



CENTRAL POLLUTION CONTROL BOARD

SOUTH ZONE OFFICE

BENGALURU

KEY ACHIEVEMENTS FOR THE YEAR 2013-14 (UPTO FEBRUARY, 2014)

1. Organizing 58th National Chairmen and Member Secretaries conference of all SPCBs/PCCs during February 21-22 , 2014 at ITC, Windsor, Bengaluru

- CPCB South Zone Office, Bengaluru has successfully coordinated with Karnataka State Pollution Control Board for organizing the 58th National Chairmen and Member Secretaries conference of all SPCBs/PCCs during February 21-22, 2014 at ITC, Windsor, Bengaluru.
- The Chairman, CPCB informed that this was one of the best ever conference held so far as it was well represented by the main decision makers from Ministry of Environment & Forests, CPCB, chairmen & Member Secretaries of 28 state PCB's and PCC's from 5 Union Territories.



- Around ten resolutions were made after discussing various issues during the conference.
- The two days conference was concluded with a mission to prosper through sustainable growth so as to handover clean environment to next generation.

2. Organizing 5th Regional Chairmen and Member Secretaries Conference of Southern SPCBs/PCCs

- CPCB South Zone Office has successfully organized 5th Regional Chairmen and Member Secretaries Conference of Southern SPCBs/PCCs during January 10, 2014 at CPCB Zonal Office, Bengaluru.
- The Specific region wise issues were discussed and concluded with remedial action plans.
- And it was also said that all the action plan to be implemented in time bound manner.



- Regular follow-ups being made on action be taken by SPCBs/ PCCs based on the recommendations made during the conference by this office.

3. Organizing the meeting to review the status of pipelines carrying crude oil/petroleum products on existing pipeline in Chennai

- A meeting was organized by this office to review the status of pipelines carrying crude oil/petroleum products on existing pipeline to transport of petroleum raw material/products from source and disseminate points in Tamil Nadu along with TNPCB officials and stakeholders at Chennai during April 27, 2013. The meeting was chaired by Hon'ble Minister for Ministry of Environment and Forests, Government of India.
- Based on the recommendations of the meeting this office has made detailed survey on existing pipelines (surface & underground) carrying petroleum products and number of accidents recorded in south India. And prepared the comprehensive report on “**Overview on Status of pipelines carrying crude oil/petroleum products from ports and refineries of South India**” and submitted to Head Office.

4. Episodal Pollution due to pipeline leakage at Tondiarpet, Chennai

- An episodal accident was occurred due to leakage of petroleum products from pipelines at Tondiarpet, Chennai during July, 2013.
- An inspection was carried out CPCB Zonal office, Bengaluru and it was observed that all ground water and soil is contaminated by petroleum products.
- Based on the recommendations made, directions under section 5 of E (P) act, 1986 was issued to M/s BPCL to close the pipelines and not to transport any petroleum products and to clean all affected bore wells and supply drinking water to all residents residing in that area.

5. GIS Portal on Water quality

- CPCB South Zonal Office, Bengaluru has prepared technical database and database on GPS co-ordinates of 920 industries present in south zone with respect to the project “GIS Portal on Water Quality” and submitted to Head Office.

6. Celebration of World Environmental Day, Organizing mass awareness programme and Conducting Hindi Diwas

- CPCB, Zonal Office, Bengaluru celebrated World Environmental Day on June 5, 2013 to promote awareness on sustainable consumption. “Think, Eat & Save. Reduce Footprint” was the theme on WED 2013. During the day many events were conducted such as quiz, debate, planting of saplings and distribution of saplings to all the staff.



- Zonal Office, Bengaluru initiated an awareness campaign to promote the use of clay Ganesha idols by giving the clay Ganesha idol to Government school and college on September 6, 2013 during celebration of Ganesha festival so as to maintain ecological sustainment.



Speech was also delivered by CPCB officials on environmental impacts of Ganesh Chaturthi and on measures to resolve them.

- Presentation was made on “Guidelines on Idol immersion” at Vydehi Institute of Medical Science and Research Centre, Bengaluru organized by KSPCB and industrial association.
- To promote the use of Rajbhasha Hindi, Hindi Diwas was celebrated at CPCB Zonal Office, Bengaluru during October 31, 2013. During the occasion Hindi noting and drafting, debate and Kavitha recitation competitions were conducted. Hindi quarterly progress report has been prepared and submitted to department of official language, Bengaluru and Town official language implementation Committee, Bengaluru.

