



महाराष्ट्र प्रदूषण नियंत्रण मंडळ
MAHARASHTRA POLLUTION CONTROL BOARD

ANNUAL REPORT
2007-08



ANNUAL REPORT 2007-08



महाराष्ट्र प्रदूषण नियंत्रण मंडळ
MAHARASHTRA POLLUTION CONTROL BOARD

Kalpataru Point, Sion (E), Mumbai-400 0022

E-mail : mpcb@mah.nic.in

Web Site : <http://mpcb.mah.nic.in>



CONTENTS

Sr. No.	Contents	Page no.
1	Introduction	1
2	Constitution of board	5
3	Meetings of the board	7
4	Committees constituted by the board	8
5	Air and water quality monitoring network	9
6	Present status of environment problems and control measures	19
7	Environmental studies and surveys	53
8	Environmental training	65
9	Environmental awareness and public participation	67
10	Implementation of the rules under environment (protection) act, 1986	77
11	Prosecution launched and convictions secured	101
12	Finance and accounts	111
13	Important matters dealt with by the board	117
Annexure		
I	Organization chart	127
II	Staff strength	129
III	Training programme attended by staff and officers of the board during 2007-08	132
IV	Financial assistance for awareness	139
V (A)	Consents/authorizations granted (2007-08)	140
V (B)	Consents/authorizations granted (2007-08)	141
VI	Status of bank guarantee (2007-08)	142



1. INTRODUCTION

The role of Maharashtra Pollution Control Board is to implement the Acts, Rules, Policies and Programmes related to control of pollution and protection of environment in Maharashtra State. The Maharashtra Water (Prevention and Control of Pollution) Board was established in 1970, under the provisions of Maharashtra (Prevention of Water Pollution) Act, 1969, which was enacted by the State Legislature. Maharashtra being highly urbanized and industrialized State in India the State Board has occupied a very prominent position in pollution prevention and control in the State. The Water (Prevention and Control of Pollution) Act 1974 passed by the Parliament was adopted by the State in 1981 and the Board was renamed as Maharashtra Pollution Control Board under this new Act.

Now the Board has been charged with several responsibilities covering all kinds of media such as water, air, noise wastes and solid wastes (such as municipal solid wastes, hazardous wastes, bio-medical waste, plastic wastes, etc.). With the limited human resources the Board has fulfilled its responsibilities by adopting innovative methods such as public-private partnership, technology demonstrations, information disclosure, raising awareness and empowering the people. Practicing judicious outsourcing, decentralizing and rationalizing its internal procedures are the factors with which the Board is improving its functional efficiency.





The scope of the activities of the Board is science and technology based and multidisciplinary in nature. Considering the challenges in the enforcement of the environmental regulations, the Maharashtra Pollution Control Board (MPCB) has geared itself up in terms of capacity building, development of infrastructure, laboratories, engaging services of the professionals and environmental scientists and engineers, outsourcing of the work, preparation and implementation of the action plans for environmental management of the places of interest and prevention and control of pollution.

Considering the necessity of the regular monitoring of drinking water sources used by local authorities, the Board has started monitoring 133 new stations for the drinking water sources throughout the State from January, 2007,

In order to monitor coastal water quality, sediment quality and biological characteristic of the coastal region of Maharashtra and to seek advice on corrective measures wherever necessary, the Board has started the "Coastal Water Monitoring Survey" in collaboration with National Institute of Oceanography (NIO).

MPCB has developed a road map for strengthening of the ambient air monitoring network and increased the total no. of stations up to 72, which will represent the regional air quality on spatial and temporal scales.

MPCB is also in the process of developing a calibration laboratory for calibration of air quality monitoring stations including the equipments, sampling and analysis procedures.

The Board has set up additional 9 stations this year under SAMP (State Air Quality Monitoring Programme). The cities monitored are Kolhapur, Akola, Chandrapur Amravati Ulhasnagar, etc. Daily air quality data of 6 major cities in the State is reported on website and is updated daily.

The Board has also provided technical and financial assistance for management of Municipal solid wastes and Bio-Medical waste in the state. To facilitate the implementation of MSW Rules and to motivate urban local bodies, MPCB has completed demonstration projects at 5 places in the state for which the Board has received appreciation from Hon. Supreme Court. For management of BMW in different cities in Maharashtra the Board has taken proactive measures in facilitating development of common facilities. There are now 37 common facilities developed in the State.

The quantity of hazardous wastes generated in Maharashtra State is almost half



of the quantity of the hazardous wastes generated in India. However the Board has managed the hazardous wastes in the state very effectively and received appreciations from SCMC for this work. Common facilities for management of hazardous wastes have been set up at Taloja and TTC industrial areas. MPCB has granted the consents to establish to develop the hazardous waste management facilities being established at Butibori (Nagpur), and Ranjangaon (Pune) to meet the requirements hazardous waste treatment and disposal needs of the industries in Vidarbha, and Western Maharashtra. Efforts are being made to further develop the Hazardous waste management facilities in Marathwada and Konkan regions. MPCB is also considering the request of Goa State to develop a joint TSDF for southern Konkan and Goa industries. To monitor the emissions from the incinerator, MPCB is in process of developing the laboratory facility for analysis of dioxin, furans, PACs VOCs, etc. A new software is launched by the Board to file the annual returns online through MPCB web site MPCB has issued scratch cards for the HW generators in the Maharashtra state which includes the secret password for individual industry and the Board is now receiving the returns online. This effort of the Board is highly appreciated by the industry and stakeholders. (URL: http://mpcb.nic.in/hwmms/annual_returns_home.php)

Under Lead-Acid Batteries (Management & Handling) Rules 2001, MPCB achieved very good success in terms of the collection of the used batteries from the dealers and bulk consumers.





The Board has carried out Rapid E-waste Assessment Study for which UNEP has provided financial assistance. The report is now placed on website for the public.

Information on the consents/ authorizations granted by the Board is regularly uploaded on website of the Board which is helpful to track the status of application of the concerned industry / developer.

To generate environmental awareness among the people regarding effects of pollution, need to prevent, control the pollution and protect environment MPCB had organized various programs. These programs were organized involving media, NGOs, industries, local bodies and academic institutions etc. Street plays were also organized as a part of the campaign against the plastic carry bags. These were arranged at schools, colleges, railway stations and Mantralaya and were very widely appreciated by the people





2. CONSTITUTION OF THE BOARD

The Maharashtra Pollution Control Board consists of Chairman, Members and a full time Member- Secretary, who functions as chief executive officer as per the Rules under Water (P.&C.P) Act, 1974 notified by the State Government in 1983. The composition of the Board is as under:

Chairman: (Part time or full time)

A person having special knowledge or practical experience in respect of matters relating to environmental protection or a person having knowledge and experience in administering institutions dealing with the matters aforesaid

- **Representatives of the State Govt.** (not exceeding five)
- **Representatives of local bodies** (not exceeding five)
- **Representatives of companies or corporations of the State Govt.** (two)
- **Members representing interests of agriculture, fishery or industry or trade etc.** (not exceeding three)
- **Member Secretary:** Full time possessing qualifications, knowledge and experience of scientific, engineering or management aspects of pollution control

Under section 4 of the Water (Prevention and Control of Pollution) Act, 1974 the Government of Maharashtra is empowered to constitute State Pollution Control Board,(MPCB). However, during the year under report, the Board could not be constituted as provided under the Act.

Shri Shyamlal Goyal. Secretary, (Environment), Govt. of Maharashtra took as Chairman of the Board from 08/10/2007.

Shri Shyamlal Goyal. Chairman, M.P.C Board, Mumbai.

Shri Shyamlal Goyal. Secretary, Environment Dept. Government of Maharashtra Mumbai.

Principal Secretary. Home (Transport) Dept. Government of Maharashtra, Mumbai.

Principal Secretary. Public Health Dept. Government of Maharashtra, Mumbai



Chief Executive Officer. M.I.D.C., Mahakali Caves Road, Andheri (E), Mumbai.

Member Secretary (Technical). Maharashtra Jeevan Pradhikaran, Express Towers, 4th Floor, Nariman Point, Mumbai.

The Secretary. Water Supply and Sanitation Dept., Govt. of Maharashtra, 5th Floor, Mantralaya, Mumbai.

Shri. Sanjay Khandare, Member Secretary, M.P.C. Board, Mumbai





3. MEETINGS OF THE BOARD

During the year under report, **one** meeting was conducted. The major decisions taken are reported below

146th meeting (06/11/07)

- While considering the environmental improvement at Religious places the Board agreed to consider Tuljapur and Ramtek as additional places under the project. The Board will prioritize the religious places on the basis of the environmental problems and the financial capacity of the local bodies to take up such improvement programme. It was decided that Shirdi being a financially capable Devasthan for implementation of the projects the Board can extend its technical guidance for the same, if requested.
- In respect of vermi-composting project at Shani-Shingnapur it was resolved that the third & final installment of Rs. 4, 60, 480/- be released on the basis of verification report and utilization certificate from the concerned Regional Officer of the Board.
- It was decided to ask MCGM to undertake the proposal for a study for determining the prevalence of Asthama and its co-relation with ambient air quality in Mumbai as suggested by the participating conference organized by the Maharashtra Pollution Control Board on Strategies to Control air pollution in Mumbai.
- While considering the financial assistance to Latur Environment Action Plan (LEAP) it was decided to ask Utilization Certificate and account of expenditure done out of Rs. 1 crore released by the Board, from the Chief Officer, Latur Municipal Council.
- The Board has approved the proposed augmentation of water and air quality monitoring network and also formation of PAMS group with proposed manpower with necessary infrastructure along with budgetary provisions. The Board has authorized Member Secretary to take further necessary actions.
- The Board has perused the Annual Report for the year 2005-2006 and it was decided to approve the same. It was further decided to take appropriate steps to lay down the same before the State Legislation.



4. COMMITTEES CONSTITUTED BY THE BOARD

With a view to have smooth functioning of the Board as provided under section 9 of the Water (Prevention and Control of Pollution) Act 1974 and section 11 of the Air (Prevention and Control of Pollution) Act 1981 the Board constitutes various committees for efficient and effective implementation of the Acts and Rules.

During the year under report, the following committees constituted to conduct specific work

Consent Appraisal Committee:

As provided under section 9 of the Water Act 1974 and section 11 of Air Act 1981 the Board has constituted the Consent Appraisal Committee on 27/06/07. In exercise of the powers conferred on the Chairman of the Board the Consent Appraisal Committee is constituted as under:

- | | |
|--|------------------|
| 1. Chairman. Maharashtra Pollution Control Board | Chairman |
| 2. Secretary. Urban Development Dept., | Member |
| 3. The Technical Advisor.
Maharashtra Industrial Development Corporation | Member |
| 4. Member-Secretary.
Maharashtra Pollution Control Board | Member-Secretary |

This committee considers applications for Consents/Authorizations under Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Hazardous Wastes (M & H) Rules, 1989 as under

- | | |
|-------------------|--|
| "RED" category | : Projects with capital investment above Rs. 15 crores. |
| "ORANGE" category | : Projects with capital investment above Rs. 100 crores. |
| "GREEN" category | : All Projects beyond Rs.500 crores
All A & B Class Municipal Councils And Corporations |



5. AIR AND WATER QUALITY MONITORING NETWORK

As per the provisions under section 17 of the water (P&CP) Act, 1974 & Air (P&CP) Act, 1981, it is one of the important functions of the Board to collect & disseminate information about water & air pollution.

