb , B(a)P , C_6H_6
- **National Ambient Noise Monitoring Network (NANMN)**
 - NANMN was started in 2010-11
 - 70 monitoring stations covered in 7 cities

Accomplishments

- Periodical review with environment ministers of NCR States / UT
 - 5 meetings conducted so far
 - **Deliberations:**
 - Short term and Long term Action Plans
 - Ban on stable burning
 - Directions under section 18 (1) (b) of Air Act by CPCB to NCR states / UT
 - Establishment of control room at CPCB
 - Comprehensive review of all waste management rules
 - Restriction on non-destined vehicles, etc
 - Environmental Compensation Charge

Accomplishments

- More than 110 recognized laboratories for testing environmental samples under EPA
- Universalization of BS-IV Emission Norms by 1st April, 2017
- Leap fogging of BS-VI Emission Norms by 1st April, 2020
- Strengthening of Air Quality monitoring– World Bank project is in process.
- Air Quality Monitoring Collaboration with USEPA is in process
- Notification of C&D rules in view of increasing air pollution in construction structures
- Penal provision for open burning of solid waste / biomass

Important Court matters

- SC: MC Mehta Vs Uol – Air pollution in NCR – Delhi (Automobile pollution, ban on >2000 CC, etc)
- DHC: Court on its own motion Vs Uol – Air pollution in Delhi
- NGT: Verdaman – Koushik : Air pollution in Delhi and other 9 major cities of the country
- SC: Himachal Tourist Operators Association Vs Uol – Vehicles to be operated by CNG at Rohtang
- NGT: Neelam Sanjeev Vs MoCA & Ors – Prescribing norms for airport zone.
- SC: Arjun Gopal Vs Uol & Ors – To publicize the ill effects of fire crackers
- NGT: SK Goel Vs CPCB – to prescribe standards for diesel locomotives

Plan of Action

- Strengthening / Modernization of online emission / effluent monitoring (24x7) devices in all highly polluting industries (3261)
- Continuous Ambient Air Quality Stations – to be installed in 66 cities (26 installed & 62 in process)
 - Expansion of Air Quality Index in all 66 million plus cities & State Capitals from 23 existing cities
 - Use of ICT in inspection, monitoring, reporting, verification, data processing and management to ensure compliance
 - Pollution Abatement in TTZ Area (TTZA)/ Revision of Standards
 - Control of pollution in rural areas
 - Strengthening of ambient noise monitoring network

THANK YOU







SIX CITY STUDY.....

PM₁₀ SOURCE CONTRIBUTIONS: ALL LOCATIONS

City	Bangalore	Chennai	Delhi	Kanpur	Mumbai	Pune
<i>Sources</i>						
<i>Roadside Dust</i>	45 – 55	6 – 27	14 – 29	7 – 9	29 – 47	49 – 64
<i>Vehicles</i>	10 – 22	35 – 48	9 – 20	15 – 17	8 – 26	2 – 10
<i>Industries</i>	27	-	6 – 9	2 – 19	1 – 7	-
<i>Construction</i>	-	-	23	-	28 – 46	6 – 28
<i>Secondary Particulates</i>	2 – 11	-	-	16 – 19	10 – 21	-
<i>Domestic</i>	-	4 – 20	3 – 9	15 – 26	3 – 18	-
<i>DG Sets</i>	7 – 18	14 – 16	7 – 12	5 – 8	-	3 – 4

Roadside dust and vehicles are prominent sources in all the six cities

Air Quality Index (AQI)

AQI	Remark	Color Code	Likely Health Implications
1-50	Good		Minimal impact
51-100	Satisfactory		Minor breathing discomfort to sensitive people
101-200	Moderate		Breathing discomfort to the people with lungs, asthma and heart disease
201-300	Poor		Breathing discomfort to most people on prolonged exposure
301-400	Very Poor		Respiratory illness on prolonged exposure
401-500	Severe		Effects healthy people and serious impacts to those with existing diseases

REVISED NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS), Nov 2009

S. No.	Pollutants	Time Weighted Average	Concentration in Ambient Air		Methods of Measurement
			Industrial, Residential, Rural and other Areas	Ecologically Sensitive Area (notified by Central Government)	
1	Sulphur Dioxide (SO ₂), µg/m ³	Annual*	50	20	1. Improved West and Gaeke 2. Ultraviolet Fluorescence
		24 Hours**	80	80	
2	Nitrogen Dioxide (NO ₂), µg/m ³	Annual*	40	30	1. Modified Jacob & Hochheiser (Na-Arsenite) 2. Chemiluminescence
		24 Hours**	80	80	
3	Particulate Matter (Size <10µm) or PM ₁₀ µg/m ³	Annual*	60	60	1. Gravimetric 2. TOEM 3. Beta attenuation
		24 Hours**	100	100	
4	Particulate Matter (Size <2.5 µm) or PM _{2.5} µg/m ³	Annual*	40	40	1. Gravimetric 2. TOEM 3. Beta attenuation
		24 Hours**	60	60	
5	Ozone (O ₃), µg/m ³	8 hours**	100	100	1. UV photometric 2. Chemiluminescence 3. Chemical Method
		1 hours**	180	180	
6	Lead (Pb), µg/m ³	Annual*	0.50	0.50	1. AAS/ICP Method after sampling using EPM 2000 or equivalent filter paper 2. ED-XRF using Teflon filter
		24 Hour**	1.0	1.0	
7	Carbon Monoxide (CO), mg/m ³	8 Hours**	02	02	Non dispersive Infra Red (NDIR) Spectroscopy
		1 Hour**	04	04	
8	Ammonia (NH ₃), µg/m ³	Annual*	100	100	1. Chemiluminescence 2. Indophenol blue method
		24 Hour**	400	400	
9	Benzene (C ₆ H ₆), µg/m ³	Annual*	05	05	1. Gas chromatography based continuous analyzer 2. Adsorption and Desorption followed by GC analysis
10	Benzo(a)Pyrene (BaP)- particulate 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 interval.

** 24 hourly 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

Powers of Pollution Control Boards

	POWERS	WATER ACT	AIR ACT	EPA	Purpose
1	To obtain information	Section 20	Section 25	Section 20	To assess the process, emission/effluent loads, etc..
2	To take samples	Section 21	Section 26	Section 11	Legal sampling procedures
3	Entry & Inspection	Section 23	Section 24	Section 10	Right to entry by empowered person to verify compliance
4	Consent Management	Section 25/26/27	Section 21	-	Issuance/restrictions/withdrawal for trade discharge or emissions
5	Authorization/Registration for waste management	-	-	Rules Notified under E(P)Act.	To ensure environmentally sound waste management
6	Powers to carryout certain works by SPCB	Section 30	-	--	When a person fails to execute functions given under consent
7	Emergency Measures in episodic cases	Section 32	Section 23	Section 9	SPCBs/ authorities/agencies shall take-up emergency remedial measures
8	Powers to restrain/punishment of polluter through courts	Section 33	Section 22 A	Section 16	Govt. /SPCB/ACPCB/authorised agency approach courts
9	Power to give directions (stoppage of process/closure/disconnection of electricity etc.)	Section 33 A	Section 31 A	Section 5	Govt/CPCB/SPCBs/Authorised agencies/Persons may issue directions
10	Taking over functions of SPCB or Issuance of directions	Section 18(1b)	Section 18(1b)	-	On default of SPCBs, Govt./CPCB may take over functions on the directions of central Govt.