7. Study of Noise & Air Pollution during Deepawali Festival

- Bursting of crackers during Deepawali festival is a major source of deterioration of Ambient Air Quality. To study the impact of bursting of fire crackers on ambient air quality and noise pre-deepawali and during Deepawali, 2013 noise level and ambient air quality monitoring was carried out at three locations namely Rajajinagar, Nagarbhavi and Rajarajeshwarinagar in Bengaluru.
- The values of PM₁₀ were found to be in the range of 21.7 to 85.5µg/m³, the values of SO₂ were found to be in the range of 2 to 6 5µg/m³ and the values of NO₂ were found to be in the range of 8.72 to 33.15µg/m³ during the entire monitoring programme.
- Ambient noise level was also monitored and it was observed that due to increase in bursting of crackers there was an increase in noise level during deepawali by 25% to 27%.

8. Review of implementation of action plans of CEPIs

- Nine areas in Southern Zone are identified as Critically Polluted Area namely Patancheru Bollaram and Vishakhapatnam in Andhra Pradesh, Badravathi and Mangalore in Karnataka, Greater Kochi in Kerala, Coimbatore, Cuddalore, Manali and Vellore in Tamil Nadu.
- The remedial action plans were implemented successfully by respective state boards as a result moratorium is lifted in seven areas namely Vishakhapatnam, Badravathi, Mangalore, Greater Kochi, Coimbatore, Cuddalore and Manali. Zonal Office, Bengaluru has carried out VOCs, dioxin and furans monitoring at different CEPI areas.

9. Co-ordination and preparation of material for the study visit of Parliamentary Standing committee of science and Technology

- CPCB Zonal Office, Bengaluru have coordinated in Parliamentary Standing Committee visit at Tirupati, Chennai, Hyderabad and Bengaluru and also prepared the technical material for the issues discussed in the committee.

10. Surveillance of Ambient air and Water quality monitoring stations under NAMP/NWMP

- The objective of the scheme is to ensure and verify the accuracy/quality of monitoring data of NAMP and NWMP received from SPCBs through various monitoring stations which helps in evaluating the nature and extent of pollution control required and to evaluate the effectiveness of pollution control measures already in force.
- In financial year 2013-14 this office has randomly inspected **8 NAMP** and **9 NWMP** stations located in southern zone.
- The observations and shortcomings have been discussed on site with SPCB officials and the technical and scientific guidance has provided for further improvement in quality of monitoring and reporting.

11. Monitoring of inter-state river water quality in Southern Zone

- The objective of the scheme is to assess the impact of pollution in view of the disputes among states on water quality issues.
- In the financial year 2013-14 this office has carried out 6 inter-state river water quality monitoring out of 7 namely River Godavari at Baser, River Tungabhadra at Hochcheli, River Krishna at Devdurga, River Bheema at Gangapur, River Manjari at Bidar and River Thenpennai at Mugalur Bridge.
- The necessary action plans to prevent and control pollution have been recommended to concerned SPCBs.

12. Operation and Maintenance and development of the laboratory

- Laboratory of Zonal Office, Bengaluru is well equipped with sophisticated instruments like AAS, ICP, Bomb Calorimeter, TCLP analyzer, UV spectrophotometer, Mercury analyzer, Gas Chromatograph (GC) etc. AMC and regular calibration practices are being adopted to ensure round clock operation of laboratory and generation of quality data.
- The laboratory has provided all necessary support in monitoring of 39 stacks, analysis of 1116 air samples, 335 water samples and 68 soil samples as on 28th February 2014.
- The laboratory is actively participating in National and International AQC's programmes and scored 98% in International AQC conducted by ERA-USA an American Organization and scored 95% in AQC conducted by GEMS-New Zealand.
- Procurement of new laboratory equipments are in progress for augmentation of laboratory facilities.

13. Accreditation/Recognition for South Zonal Laboratory under NABL and E(P)Act

- The objective of the scheme aimed for accreditation/recognition of south zonal laboratory under NABL and E (P) Act.

- Series of lectures and practical demonstrations were organized to the laboratory personnel on ambient air, source emission, water/wastewater and hazardous waste samples collection, its preservation and analysis for various parameters as a part of NABL requirements.
- Training programme on “Laboratory Management and Quality Certification” was organized at CPCB south zonal office, Bengaluru.
- Certified Reference Materials (CRMs) samples for different parameters have procured for verifying the quality of analytical chemicals and standardization of test methods.
- A draft guideline on Quality Manual and Standard Operating Procedure has been prepared.
- Shri T.K.Radheshyam Balaji, Scientist `C` & Technical Manager, attended the training programme on BS: OSHAS: 18001 at CPCB Head Office, Delhi on 25th & 26th Feb. 2014.