Planning for prevention, control or abatement of pollution of streams, wells and air & to secure execution thereof, and classify the waters of the State is one of the functions of the State Board and as both air and water pollution poses risk to human health, it is essential to monitor the pollution level of river water, seawater and ambient air. To observe the trend in water quality and air quality, stations are fixed through which regular monitoring is carried out by the Board. Discharge of industrial effluent & sewage are the main causes of water pollution, whereas the air pollution is caused due to industrial emission; vehicular exhaust & burning of solid wastes, therefore to monitor the pollutants present in water and air, a monitoring network is established across the State. Air quality monitoring is done with the help of HVS (High Volume air Sampler) and mobile air monitoring van. Monitoring frequencies are fixed at each station.

Samples collected through Regional offices of the Board are analyzed through its Central Laboratory at Navi Mumbai and Regional Laboratories at Aurangabad, Pune, Nagpur, Nashik, Thane and Chiplun. These laboratories are strengthened with sophisticated instruments / equipments for the analysis of Air, Water, and Hazardous Waste sample. Around 3000 samples are being analyzed per month in these laboratories. Apart from this, 7 nos. of Mobile Monitoring Vans with sophisticated instruments are used for Monitoring of ambient air quality at various places. With these vans the major air pollutants e.g. SO₂, NO_x, SPM, Ammonia, CO, HC and meteorological parameters like temperature, humidity, wind direction, wind speed etc. are monitored. The data is computerized and printed on hourly basis. Under World Bank Project two fixed automatic monitoring stations received have been installed at Thane Belapur (Navi Mumbai) and at Chandrapur.

For effective implementation of these monitoring programmes, it was felt necessary to have separate working group which would look after data collection, collation and dissemination activities. Accordingly to streamline the monitoring and surveillance activities, Pollution Assessment Monitoring and Surveillance (PAMS) division, was formed on 3rd August, 2005



5.1 Water quality monitoring network

Water Quality Monitoring is necessary to understand the nature, extent of pollution and control measures required. The monitoring data will help in identifying the source of pollution also. To know the level of pollution in water bodies a scientific water quality monitoring was done during the year 2007-2008.

The water quality of the river depends on the concentration of pollutants remained in the river and flow of water in the river. Due to maximum extraction of water from the rivers, the flow of the rivers become very low even after monsoon resulting in minimizing the dilution factor which is required for diluting the effect of pollutants being discharged. In general the domestic waste water without sufficient treatment from the cities, towns and industrial estates located nearby the rivers are finding its way into the rivers resulting in deterioration of river water quality.

Under National Water Quality Monitoring Program (NWMP) water quality is being monitored at 48 surface water locations and 25 ground water locations established under the projects MINARS (Monitoring of Indian National Aquatic Resource System) & GEMS (Global Environmental Monitoring System). Monitoring at these stations is being done as per the monitoring guidelines issued by C.P.C.B. Out of 48 GEMS/ MINARS surface water locations, 21 locations are monitored quarterly while the other 27 locations are monitored monthly. All 25 ground water locations are monitored once in six months (April & October).

To tackle the hazards of faster deterioration of surface and ground water quality MPCB has expanded the existing water quality network in Maharashtra. Under State Water Quality Monitoring Program (SWMP), 152 surface water and 25 ground water stations were added.

In January 2007 monitoring has been initiated at 200 surface water stations such as rivers, nallah, sea water etc and 50 ground water stations in different regions across the State including the existing 73 GEMS/MINARS stations, as per the Guidelines issued under Uniform Protocol for Water Quality Monitoring by MoEF.

Considering the necessity of regular monitoring of drinking water sources used by local authorities, the Board has started monitoring 137 new stations for the drinking water sources throughout the State from January, 2007.



On February, 2008, CPCB has sanctioned 50 new stations under NWMP from existing SWMP stations - 45 surface water stations with monthly monitoring frequency & 5 ground water stations with half yearly monitoring frequency.

Water Quality Monitoring Stations

Water Quality Monitoring stations	No. of Stations operated during 2006 - 07	No. of Stations operated during 2007 - 08
Surface water monitoring stations under NWMP	48	93
Ground water monitoring stations under NWMP	25	30
Surface water monitoring stations under SWMP	152	107
Ground water monitoring stations under SWMP	25	20
Drinking water source monitoring stations	137	137
Coastal Monitoring Survey through NIO, Mumbai	114	114
TOTAL	501	501

State Water Quality Monitoring Stations

Besides regular monitoring of surface water quality of rivers under NWMP (National Water Monitoring Program) during **2007-08**, the Board has started monitoring of additional 152 stations under State Water Monitoring Program (SWMP). Therefore, the surface water monitoring stations are increased from 48 to 200 during this year. Ground water monitoring stations are increased from 25 to 50.

Considering the necessity of the regular monitoring of drinking water sources used by local authorities, the Board has started monitoring 133 new stations for the drinking water sources throughout the State from January, 2007; Table below shows the increase in number of water monitoring stations during this year.



Water Quality Monitoring stations	No. of Stations operated during 2006 - 07	No. of Stations operated during 2007 - 08
Surface water monitoring stations	48	200
Ground water monitoring stations	25	50
Drinking water source monitoring stations	0	133

Air Quality Monitoring Network

Air pollutants are added in the atmosphere from various sources that change the composition of atmosphere and affect the biotic environment. The concentration of air pollutants depends not only on the quantities that are emitted from air polluting sources but also on the atmospheric conditions to either absorb or disperse these emissions. The air pollutant concentration vary spatially and temporarily with different locations and time due to changes in meteorological and topographical condition. The sources of air pollution include vehicles, industries, domestic sources and natural sources. Because of the presence of higher concentration of air pollutants in the ambient air, the human health and property is adversely affected. In order to control the deterioration in air quality, Air (Prevention and Control of Pollution) Act 1981 was passed by the Parliament. It is necessary to assess the present and anticipated air pollution through continuous air quality survey/monitoring programs.

The existing 28 air monitoring stations under **National Ambient Air Quality Monitoring Programme** (NAMP) in Maharashtra are being managed by MPCB w.e.f. 01.07.2005 and the air quality monitoring network in Maharashtra is strengthened further. The strengthening also includes developing a systematic **State Air Monitoring Program** (SAMP) to support the NAMP.

The Board has started operating the stations at Kolhapur, Tarapur, Lote, Amravati and Navi Mumbai under NAMP. Similarly the SAMP stations are also monitored in different cities. At Present, there are 45 NAMP stations (39 operated by MPCB and 6 operated by NEERI), 9 SAMP stations and 7 Continuous Ambient Air Quality Monitoring Stations (CAAQMS) in operation apart from earlier 14 stations under operation.



Table 1:- Monitoring stations under NAMP

Sr. No.	Name of City	No. of Stations	Operated by	Remarks
NAMP				
1.	Mumbai	3	NEERI	Managed by CPCB
2.	Thane	3	Thane Municipal Corporation	In Operation since July,2005
3.	Pune	3	University of Pune	In Operation since July,2005
4.	Nagpur	3	Vishveshwarayya National Institute of Technology	In Operation since July,2005
		3	NEERI	Managed by CPCB
5.	Chandrapur	3	MPCB	In Operation since July,2005
6.	Aurangabad	3	Saraswati Bhuvan College Aurangabad	In Operation since July,2005
7.	Dombivali - Ambarnath	2	MPCB	Operational since Oct. 2004
8.	Nashik	3	K T H M College, Nashik.	In Operation since July,2005
9.	Solapur	2	Walchand Institute of Technology.	In Operation since July,2005
Total		28		

NEW NAMP STATIONS

10.	Kolhapur	3	Shivaji University, Kolhapur	December 2005
11.	Tarapur MIDC	3	MPCB	Jan - 2006
12.	Lote MIDC	2	MPCB	March - 2006
13.	Taloja MIDC	3	K.B.P.College, Vashi	April - 2006
14.	Navi Mumbai (TTC)	3	K.B.P.College, Vashi	April - 2006
15.	Amaravati	3	Govt. Engg. College Amaravati	Nov. - 2006
Total		17		

Table II:- Monitoring stations under SAMP

Sr. No.	Name of City	No. of Stations	Operating agency	Remarks
1.	Ulhasnagar	3	HM College, Ulhas Nagar	
2.	Jalna	2	MPCB	
3.	Pune	1	University of Pune	Handed over in Feb,2008
4.	Nashik	1	MPCB	
5.	Nagpur	1	MPCB	
6.	Aurangabad	1	MPCB	
Total		9		



Continuous Air Quality Monitoring Stations (CAAQMS)

The continuous air quality monitoring stations are equipped with the Advance air quality monitoring instruments which display "real time" value of air pollutants. The data is useful for the trend analysis.

MPCB had directed the major industries in Chandrapur district to install the Continuous Ambient Air Quality Monitoring Stations (CAAQMS). They were further directed to make air quality data available to public through display boards. As a result of MPCB's continuous follow-up, five major industries namely

- 1) M/s Lloyds Metal & Engineering Ltd., Ghugus, Tal. & Dist. Chandrapur.
- 2) M/s Associated Cement Co., Ghugus, Tal & Dist. Chandrapur.
- 3) M/s Ultrachic Cement, Awarpur, Dist. Chandrapur
- 4) M/s Manikgarh Cement, P.O. Gadchandur, Dist. Chandrapur.
- 5) M/s Ambuja Cement, Uparwahi, Dist. Chandrapur.

have installed CAAQMS at the locations identified by MPCB and electronic data display boards for information of public to know the status of ambient air quality. The regular availability of air quality data in public domain will create awareness among local people and ensure better compliance by the industries.

Table III:- List of CAAQMS

Sr. No.	Name of City	No. of Stations	Operating agency	Remarks
1.	Bandra Mumbai	1	M/s Chemtrols Engineering Ltd	
2.	Solapur	1	M/s Chemtrols Engineering Ltd	
3.	Pune	1	M/s Honeywell Automation Ltd	
4.	Chandrapur	1	M/s Alfatech Services	
5.	Vashi, Navi Mumbai	1	M/s Chemtrols Engineering Ltd Managed	by Navi Mumbai.M.C
6.	Mulund, Mumbai	1	M/s Alfatech Services	
7.	Sion, Mumbai	1	MPCB	
Total		17		



List of proposed stations approved in the 146th Board Meeting

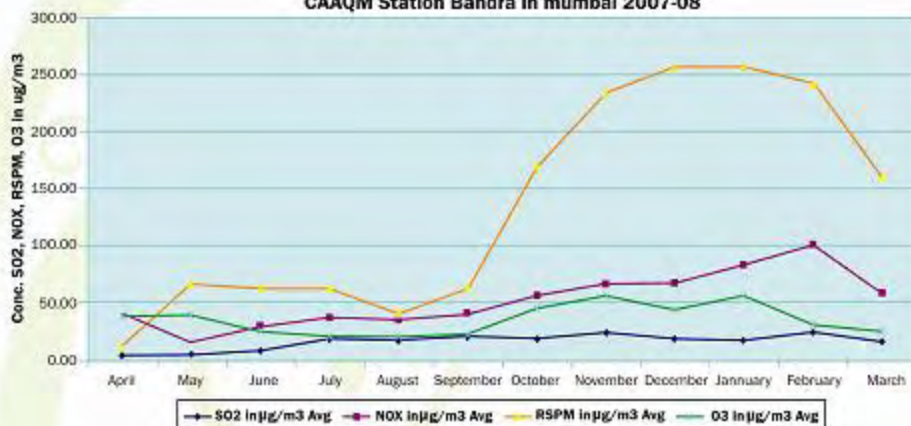
Sr. No.	City	Proposed NAMP	Proposed SAMP	Total	Details of Augmentation	Proposed Agency
1.	Mumbai	3	4	7	The city presently has only 3 NAMP stations which are grossly inadequate.	MPCB
2.	Pune	1	-	1	City is among 11 highly polluting industrial cities and need more stations for proper distribution of air quality stations.	University of Pune
3.	Kalyan-Dombivali	-	2	2	Dombivali is also an industrialized area where residential development is in the vicinity and Kalyan is also a municipal corporation and need more AAQM stations.	Birla College Kalyan
4.	Bhiwandi	-	2	2	Bhiwandi is an industrialized municipal corporation city and receives regular complaints of air pollution. AAQM is required to collect AAQ data on regular basis.	Birla College Kalyan
5.	Roha	-	2	2	Roha is a major established industrialized area and need regular AAQM stations.	Babasaheb Ambedkar Technological University Lonere
6.	Chandrapur	-	3	3	Chandrapur is a major established industrialized area and need regular AAQM stations.	MPCB
7.	Akola	1	2	3	It is a Municipal Corporation and need AAQM stations.	College of Engineering & Technology, Akola.
8.	Mahad	3	-	3	Mahad is a major established industrialized area and need regular AAQM stations.	Babasaheb Ambedkar Technological University Lonere
9.	Jalgaon	-	3	3	It is municipal corporation and need AAQM stations.	North Maharashtra University
10.	Ahmed-nagar	3	2	5	It is municipal Corporation and need AAQM stations.	Ahmednagar College
11.	Sangli	-	3	3	It is municipal corporation and need AAQM stations.	Walchand College of Engineering.
12.	Nanded	-	3	3	It is Municipal Corporation and need AAQM stations.	
13.	Latur	-	3	3	It is Municipal Corporation and need AAQM stations.	Dayanand Education Society Latur
14.	Dhule	-	3	3	It is municipal corporation and need AAQM stations.	
Total		11	32	43		



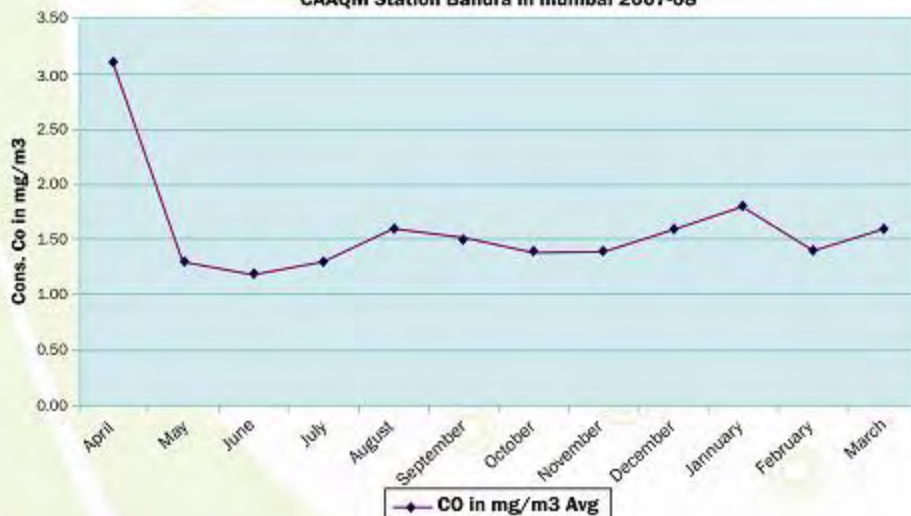
Air quality Monitoring Stations at a glance:

Sr. No.	Air Quality Monitoring stations	No. of stations in operation during 2006-07	No. of stations in operation during 2007-08	No. of stations proposed/under process
1.	NAMP	45	45	11
2.	SAMP	10	09	32
3.	CAAQMS	4	7	3 (MMRDA)
	Total	59	61	46

CAAQM Station Bandra in mumbai 2007-08

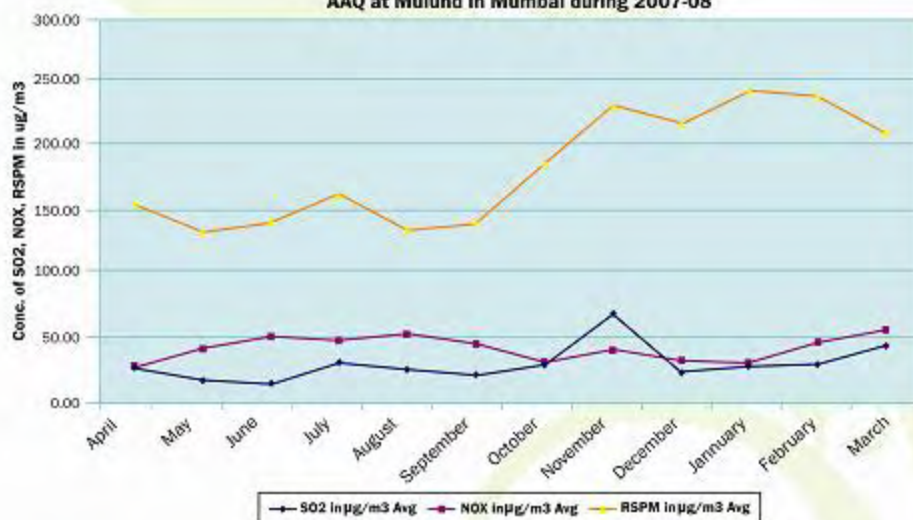


CAAQM Station Bandra in mumbai 2007-08





AAQ at Mulund in Mumbai during 2007-08

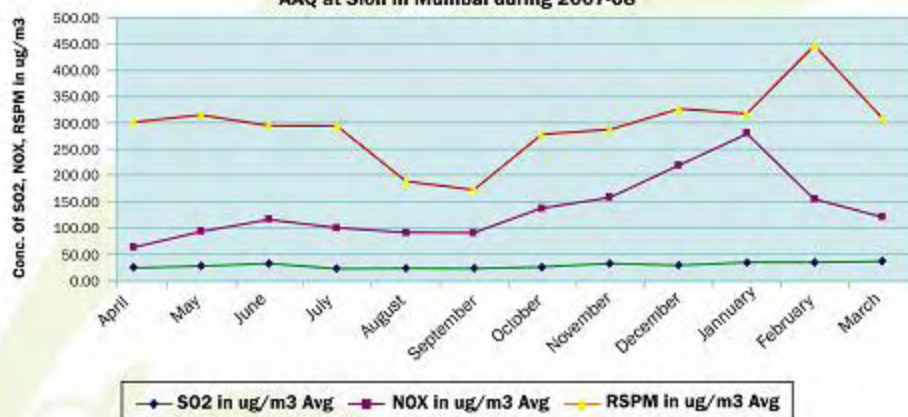


CO Levels at Mulund in Mumbai during 2007-08

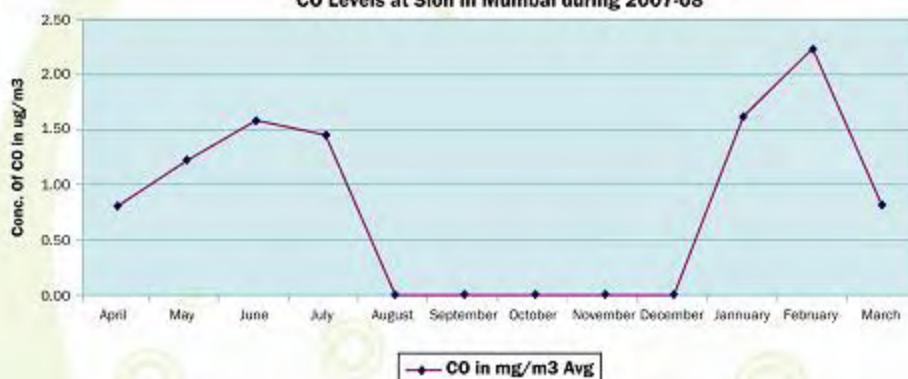




AAQ at Sion in Mumbai during 2007-08



CO Levels at Sion in Mumbai during 2007-08





6. PRESENT STATUS OF ENVIRONMENT PROBLEMS AND CONTROL MEASURES

The ever increasing industrialization, urbanization and vehicular population are the causes of environmental pollution. To control pollution and protect the environment, Board assesses the environmental quality, study the related problems and take appropriate control measures. To achieve pollution free environment the Board adopted various strategies like public-private partnership, involvement of NGOs, strict enforcement of Acts and Rules, fiscal incentives and financial assistance.

Only few rivers Godavari, Krishna, Bhima and Tapi have the continuous flow of water and the rest of the rivers in the State are monsoon fed. The water quality is being judged through a monitoring network established under MINARS and GEMS projects and State Water Quality Monitoring Programme (SWMP). The ambient air quality is assessed under NAMP project through a network of 45 stations. These are operated by various agencies in the state. The Board also monitors ambient air quality under State air quality monitoring Programme (SAMP). Besides this, Pollution problems associated with wastes generated from local bodies, industries and hospitals are also dealt by the Board. These are being regulated and controlled as per the provisions of the Rules framed under Environment (Protection) Act, 1986

6.1 Domestic Pollution

Municipal Waste Management:

- There are now 22 Municipal Corporations, 223 Municipal Councils and 7 Cantonment Boards in the State

Due to rapid urbanization, various problems like collection, treatment and disposal of wastewater, solid wastes, Bio-medical waste and plastic waste etc. are created and the local bodies are unable to handle the situation. The waste water generated is disposed off either on land or into the surface water. The land disposal causes ground water pollution whereas the disposal into surface water affects the aquatic life. There is no adequate sewerage system in any of the Municipal bodies in Maharashtra State. To know the concentration of pollutants present in the sewage the Board collects and analyze sewage samples regularly. During the year 828 sewage samples were collected from corporations and councils for analysis. The volume of effluent generated from Municipal Corporations is 5399 MLD which is 80% of total water consumption.