14. Assessment of air-borne microbial pollution around Municipal Solid Waste (MSW) management facilities in selected cities of south zone.

- The objective of the scheme is to develop guidelines to reduce bio-aerosol emission from waste management facilities and to explore the possibility of opportunistic pathogens in ambient air in the vicinity of MSW dumpsite.
- Monitoring of 11 Municipal Solid Waste management facilities in selected cities/towns covering all states in south zone.
- Presence of indicator organisms like E.coli was very prevalent in all the sites monitored.
- Presence of opportunistic pathogens also recorded in many locations.

15. Characterization of microbial communities in effluent treatment system of various CETPs and individual industries in southern region.

- The objective of the scheme is to characterize microbial community in wastewater treatment systems to get better understanding on the performance and specific rolls of microbial components.
- A microbial culture collection was developed from various effluent treatment systems

- Isolated microbes were characterized based on their hydrolytic potential and ability to grow at different pH and temperature.
- Microbes were isolated from effluent treatment systems of paper & pulp, tannery, textile, distillery, pharmaceutical and sugar industries.

16. Statistical Analysis and Interpretation of Continuous Ambient Air Quality data at Bengaluru and Chennai

- Under the supervision of CPCB, Zonal Office, Bengaluru has six Continuous Ambient Air Quality monitoring stations and its two network centers are being operated both in Bengaluru and Chennai.
- The objective of the scheme is aimed to compile, interoperate the Continuous Ambient Air Quality monitoring stations data with various statistical methods and to assess the ambient air quality at various places in the city.
- The statistical analysis and interpretation of CAAQMS data for the years 2011 and 2012 is successfully completed using SPSS software.
- As per the study, statistical analysis results show that the correlation of major pollutants with ozone is very significant, correlation study between the oxides of nitrogen and the volatile organic compounds shows very strong.

17. Assessment of Environmental Compliance of Electroplating units in Bengaluru

- The objective of the scheme is aimed to assess the pollution control measures taken by the Electroplating industries to meet the prescribed standards of SPCB/CPCB in Bengaluru.
- There was a problem issue in Peenya Industrial Area that the ground water table is highly contaminated by Hexavalent chromium due to unscientific disposal of electroplating wastes in that area.
- The inspection of 18 electroplating industries was carried out at Peenya Industrial Area. And five ground water samples were also collected in order to assess the quality of ground water.

- The analysis results confirmed that the ground water table at Peenya Industrial Area is highly contaminated with Hexavalent chromium concentration ranging from 0.0169mg/L to 1.122 mg/L whereas the prescribed limit is 0.01 mg/L.
- Based on the recommendations of CPCB, KSPCB has taken an action to shift all electroplating units from Peenya Industrial Area to other common place.

18. Study of Mercury Emission from Thermal Power Plants in Southern Zone

- Coal fired Thermal Power Plant is one of the largest sources of mercury emission in the environment. Coal fired thermal power plants applying different variety of coals such as bituminous and lignite coals are selected for the study.
- A primary study at Mettur Thermal Power Plant, and JSW captive power plant, Mettur, Tamil Nadu was completed by collecting coal samples, pulverized coal samples, bottom ash, fly ash, wastewater and stack air for elemental mercury emission. Significant results of mercury content in the samples were observed and the results are provided, in range, as below:

Sl. No.	Sample identity	Mercury
1	Stack particulate mercury	3.38-3.48 $\mu\text{g}/\text{Nm}^3$
2	Stack Gaseous mercury	7.43-99.17 $\mu\text{g}/\text{Nm}^3$
3	Ambient air particulate mercury	0.002-0.008 $\mu\text{g}/\text{Nm}^3$
4	Ambient air gaseous mercury	3-36 $\mu\text{g}/\text{Nm}^3$
3	Indian coal	0.215-0.343 mg/kg
4	Imported coal	0.131-0.133 mg/kg
5	Fly ash	0.564-0.791 mg/kg

6	Soil sample	0.050-0.870 mg/kg
7	Ash pond water	2.31-13.74 µg/lit

- The results show that Indian coal has more mercury compared to the imported coal.