Discharge of untreated/ partially treated sewage is a major source of water pollution. The effluent generated in Corporation area is 86% of the total domestic effluent whereas the councils contribute 14% of domestic effluent. The Corporations have installed partial arrangement to treat effluent to the tune of 873 MLD i.e.16% of the total effluent quantity generated.

Due to paucity of funds most of the local bodies are discharging their domestic effluent in nearby river/local nalla without any treatment and it becomes a major source of surface water pollution. In some Regions large-scale industries also mix their effluent to domestic waste water.





Steps taken for control of domestic pollution

Board is pursuing the matter with municipal council authorities actively. The officers during visit to municipal council hold discussions about the importance of sewage treatment plant and MSW management issues with municipal authorities. Municipal authorities have been asked to make budgetary provisions for providing STPs. Municipal authorities have also been asked to explore assistance in terms of financial aid from concerned government agencies. Notices were issued to the non complied municipal councils so as to have the improvement upon the existing situation. Bank Guarantee is also taken from some of the Local Bodies.

- Aurangabad Municipal Corporation has provided STP at CIDCO area of 5.4 MLD capacities for the treatment of waste generated in CIDCO Area of Aurangabad city. Due to technical problems STP is not operated regularly.
- Also the work of sewage treatment plant under NRAP (National River Action Plan) at Nanded is in final stages of completion.
- Project under National River Action Plan for providing drainage system, sewage treatment plant for Paithan city is already prepared and submitted to Department of Environment, Govt. of Maharashtra for necessary approval and further submission to Ministry of Environment, Govt. of India, New Delhi.
- The Nashik Municipal Corporation has provided 6 nos. of Sewage Treatment Plants catering around 80 % of the total sewage generated from the city & other. A STP having capacity 52 MLD is under construction. All these existing 6 STP's are in operation. Trimbak municipal council, Trimbak has also provided sewage treatment facilities and is in operation. The process for installation of Sewage Treatment Plants at Jalgaon Municipal Corporation, Dhule Municipal Corporation, Amalner Municipal Council, Yawal Municipal Council, Faizpur Municipal Council, Jamner Municipal Council, Bhusawal Municipal Council, Cantonment Board Devlali, Shirdi Grampanchayat, Yevala Municipal Council, Malegaon Municipal Corporation, Manmad Municipal Council is in progress.
- Nashik Municipal Corporation has already provided facility for the municipal solid waste collection, treatment & disposal. Compost making & scientific land filling is also in operation. The compost facility is in operation and giving the revenue of apprx. Rs. 50 Lacs/Month by selling the compost as manure. Malegaon Municipal Corporation and Shrirampur Municipal Council have provided vermin-Composting



facility for part of MSW & remaining is being disposed of on open land. M/s Shirpur Municipal Council Shirpur, Dist: Dhule, has provided composting facility for MSW. The model facilities for processing MSW at Navapur Municipal Council and Shani shinganapur Devsthan has been developed and put into operation. The development of MSW management facilities at other areas of Nashik region are in progress. Show Cause Notices were also issued to some of the corporations/councils for non compliance of MSW Rules

- Board office has issued notices to the Kalyan-Dombivali Municipal Corporation & Bhiwandi Nijampur City Municipal Corporation to provide STP for total capacity for treatment of domestic effluent, effluent generated from slaughter house & directed them to submit bank guarantee along with the time bound programme. As per provision of the Municipal Solid Waste (M&H) rules, 2000 for solid waste processing and disposal, most of the local bodies have selected and finalized the sites. These sites were approved by the district level committee.
- Bigger residential societies are perused to provide individual STP. For installation of STP vigorous follow up is made with Thane Municipal Corporation by way of issuing notices collecting of LES, prosecution notice and hearing at H.O.
- The Pune Municipal Corporation generating sewage of 474 MLD has provided STPs at 5 different locations having a total capacity of 305 MLD. Similarly, the Pimpri Chinchwad Municipal Corporation generating sewage of 260 MLD has provided 6 No of STPs at various locations having a total capacity of 157 MLD. It is proposed to provide six more STPs at different locations having a total capacity of 125 MLD and for 70 MLD capacities at Pimple Nilakh, which will be helpful to cover entire sewage under treatment. Cantonment Boards near Pune have provided STPs

The Solapur Municipal Corporation has provided STP. However, it is inadequate and also not in operation.

The Pandharpur Municipal council has provided STP having a capacity of 6.5 MLD which covers only 50% of sewage/sullage generated.



Table-6.1
Status of Sewage Treatment Plant in Municipal Corporations on March-2008

Sr. No.	Region	No. of Corporations	Population	Qty. of Water Consumption MLD	Qty. of Effluent Generated MLD	No. of Corporations having Partial Treatment & Disposal arrangement for Sewage
1.	Mumbai	1	11914393	3000	2671	1
2.	Navi Mumbai	1	1043882	283	197	1
3.	Thane	2	2426691	448	349	2
4.	Kalyan	3	2471000	473	369	3
5.	Pune	3	6079000	1126	743	3
6.	Nagpur	1	2500000	500	380	1
7.	Nashik	5	2730834	411	341	2
8.	Amravati	2	1100000	107	76	0
9.	Aurangabad	2	1430598	175	143	1
10.	Kolhapur	2	920740	180	130	2
Total		22	32617138	6703	5399	16

6.2 Water quality status

Water quality assessment helps in finding the nature and extent of pollution in the water bodies and based on this, effective pollution control measures can be implemented

Due to lack of education, awareness and civic sense and use of inefficient methods and technology more than 50% of water is wasted in domestic, agriculture and industrial sectors. The release of domestic wastewater, agricultural run-off water and industrial effluents promote excessive growth of algae in water bodies, which results in their eutrophication. Further, the wastewaters containing high organic matter use dissolved oxygen in the water resulting in oxygen depletion and making the survival life difficult. Microbiological contamination of water due to mixing of untreated wastewater is also the cause of water pollution. Both negligence of authorities and lack of public awareness are responsible for deteriorating the quality of water resources.

Heavy abstraction of water for domestic, industrial and agricultural purposes and use of water for hydropower, fisheries, navigation, and community bath, washing, cattle bathing and watering, reduce dilution factor and cause pollution of river water.

Depending upon the best designated use of water the river waters are classified into 4 classes as A-I, A-II, A-III and A-IV. In order to maintain the water quality in its best



designated use, Board is monitoring river water regularly through National Water Quality Monitoring Program and State Water Quality Monitoring Program.

6.2.1 River Water Quality status

Maharashtra State has a network of 48 monitoring stations under water quality monitoring programme MINARS (Monitoring of Indian National Aquatic Resource Sampling) and GEMS (Global Environmental Monitoring System) sponsored by C.P.C.B. these includes main rivers like Godavari, Krishna, Bhima, Tapi and some tributaries. This monitoring network covers 18 rivers and 3 creeks. The analysis results obtained during the reporting year indicate that Bio-chemical oxygen demand (B.O.D.) exceeded the limit at 27 locations indicating organic pollution of the rivers. The highest concentration of B.O.D. was recorded at Bund garden and Vithalwadi on Bhima river, but conforming to standard of A-IV class of water. where D.O. level was also not conforming to the standards. At other locations the D.O. level was conforming to the standards. At some locations increase in Bacterial count is noticed which indicates presence of pathogens in water. The coliform count was found in the range 18-1400 MPN/100ml. When compared with last year, the reduction in Bacterial count is noticed at 17 locations which include Godavari river in Nasik, Krishna, Tapi and Wainganga rivers. The comparisons of last 3 years analysis results indicate that **Gangapur Dam, Ramkund and D/s Nasik** on Godavari river, **Dhom Dam and Karad** on Krishna river remained polluted. Bhima river remained polluted at all locations excluding **Bund garden and Vithalwadi** where B.O.D. level is meeting the standard of desired A-IV class of water. It is seen that the river water quality is slightly improved during the year.





Besides above project the water quality is also assessed through 165 stations established on different rivers during the year. It has been observed that at most of the locations water quality is deteriorated only due to excess of BOD levels indicating organic pollution in the water. The DO levels are not conforming to the standard at few locations which are located on Bhima River.

36 locations on the rivers Mula, Mutha, Pawana, Bhima and part of Krishna in Pune Region are also monitored during the year. Mula and Mutha rivers, except at Harrission Bridge and Aundh Bridge have shown increase in B.O.D. and C.O.D.levels at all the locations but conforming to the desired class (A-IV) of water. Increase in Bacterial count is noticed in the waters of Mula-Mutha and Ghod, Indrayani river, where water quality does not meet the criteria with respect to B.O.D. Parameter Mutha river at Khadkwasla has shown slight improvement in water quality than in the previous year. Though there is increase in B.O.D. and C.O.D.levels, the water quality of Pawna river is conforming to the desired class at all the monitoring locations. Venna, Koyna and Part of Krishna river flows though Satara sub-region of the Board. The locations monitored at these rivers have shown satisfactory level of D.O. However B.O.D. exceeded the limit at all locations and found in the range 7.7-10.5 mg/l. when compared with last year it is seen that at few locations the B.O.D. and C.O.D.levels are increased. The water quality characteristics of these rivers during the year have not indicated any significant improvement in water quality over previous year.

Krishna, Panchganga, Vashishti, and Muchkundi rivers are monitored for water quality assessment in Kolhapur region. The analysis results of water quality when compared with the last year's result, reveals that water quality of these rivers remained satisfactory during the year. The levels of B.O.D. though found in excess during the year were meeting the criteria of desired A-II class of water. The Bacterial count during the year is considerably reduced over the previous year. The rise in B.O.D. and C.O.D.levels have been observed at some locations of the above rivers. The overall water quality in the Kolhapur region remained satisfactory.

19 monitoring stations set up along the rivers Wainganga, Wardha, Nag, Kanhan, Bagh and Erai were assessed to know the water quality in Nagpur region. Increase in COD concentrations has been noticed at Asoli Bridge on Nag River and Karadi Road on Pilli River adhering A-IV class of water. Except D/s Ellora Paper mill on Wainganga at all remaining locations the BOD levels exceeded the limit during the year. Highest BOD level was noticed at on Asoli Bridge on Nag River. The bacterial count was observed



very high at u/s Ellora Paper mill on Wainganga (45000MPN/100ml) during the year. Purna, Pedhi and Painganga are the main rivers flowing through Amravati region. These rivers are monitored through 24 locations. The analysis report indicates that there is increase in BOD and COD levels during the year than in the last year. BOD exceeded the limit at almost all locations of the river. The BOD and COD level recorded at Akola on Morna river were very high, where DO level was also not conforming to the standard. The most polluted stations found during the year are **Akola** on Morna river and **Dadhi Pedhi** on Pedhi river. The DO levels were conforming to the standards at the remaining stations.

There are two major rivers Vaitarna and Tansa in Thane Region which are observed to be dry for most of the time throughout the year. Surya river flows near Palghar and provides water to MIDC area of Tarapur and towns of Virar, Palghar and Vasai. The effluent discharges are not permitted into the river water and source of water supply is protected. The water quality assessment of Surya river having A-I class of water showed that there is much improvement in B.O.D. and D.O. level of river water quality than in the last year. However increase in COD level is seen during the year and found in the range 21-56 mg/l.

As compared to the previous year slight increase in BOD level has been noticed in Ulhas, Bhatasa, and Vaitarna and Tansa rivers in Kalyan Region. Except at u/s shelar village on Kamavari river C.O.D. level has been reduced at all the 6 locations. D.O. level is also come down over the previous year.

The water quality of Godavari river monitored at locations in Nasik and the locations on rivers Mula, Pravara, Darana and Sina. The DO levels were not conforming to the standard at chikali nalla, Kapila-Goda conflict, Rahuri bridge and Nagar-Pune road bridge. The BOD levels exceeded the limit at all the locations. The high concentration of BOD is mostly due to heavy bathing, washing activities & ash disposal from the crematorium being a pilgrim place & especially during non rotation period of water discharge from the upstream dam.

The high water quality deterioration of the river Godavari has been noticed at the locations chikali nalla, Kapila-Goda conflict, Hanuman Ghat and Tapovan of Godavari river.

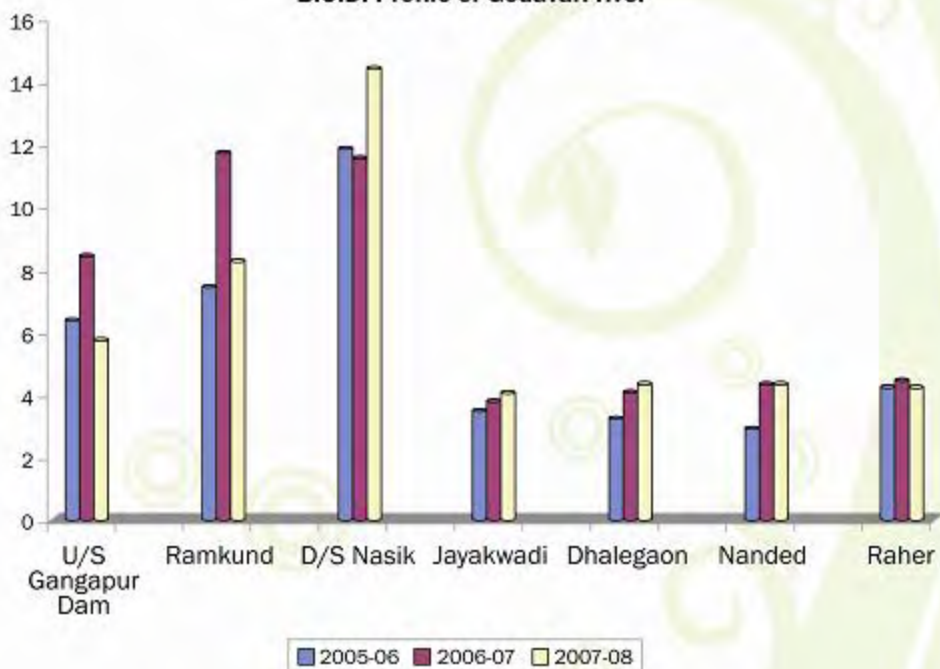
The level of pH, MPN & DO are almost meeting the desired class in the entire stretch of river L.Tapi. Due to discharge of untreated sewage from the local bodies and accidental



discharge of industrial effluent the levels of B.O.D. are marginally higher than the desired level at all the locations of river L.Tapi.

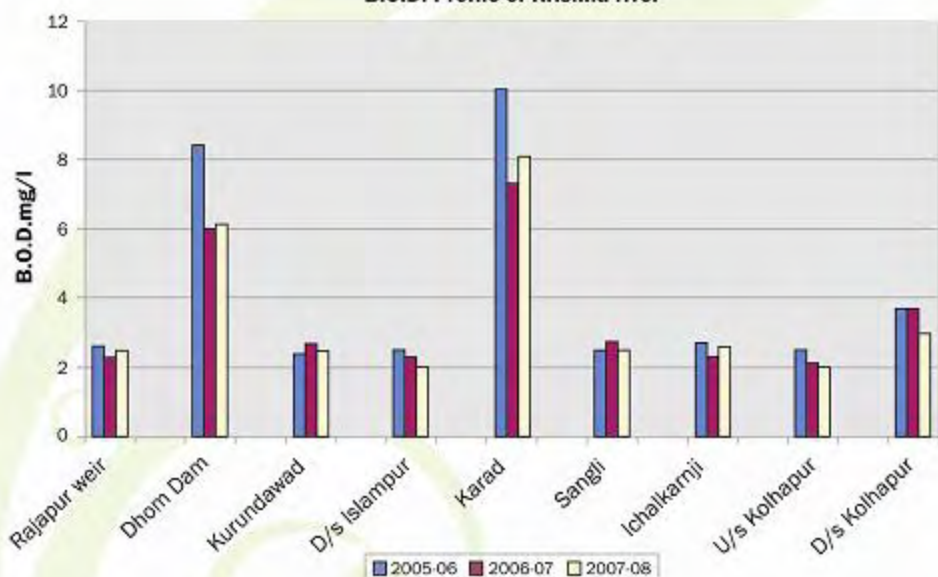
In Aurangabad Region Godavari River and its tributaries were monitored at 16 locations. Excluding Shivna River at Kannad, the reduction in C.O.D. concentration is observed at all locations. The BOD levels are noticed within limit at Harsul Dam, and Ujani on Terna river during the year. Though high water quality deterioration is observed at Chikalthana Bridge and Chitepimpalgaon on Sukna River, the concentrations of B.O.D. and C.O.D. are much reduced during the year. River Manjra is also not meeting the desired standard at 'Bhatkheda' location.

B.O.D. Profile of Godavari river

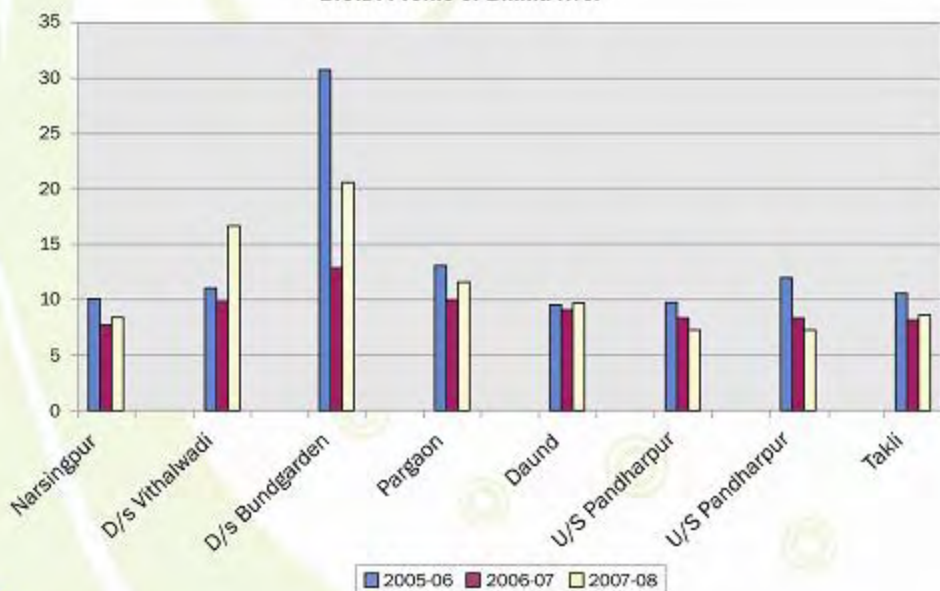




B.O.D. Profile of Krishna river



B.O.D. Profile of Bhima river





Rivers flowing through coastal belt

The rapid industrial development along the Coastal line of the State, has resulted in pollution problem of rivers flowing through the coastal area. These rivers receive pollutants through discharge of effluents by industrial establishments located nearby the rivers. It is observed from the analysis results that Ulhas river remained polluted during the year whereas water quality deterioration is noticed at 3 locations on Kundalika river and 2 location on Patalganga river. The water quality of Savitri river remained more satisfactory during the reporting year. At few locations, slight increase in COD concentration is noticed.

i) Ulhas river:

Discharge of untreated domestic effluent from Badlapur Municipal Council and part of domestic effluent from Ulhasnagar Municipal Corporation through Khemani Nalla to All stretch of Ulhas river are the major sources of Ulhas river water pollution.

The analysis results shows slight elevation in B.O.D. levels over previous year. The D.O. levels are also observed below the prescribed standard. This indicate deterioration of water quality of Ulhas river

Board office has issued notices to the Kalyan-Dombivali Municipal Corporation & Bhiwandi Nijampur Municipal Corporation to provide STP for treatment of domestic effluent and effluent generated from slaughter house and directed them to submit bank guarantee along with the time bound programme. Ulhasnagar Municipal Corporation has been prosecuted in the court of law. Ulhasnagar Municipal Corporation has prepared a proposal for diverting the Khemani Nalla to discharge into saline zone

ii) Patalganga River:

Though the industries are prohibited to discharge treated effluent into Patalganga River, the domestic effluent of Khopoli Municipal Council to the tune of 11 MLD is discharged into the river without any treatment. Similarly a fish development pond at Khopoli is also the cause of river water pollution.

Due to improper dispersion of pollutants at Kharpada Bridge where the treated industrial effluent from MIDC Patalganga & Rasayani is discharged, the river water gets polluted to some extent.

Whenever lowest discharge of tail race water from Tata power Co. enters into



Patalganga River, it enriches of pollutants in the river. Frequent accidents of tankers carrying chemical / oil etc. at Borghat upstream of Khopoli is also the cause of river water pollution.

The analysis results when compared to the results of last year, reveals that the B.O.D and C.O.D. concentration are increased at Turade water works and Kharpada Bridge where D.O. level was also not conforming to the standard.

iii) Kundalika River:

Water quality of Kundalika river is monitored in A-I, A-II stretch and saline zone of the river. The river water quality found in A-I and A-II class is satisfactory, however quality in saline water zone at Arekhurd, where treated industrial effluent from CETP Roha is discharged is found deteriorated due to inadequate dispersion of pollutants. The NIO has recommended for disposal of treated effluent at Mahadev Khar.