19. Monitoring of Operational Sewage Treatment Plants (STPs) and Common Effluent Treatment Plants(CETPs) in South zone

- Monitoring of 24 STPs covering all southern states has been carried out to assess the performance evaluations as well as compliance status and it was found that 80% of the STPs are found compliance.
- Performance evaluation study of nine CETPs i.e 5 in Tamil Nadu, 2 in Andhra Pradesh and 2 in Karnataka has been carried out, in which four CETPs at Tamil Nadu are achieving Zero Liquid Discharge (ZLD).

20. Monitoring of Municipal Solid Waste Management Facilities for verification of compliance of MSW rules in South Zone

- Monitoring of 21 MSW management facilities covering all southern states has been carried out for verification of compliance of MSW Rules in south Zone

21. Monitoring of Common Bio-medical Waste Treatment Facilities (CBMWTF) for verification of compliance of BMW Rules in south zone

- Monitoring of three CBMWTFs was carried out at Pondicherry, Bangalore and Mangalore.

22. Monitoring of Treatment, Storage and Disposal Facilities for verification of compliance of HWM Rules in South Zone

- Under this scheme two TSDF sites one at Bangalore and One in Kochi were inspected for verification of compliance of HWM Rules. It is learnt that both the sites are complying with HWM Rules.

23. Verification of compliance of standards by industries in southern zone under ESS Programme

- Under this scheme CPCB, Zonal Office, Bengaluru has carried out inspection of 38 industries out of which three industries are directed under section 5, four industries are directed under section 18(1)b of E(P)Act 1986 and for four industries general letter are being sent for minor violations.

24. Air Pollution Modeling for Bengaluru city

- The objective of the scheme aim to predict the present air quality at Bengaluru city and its model and to develop air quality modeling for future.
- The air pollution modeling software namely AERMOD version 8.5 has been procured
- The acquaintance of the software is under progress

25. Monitoring of Metals in Ambient air using ICP at Bengaluru City

- The objective of the scheme is aimed to study how metals are distributed in different particles.
- Three round of joint monitoring along with Karnataka State Pollution Control Board at seven different locations at Bengaluru is completed.

26. Life Cycle Assessment (LCA) of Distillery Spent Wash and pollution mitigation based on Environmental Economic Considerations.

- The objective of the study aimed to evaluate the environmental impacts and economic benefits of each treatment technology using EPA lifecycle Design Guidance Manual and ISO 14044 tools.
- Studies has been carried out in 11 distilleries and different treatment technologies like direct bio-composting, biomethanization followed by bio-composting, concentration in MEE and subsequent drying/incineration, one time controlled land application etc are evaluated based on environmental, socio economic considerations. The report is under preparation to interpret ways to reduce environmental impacts.

27. Development of infrastructure facilities for preparedness of environmental monitoring in case of episodal pollution

- The objective of the scheme is aimed for development of infrastructure facilities to monitor and assess the incidental and accidental situation quickly.
- Seven personnel gas monitors have been procured and its utilization is being made as and when required.

28. Study on in-vessel rapid composting system for urban households and commercial establishments

- The objective of the scheme aimed to design and develop the pilot scale composting vessel for composting food waste.
- Developed a culture collection and formulated mixed microbial consortia for compost degradation.
- Carried out lab-scale study and prototyped development is in progress

29. Imparting various training programme to CPCB staff sponsored by Headquarters and other organizations.

- To develop the knowledge and field exposure, CPCB is nominating officials for various trainings in India & abroad.
- Two officials namely H.D Varalaxmi, Scientist 'C' and Rajkumar R, Scientist 'C' from CPCB south zonal office has participated in the training programme on "Capacity building for emission measurements in India" at VTT, Finland. Prepared the report on the same and submitted to Head Office.
- Ms. Anjana Kumari V, scientist 'B' from this office has participated in the Hands-on-Training on Source Emission Monitoring & Measurement techniques by experts from VTT-Finland at CPCB, Head Office Delhi during November 26-28, 2013 and prepared the report on the same and submitted to Head Office.

- Smt. Anupama B S, SSA from this office has participated five day training programme on “Hands on Advanced Instruments of Water Quality Testing”, during December 2-6, 2013 at National Institute of Hydrology, Roorkee. Prepared the report on the same and submitted to Head Office.

30. Inspections of industries under NGRBA

- Under NGRBA scheme two officials from this office inspected 88 industries in Lucknow and submitted the report with necessary recommendations.