Discharge of untreated sewage and vehicle washing carried out by the citizen of Roha town at Ashatami Bridge are also the causes of water pollution.

Water quality of Amba river is also monitored. However there is no change in river water quality and criteria pollutants are meeting the standards of desired A-II class of water at MIDC Jackwell, Nagothane and Wakan.

The water quality of Kundalika River at Arey Khurd largely depends on performance of CETP at Roha MIDC. The first step in this regard is to keep inlet quality of effluent into CETP within designed criteria. Therefore the Board has identified certain industries generating concentrated effluent and thereby causing high concentration of COD in effluent quality of CETP. The Board has directed such industries to segregate the streams and provide separate treatment. Industries have provided separate treatment to high COD stream.

Sand dredging in saline zone of Kundalika river at Gofan and Sanegaon, affects the river eco system and food chain of aquatic organisms.

The analyses of river water indicate that Aarekhurd, Gofan and Salav remained the polluted locations of Kundalika river. The high C.O.D. concentration is also observed at Arekhurd and Gofan on Kundalika river during the year.



iv) Savitri River:-

The water quality of Savitri River in A- II class is observed satisfactory. The water quality at ovale village has much improved than in the last year. This also indicate that the diffuser system is properly operated at this place during the year.

The optimum performance of CETP and proper disposal of industrial effluent at Ambet by MIDC are being looked upon by the Board as a part of action plan. Segregation of high COD streams from various industries and its treatment in common multiple effect evaporator at MIDC Mahad is also a part of action plan.

Board has already issued direction to MIDC to dispose the treated effluent from CETP at Ambet with diffuser system in place.

Individual industries are persuaded to upgrade the existing ETPs to treat high COD streams separately by providing chemical treatment or by multiple effect evaporator method.

Though MIDC has provided infrastructure for disposal of effluent at Ambet, on some occasions effluent is discharged at Muthawale causing fish kill and pollution of Savitri River.





B.O.D., C.O.D. and D.O. levels of Coastal rivers

River	Monitoring station	B.O.D.		C.O.D.		D.O.	
		2006-07	2007-08	%Increase/	2006-07	2007-08	%Increase/
		decrease		decrease		decrease	
Ulhas	U/s Badlapur w/w	3.3	3.6	(+) 9	*	24	*
	U/s NRC Bund	3.8	3.6	(-) 5	*	20	*
	Jambul water works	4.3	5.5	(+) 28	*	18	*
Patalganga	Shilphata	5.2	3.8	(-) 27	28.5	20	(-) 30
	Gagangiri Temple	5.4	4.5	(-) 16	28.5	22	(-) 23
	Savroll Bridge	6.4	4.7	(-) 26	26.2	24	(-) 8
	Turade water works	4.9	5.7	(+) 16	29.5	34	(+) 15
	Kharpada Bridge	6.4	40	(+) 525	37.7	106	(+) 181
Kundalika	Roha Bridge	4.4	4	(-) 9	*	*	*
	Kolad	4.7	4.5	(-) 4	23.5	34	(+) 44
	Ashtami	4.2	5.2	(+) 24	22.8	28	(+) 23
	Aarekhurd	39.6	63	(+) 59	112.4	186	(+) 65
Savitri	Nagalwadl	1.9	2.3	(+) 21	15.9	20.7	(+) 30
	Shedav	1.8	2.3	(+) 27	16.5	25.2	(+) 53
	Dadli	3	2.2	(-) 26	31.5	25.6	(-) 19
	Ovale	10.8	3	(-) 72	61.4	32	(-) 48
	Muthavale	2.8	2.3	(-) 18	30	30.9	(+) 3

Note: ** : data not available



Steps taken to improve water quality of the rivers

- To improve the water quality of river, monitoring is done regularly. To check the river water pollution, strict vigilance is kept on the discharges of industrial effluent. Similarly the local bodies are being pursued for providing the sewage treatment plant for sewage and not allowed to discharge untreated effluent in to the river bodies. Directions/ notices are issued under appropriate sections of the Acts/Rules, to the local bodies to provide Sewage Treatment plant.
- A strict vigilance is maintained by MPCB on functioning of CETPs. In case of discharge due to overflowing of chambers or breakage / leakage in pipelines, the concerned CETPs are directed to carryout repairs at the earliest.
- In Aurangabad, STP at CIDCO is already in operation. As directed by the Board, the work of installation of STP for part of the sewage generated from Aurangabad Municipal Corporation is in progress. Also the work of sewage treatment plant under NRAP (National River Action Plan) at Nanded is in final stage of completion.
- To improve the water quality of the river Godavari apart from five STP's at different location in the Nashik city, a separate STP was constructed under National River Action Plan at Nashik which is in operation.
- In order to minimize the pollution of creek due to Waldhuni nalla which is carrying industrial effluent and the township liquid waste, a project named Waldhuni Mission is under taken by Ulhasnager Municipal Corporation.
- Based on white paper on Panchaganga River Pollution published by MPCB Kolhapur, Action Plan has been prepared and now the same is under implementation. Kolhapur Municipal Corporation has submitted proposal for abatement of pollution of Panchganga River.
- Under NRAP sewage collection, treatment & effluent disposal work is in full swing at Sangli and was expected to complete by 2007. In Chiplun, MIDC has laid dwn new HDPE pipeline to carry out the effluent into the creek. Effluent generated from MIDC Kherdi is now disposed off outside MIDC.
- To keep safe distance between the industry and river and avoid discharge of industrial effluent in to the river, River Regulation zone policy is strictly implemented.
- The Board has strengthened the water quality monitoring network in the state which includes surface water as well as ground water.



6.2.2 Ground Water Quality:

Groundwater is an integral part of environment and hence can not be looked upon in isolation. It is a major source of drinking water in both urban and rural area. In some places it is the important source of water for the agricultural and industrial sector. The availability of ground water depends on the rain fall and recharge conditions. Recently it had been considered a dependable source of uncontaminated water.

Pollution of ground water resources has become a major problem nowadays. The solid, liquid and the gaseous waste generated, if not treated properly, results in pollution of environment and ultimately affect ground water due to its hydraulic connectivity in the hydrological cycle. Water extraction without proper recharge and leaching of pollutants from pesticides and fertilizers in to the aquifers pollutes the ground water supplies. In addition, leachates from agriculture, industrial waste and the municipal solid waste have also polluted ground water.

During the year ground water quality is monitored through 84 locations in 9 regions of the Board. The water quality was deteriorated at 17 locations. The maximum ground water deterioration was noticed in Aurangabad and Pune Region. This is due to very high concentration of Total Hardness, Sulphate and Chloride present in the ground water. The ground water remained non polluted in Amravati, Raigad and Navi-Mumbai Region. No ground water is assessed in Mumbai and Kalyan Region.

The analysis results obtained during the year indicate that the water quality is improved than in the last year.

The concentration of Total Hardness and chloride is found very high i.e **1990** mg/l. and **2425** mg/l respectively at Kupwad in Sangli whereas the highest concentration of Sulphate **5043** mg/l is recorded at Chincholi Temple, a location about 1 Km. from M/s Pioneer Distilleries Balapur, Dharmabad in Nanded and the highest concentration of Nitrate **298** mg/l is found in Bore well water near M/S. Kisanveer SSK Ltd A/p-Bhuinj, Tal-Wai in Satara Dist.

Out of 11 locations monitored in Nagpur the deterioration in water quality was noticed only at Bramhani in Kalmeshwar where Total Hardness, Sulphate and D.O. levels were not conforming to the standards.

Though D.O. and Nitrate concentration were found satisfactory at all locations monitored for ground water in Aurangabad, the Sulphate concentration exceeded the limit at 5 locations and found in the range 577-5043 mg/l. the chloride concentration



also exceeded the limit at 3 locations and found in the range 722-1752 mg/l . Wahegaon, katpur, Ranjangaon and the places in Latur and Dharmabad remained polluted during the year.

Ground water quality assessment in Pune Region is carried out through 17 locations. Most of the locations selected were near Sugar factories and Distilleries. The deterioration in ground water quality is noticed at one location in Kurkumbh, one in Solapur and 3 places in Satara District. At these places the parameters, Total Hardness and chlorides have exceeded the limit.

The ground water quality in the vicinity of MSW site Nashik & Ahmednagar area was monitored. It is seen from the result that the ground water quality is improved which may be due to scientific processing of MSW. However, Nitrate concentration are observed marginally on higher side which may be due to excess use of fertilizer especially urea. At Borewell Chitali in Ahmednagar the observed D.O. level is below the limit.

Ground water deterioration has been noticed at 3 places in Tarapur due to increase in Total Hardness in the water. These places are Precise Alloys, Chandrika Nargar and Lala Bajpeyee.

Table 6.2.2: Sampling Locations for Ground Water Quality monitoring

Region	No. of Locations Monitored	No. of Locations where parameters exceeded the limit
Aurangabad	19	6
Nagpur	11	1
Raigad	3	0
Thane	10	3
Nasik	7	1
Amravati	4	0
Kolhapur	11	1
Pune	17	5
Navi-Mumbai	2	0
Total	84	17

To control the ground water contamination CETP is being set up for industries located in MIDC Waluj area. The effluent generated will be collected through under ground drainage system & then taken to CETP for further treatment. From CETP after achieving 30 mg/lit BOD & 100 mg/lit COD effluent will be disposed on land for irrigation or in the near by river.



In the area near by Sugar factories & Distilleries, due to percolations of the industrial effluents some of the ground water sources are affected. Hence Board has directed Sugar factories & Distillery units to take effective steps for control of the same.

As far as ground water contamination around distilleries is concerned, the MPCB has taken a serious note of it & issued comprehensive directions to distilleries so as to minimize the ground water pollution in the area. Based on the direction issued by the MPCB the units located in the above area are in the process of up gradation of their treatment systems.

To assure the implementation, MPCB has directed the defaulting industries to submit the operational bank guarantees ranging from Rs. 1 lakh to 5 lacs. A constant watch is being kept on these industries for their timely compliance.

Directions under section 33A of water (P & CP) Act 1974 and & 31A of Air (P & CP) Act 1981 have been issued to the defaulter units who are responsible for ground water pollution.

6.2.3 Lake Water pollution

The Board has monitored 19 lakes during the year for assessing water quality.

In Nagpur region 8 lakes have been monitored. The results obtained indicate that D.O. levels are conforming to the standards at all the lakes. However the B.O.D. concentration except at Gorewada Lake, exceeded the limit at all lakes and found in the range 6-7 mg/l. the observed concentration of C.O.D was in the range 20-29 mg/l.

Two lakes have been monitored in Amravati Region, where wadgaon tip lake wadgaon Tal:Wani Dist: Yavatmal observed to be polluted due to excess of B.O.D. and C.O.D. concentration in the water.

In Thane Region, the Board has monitored 9 lakes. The analysis report indicates that the lakes in Vasai area are most polluted. The pollution parameters recorded here are on higher side. The highest C.O.D. concentration 56 mg/l and 49 mg/l was recorded at Gokhivare and Dev lake respectively. B.O.D. concentration is also on higher side in Dev lake indicating organic pollution in the lake.

6.2.4 Coastal Water Pollution:

The Maharashtra coast that stretches between Dahanu in the North and Terekhol in the South is about 720 km long and 30-50 km wide. There are about 18 prominent



estuaries along the coast harbouring many mangrove floral and faunal species in varying densities. Of these Ulhas in the North is the biggest estuary.

Much of the industrial development in Maharashtra has taken place several kilometers inland from the coastline. Considering the availability of water, electricity and transport, many industries are located near highways and railway stations and release their effluents in nearby estuaries, creeks and bays. Of the coastal districts Thane and Mumbai are heavily industrialized while the Raigad District is the least developed. The majority of industries located in the Thane and Mumbai Districts are housed in large industrial clusters namely, Thane-Belapur belt, Kalyan-Ulhasnagar-Ambarnath belt, western bank of Thane Creek, around Patalganga and Amba Rivers and Tarapur. Evidently, Thane and Tarapur Creeks and Ulhas, Patalganga and Amba estuaries are the recipients of a variety of wastes. Industries in other coastal districts are mainly located in the MIDC areas and discharge their effluents through a common collection centre to inshore waters (bays). Thus, Kundalika, Savitri, Shastri, Vashisti estuaries etc have been receiving such effluents. Only a few industries such as the nuclear power station at Tarapur and the fertilizer complex at Thal release the effluents directly to the coast of (depth of water <10 m) Arabian Sea.

The inshore waters of Maharashtra particularly around cities and towns receive domestic wastewater (often untreated), and severely deteriorate the ecological quality of these water bodies. In fact, domestic wastewater is the major source of degradation of the marine zone.

Table 6.2.4 :
Monitoring of Coastal Waters in the State of Maharashtra

Region	No. of Locations Monitored	No. of samples analyzed	Range of COD mg/l	Range of B.O.D. mg/l	Range of D.O. mg/l
Mumbai	12	56	84-375	9-44	2.8-4.8
Raigad	6	33	61-160	3.4-26	4.5-6
Navi-Mumbai	5	55	57-242	7-37	4.1-5.1
Kalyan	4	19	80-132	9-4	3.2-4.6
Kolhapur	4	40	48-68	2.9-6.7	5.1-5.8
Thane	16	95	61-1300	8-474	3.8-5.5

During the year, Board monitored sea water quality at 47 locations including all coastal Regions and collected 298 samples. Analysis report reveals that BOD values exceeded the limit at 96% of the locations. DO values are well within the limit at all the coastal stations except 3 locations in Mumbai & one location in Kalyan. The analyses results of the reporting year compared with the previous year, indicates that, as far as the



parameters DO & BOD are concerned, the coastal water quality pertaining to Kolhapur Region remained satisfactory but BOD exceeded the limit at Ganpati-Pule and Karbavane creek. The highest concentration of BOD (474 mg/l) and COD (1300 mg/l) is recorded at BPT Navapur tank in Tarapur. Improvement in water quality is observed in kamavari creek in kalyan as BOD and COD concentrations are much reduced during reporting year.

6.3 Air quality status

Sources of Air Pollution:

Emissions from vehicular exhaust, stacks of industries are the major sources of Air Pollution. Fugitive emissions from industries, suspended particulate matter from stone crushers, Boiler, road repairs etc. also contribute to air pollution. Mining activity is also a major source of air pollution. In industries air pollution is mainly caused due to Process emissions: change of fuel from furnace oil, LDO to coal in boiler, emissions of the dust and particulate matter. Industrial activities such as M.S. Scrap, melting furnaces, lead battery recycler also contributes to air pollution.

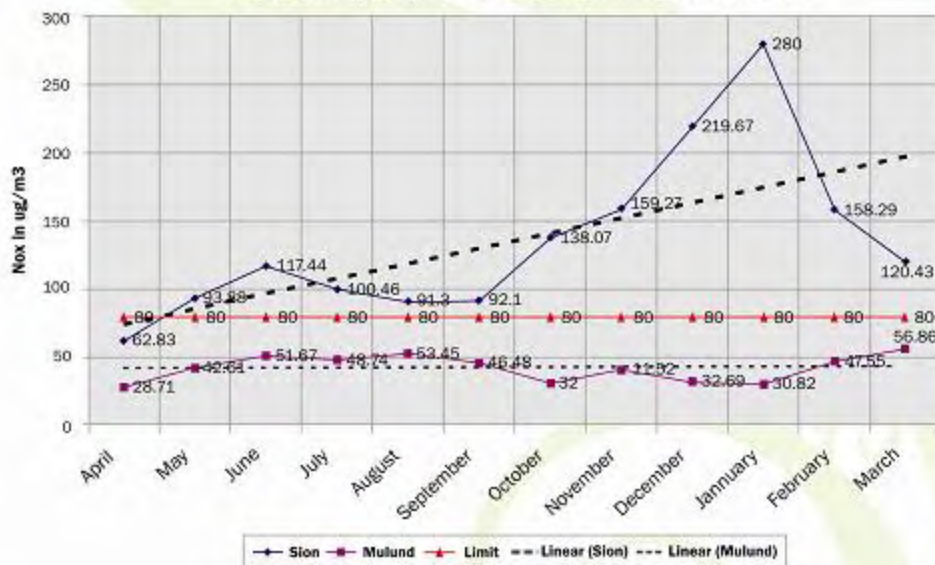
In Mumbai, the Board monitors air quality at two traffic junctions: Sion and Mulund. These are the continuous monitoring stations.

From the analytical data it is observed that the SO₂ levels during the year were conforming to the prescribed limits at Sion & Mulund Junctions. However at both the places increasing trend is noticed from April to March. The NO_x concentration observed was exceeding the limits from October 2007 to March-2008 at Sion Junction while at Mulund NO_x values remained within the limit throughout the year. Highest concentration of NO_x (280 µg/m³) was recorded at Sion in January 08. Compared to last year there is much increase in NO_x level during the year at Sion. The RSPM levels were found beyond the prescribed limits throughout the year at both the locations with the highest value 445µg/m³ in February 08 at Sion and 245 µg / m³ at Mulund in January 2008. The air quality trends during the year under report with respect to Nox and RSPM are shown in the graphs 6.3.1& 6.3.2. It is seen from the graphs that there is increasing trend in concentration of NO_x at Sion and increasing trend in concentration of RSPM at both the locations Sion and Mulund

The overall observation reveals that this year also Sion remained more polluted than Mulund.

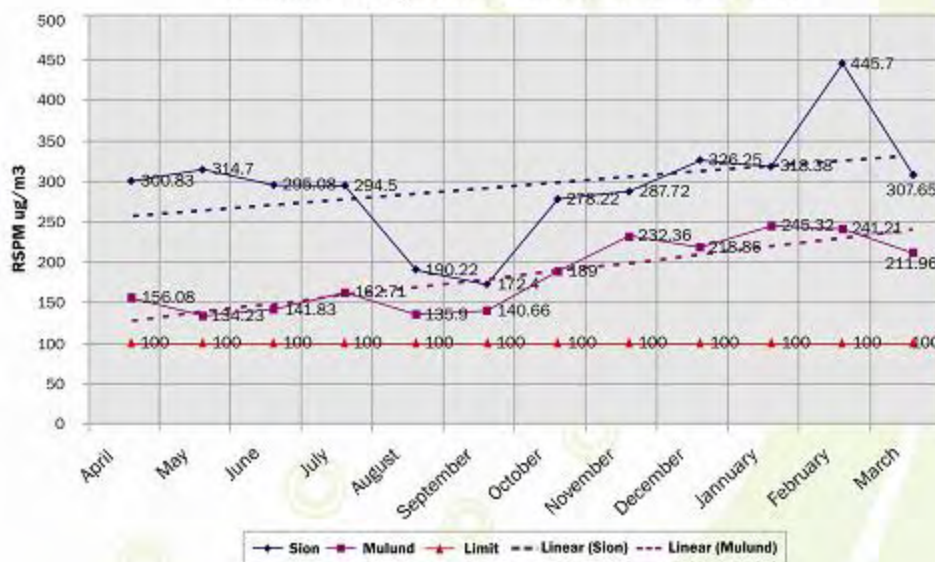


Ambient Air Quality At Traffic Junction In Mumbai 2007-08



(6.3.1)

Ambient Air Quality At Traffic Junction In Mumbai 2007-08



(6.3.2)



6.3.1 National Ambient Air quality Monitoring Programme (NAMP)

Under this programme, air quality is assessed at 40 locations, which includes 14 industrial, 18 residential and 8 commercial locations. This programme is sponsored by C.P.C.B. The monitoring of these stations is carried out by State Board, local educational institutes and local bodies in the State. The monitoring results indicate that except MIDC Hingna the air quality remained well within the standard in all the industrial locations. At 7 residential and 3 commercial locations and 1 industrial location the air quality is deteriorated due to excess of RSPM concentration. These locations are shown in the following table. The data when compared to last year, it is seen that more locations are observed to be polluted in the reporting year. However reduction in RSPM is also noticed at the stations in Pune, Solapur and Navi-Mumbai.

Sr. No.	Name of Locations Monitored	Class	Average RSPM concentration in $\mu\text{g} / \text{m}^3$
1	Nal Stop Pune	Commercial	107
2	Swargat Pune	Residential	101
3	MPCB Office Chandrapur	Residential	160
4	Grampanchayat Ghuggus	Residential	186
5	MPCB office Chandrapur	Residential	160
6	Ambernath Municipal Corporation	Commercial	106
7	Institute of Engineers Nagpur	Residential	125
8	MIDC Hingna Office Nagpur	Industrial	160
9	Government Polytechnical College, Nagpur	Commercial	106
10	Water supply Panvel	Residential	142
11	Nimisha Hospital Taloja	Residential	108

Ambient air quality monitored during past two years under this project is presented below. From which it is clear that air pollution is reduced in 2007-08 at all the commercial locations as compared to 2006-07. Elevation in all the pollutants is seen during 2007-08 than that recorded in 2006-07 at all industrial and residential locations.