31. Information (Database) Management

- For better database management and for optimal utilization of the available server one-day training programme was organized at CPCB, Bengaluru for all the staff on “Networking and its basics” and presented by NIC, Bengaluru.

32. Work related with High Court and National Green Tribunal

- Zonal Office, Bengaluru has attended twelve cases before Hon’ble High Courts and 10 cases going on before Hon’ble NGT and submitted the reply/ reports as per legal requirement and order of Courts. The details are as follows:

Status of Cases NGT (SZ), Chennai:

- ❖ Total Number of NGT Cases : 11 cases
 - On Going: 10 cases
 - Closed : 1 case
- ❖ High court of Chennai : 2 cases
- ❖ High Court of Kerala : 9 cases
- ❖ Additional Chief Metropolitan : 1 Case

Magistrate at Gajuwaka, Vizag

- As per NGT directions CPCB Zonal Office, Bengaluru along with NEERI, Chennai has carried out two round of Joint inspection of M/s Athiyappa Chemicals (P) Ltd, Pudicherry. As per the inspection it was observed that at first round of monitoring the industry was complying with the standards whereas during second round of inspection i.e after two months the industry is complying with the standards. And report of both the inspection is already submitted. Third round of monitoring is yet to be carried out after two months.
- As instructions given by MoEF CPCB South Zonal Office, Bengaluru has filed petition against M/s Hinduja Thermal Power Plant for violation of CRZ Rules.

33. Union Carbide Case

- As per the directions of Competent Authority this office visited M/s Hindustan Insecticide Ltd for supervision in the collection, packing and transportation of five types of Hazardous wastes from M/s Hindustan Insecticide Ltd to M/s Madhya Pradesh Waste Management Project Ltd during June 12-14, 2013.

34. Participation as a member of different Environmental Committees

- Zonal Officer as a member of Laboratory committee of Karnataka State Pollution Board, Bengaluru is participating in the meeting as and when organized and providing the valuable inputs for various issues being discussed in the committee.
- Zonal Officer as a member of Environmental Management & Policy Research Institute, Bengaluru and Department of Ecology and Environment, Bengaluru is participating in the meeting as and when commenced and providing the valuable inputs for various issues being discussed in the committee.

35. Miscellaneous work

- CPCB South Zonal Office is also participating in various seminars and conferences and presentations were made on the following:
 - Presentation on “Government perspective on Municipal Solid Waste Management” was made in the international symposium organized by Andhra Pradesh Technology Development & Promotion Centre at Hyderabad during November 15-16, 2013.

- Presentation on “Water Quality Assessment and Wastewater management in Thermal Power Plants” was made in the National conference on “Role of Analytical Chemistry in power sector” organized by CPRI, Bengaluru during September 2013
- Reply for 10 RTI applications have been given to various applicants.
- Details on other works such as No. of ESS inspections, No. of Stack Monitored, Analysis of samples etc. carried out during the year 2013-14 is given at Annexure I

36. General administrative achievements

- On the concept of **“Save Paper and Conserve Energy”** optimal utilization of networking and sharing has been initiated by the Zonal Officer, Bengaluru. Presently, drafting and communications such as letters, reports, circulars, office orders etc are being done through networking for limited utilization of papers.
- During the financial year for better infrastructure development of CPCB Zonal Office, Bengaluru has taken AMCs for maintenance of fire alarm, maintenance of ACs, maintenance of UPS and Computers & peripherals.

Annexure I

S No	Work done	
1.	No. of Water Quality Monitoring Stations (NWMP) monitored during the year	9
2.	No. of Ambient Air Quality Stations (NAMP) monitored during the year	8
3.	No. of Inter-state river water quality monitoring stations monitored during the year	6
4.	No. of inspections carried out under ESS programme during the year	38
5.	No. of stack monitoring carried out during the year	39
6.	No. of Common Effluent Treatment Plant (CETP) inspected during the year	9
7.	No. of Sewage Treatment Plant monitored during the year	24
8.	No. of Municipal Solid Waste dumpsite inspected during the year	21
9.	No. of Common Bio-medical waste treatment facility(CBMWTF) inspected during the year	4
10.	No. of Hazardous waste Treatment Storage and disposal facility (TSDF) inspected during the year	2
11.	No. of water (fresh and wastewater) samples analyzed during the year	335
12.	No. of Air samples collected and analyzed during the year	1116
13.	No. of soil samples collected and analyzed during the year	68