Class	No. of Locations Monitored	Range of $\text{So}_2 \mu\text{g} / \text{m}^3$ 2006-07	Range of $\text{So}_2 \mu\text{g} / \text{m}^3$ 2007-08	Range of $\text{Nox} \mu\text{g} / \text{m}^3$ 2006-07	Range of $\text{Nox} \mu\text{g} / \text{m}^3$ 2007-08	Range of RSPM $\mu\text{g} / \text{m}^3$ 2006-07	Range of RSPM $\mu\text{g} / \text{m}^3$ 2007-08
Industrial	14	9-37	8-40	10-42	12-49	57-126	51-160
Residential	18	4-32	5-35	9-43	6-53	43-137	40-186
Commercial	8	8-42	7-19	10-43	10-41	51-128	50-107



6.3.2 State Ambient Air quality Monitoring Programme (SAMP)

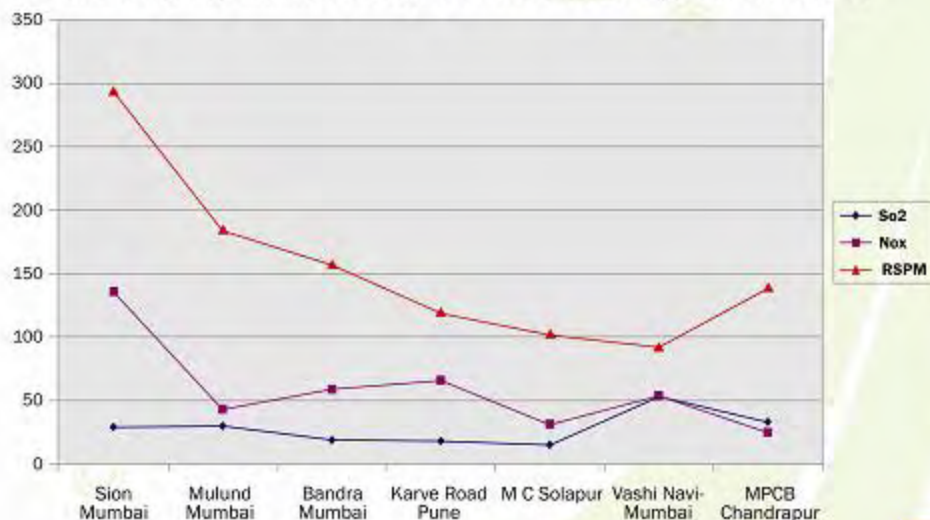
The Board has monitored 10 locations under this programme to assess air quality. 2 industrial and 8 residential locations were monitored. It is seen from the results that RSPM exceeded the limit at 3 residential locations while SO₂ and NO_x remained within the standard.

Sr. No.	Name of the location	Class	Average RSPM Concentration in $\mu\text{g} / \text{m}^3$
1	Udyog Bhavan Nasik	Residential	114
2	Karve Road Pune	Residential	103
3	Pimpri-Chinchwad Municipal Corporation.	Residential	105

6.3.3 Continuous Ambient Air Quality monitoring

There are 7 Continuous Ambient Air Quality monitoring stations established across the State. All these stations are coming under Residential class and are in operation. The Ambient Air Quality data obtained during the year from these stations reveal that average RSPM exceeded the limit at all stations except one station at Vashi in Navi Mumbai. The average NO_x level also exceeded the limit at Sion Mumbai and recorded as **141** $\mu\text{g} / \text{m}^3$. The average RSPM level recorded at Sion is **294** $\mu\text{g} / \text{m}^3$

Ambient Air Quality Monitored through Continuous Monitoring Stations 2007-08





6.3.4 Region wise observations

The Air quality monitored by Regional offices of the Board on its own is illustrated below. Total 68 locations were monitored during the year and air quality deterioration is observed at 41 locations.

The ambient air quality is also monitored in Mumbai at commercial locations Haji-Bunder, Damupada, Mulund and Chembur. It has been noticed that the levels of RSPM and SPM were not conforming to the standards at Haji-Bunder and at two places Jawaharnagar and Vashi-Naka in Chembur. There is much reduction in RSPM concentration & is reduced from $420 \mu\text{g} / \text{m}^3$ in last year to $94 \mu\text{g} / \text{m}^3$ in the reporting year at Damupada. The SPM concentration recorded at Mulund dumping ground is $1081 \mu\text{g} / \text{m}^3$.

The air quality monitored at industrial location in Navi-Mumbai has shown that at one location near M/s Cabot India the NO_x and RSPM concentration are exceeded the limits.

In Raigad region air quality was monitored at 5 industrial and 1 residential locations. The assessment results have shown that air quality is degraded at 2 industrial locations and 1 residential location. At W.T.P Colony Birwadi both SPM and RSPM found beyond the limit.

Ambient air quality results in Kolhapur region reveal that SPM and RSPM levels exceeded the standard at Fire Brigade Sangli a commercial locations and at MIDC Kupwad area an industrial location. At Kupwad the recorded values of SPM and RSPM were $1298 \mu\text{g} / \text{m}^3$ and $398 \mu\text{g} / \text{m}^3$.

Besides stations under State air monitoring programme in Aurangabad region, the air quality was also assessed at 9 locations covering area of Nanded, Parli and Latur. The air quality deterioration has been noticed at 8 locations of which 6 were industrial locations. Air quality monitored at rest of the locations was observed within the limit.

In Amravati region, 2 commercial 3 residential and 5 industrial locations were monitored. Here the levels of SPM and RSPM exceeded the standard at 4 industrial locations and 1 residential location in Tq. Wani in Yawatmal Dist. The RSPM at MPCB office and Jay-Hind chowk in Akola was also found beyond the limits which are residential and commercial locations resp. the highest concentration of SPM ($904 \mu\text{g} / \text{m}^3$) was recorded at Lime Kiln Area, Rajur Village, Tal-Wani and the highest concentration of RSPM ($385 \mu\text{g} / \text{m}^3$) was recorded at Jay-Hind chowk in Akola.



Regional office Nagpur has monitored 3 locations in region. Here SPM level exceeded the standards at Bhandara office terrace a residential location and the recorded value was $322 \mu\text{g}/\text{m}^3$.

Air quality at industrial locations was observed within limit in Thane region. However at Majiwade, Hide Park, Azadnagar in Thane and at Golden nest circle in Bhayander, at all residential and commercial locations, at the RSPM level found was much exceeded the limit. The rest of the locations including power plant at Dahanu had air quality well within the standard.

As a part of routine monitoring 5 industrial places and based on complaints 5 commercial locations were selected for air quality assessment in Nashik region. All the monitored industrial locations showed satisfactory levels of air pollutants. However air quality deterioration was observed at all commercial locations covering Ahmednagar, Jalgaon and Bhusawal area where the concentration of RSPM was found in the range $212-417 \mu\text{g}/\text{m}^3$

In Pune region except two locations in Satara Dist the other locations are covered under NAMP, SAMP Projects and continuous monitoring Programme. Deterioration in air quality was observed at both the commercial locations in Satara due to excess of SPM and RSPM concentration. The observed concentrations of SPM and RSPM at Rajwada chowk were $381 \mu\text{g}/\text{m}^3$ and $218 \mu\text{g}/\text{m}^3$ respectively, While at Powai chowk the concentrations were $603 \mu\text{g}/\text{m}^3$ and $292 \mu\text{g}/\text{m}^3$ respectively.

Kalyan Regional office has monitored 2 residential and 4 mixed area locations. The air quality observed to be deteriorated at 2 residential locations, of Kalyan and Bhiwandi and one Mixed location in Wada Taluka.. The RSPM concentration recorded at Bhiwandi city was $487 \mu\text{g}/\text{m}^3$ Wada and Bhiwandi remained most polluted locations during the year.

It reveals from all analysis results that excess of RSPM and SPM concentration is the cause of ambient air pollution in the State. 27 % of the NAMP locations, 23% of the SAMP locations, 85% of Continuous monitoring stations and 60% of the stations monitored by the Board on its own have shown deterioration in air quality where the levels of RSPM and SPM exceeded the limit. Except Sion in Mumbai and Majiwade in Thane at all locations SO_2 and NO_x levels remained within the limit.



6.3.5 Steps taken to minimize the Air Pollution:

- All the air polluting industries have been enforced to provide adequate measures for control of air pollution i.e. scrubbers on reactor and Hazardous chemical storage, dust collectors for particulate, stacks of sufficient height, ESP and other equipments etc., and accordingly certain conditions are imposed on the industries in the consent order.
- Industry and vehicles are advised to use LSHS/CNG type fuels so as to reduce & avoid air pollution.
- Vigilance is kept by the Board and regular sampling is done to check emissions from stack and also fugitive emissions with the help of HVS & Mobile Van and stack monitoring.
- Regular ambient air monitoring is carried out by the Board under NAMP and SAMP Projects and Continuous Monitoring stations.
- Proposed/Closure directions are issued to industries for the installation /up gradation of existing Air Pollution Control System and proper operation and maintenance of the same. Bank guarantee is taken from certain defaulting units and in some cases it is forfeited also.
- In Nasik Region for melting of used segregated plastics they do not have proper equipments/machinery thereby generating heavy fumes & creating air pollution problem in the surrounding area. Therefore the waste plastic processing & reprocessing units have been covered under the plastic Rules & also insisted the said industries for obtaining the registration under the Plastic Rules as a authorized preprocessor.
- The Board has carried out stack monitoring of coal fired boilers/induction furnace in Dombivli MIDC area, Bhiwandi area and Wada area. Now there are 47 nos. of industries which have completed the installation work of Air pollution control system and work of remaining industries is in progress.
- In Mumbai air pollution is mainly due to vehicles. Measures are taken such as use of less sulphur content diesel, use of lead free petrol, use of CNG/LPG as an alternative fuel, making PUC compulsory, banning 15 years old vehicles & converting 8 years old vehicles to use CNG/LPG.



6.4 Industrial Pollution:

Industries are monitored regularly to assess the efficacy of pollution control measures. Monitoring norms for industries have been fixed. Monitoring of industries includes checking compliance of consent conditions and environmental standards. Collection and analyses of untreated / treated samples of effluents, law evidence samples, hazardous waste samples to observe the concentration of pollutants is regularly done. Stack emissions are also monitored. Adequacy of treatment plant and its operation is also monitored. The arrangement made for reuse, recycle of treated effluent / waste is also checked. The industries covered under cess are also monitored for assessing the quantum of water consumption.

Most of the industrial activities give rise to substantial pollution of air, water and generate hazardous wastes, noise, etc. These activities are regularly monitored by the Board. Effluent and emission standards for specific industries are notified. These standards are incorporated in consent orders. Most of the large and medium industries have installed necessary effluent treatment plants and emission control systems for the control of water and air pollution.

The compiled data for the year 2007-08, indicates that there are 71009 industrial units identified by the Board for implementation of pollution control measures. They include 9417 '**Red**', 12524 '**Orange**' and 49068 '**Green**' categories of industries. Of these 8743 water polluting industries have adequate treatment facilities for water pollution, 9094 air polluting industries have adequate emission control facilities and 4479 industries generating hazardous waste in the State have provided adequate treatment and disposal facilities. The total quantity of industrial effluent generated is 5757 MLD. The Region wise break up of industries is given in the following table.





Industry Statistics as on March'08

Sr. No	Region	Red			Orange			Green			Grand Total
		LSI	MSI	SSI	LSI	MSI	SSI	LSI	MSI	SSI	
1	Mumbai	48	27	210	36	10	220	2	39	3990	4582
2	Navi Mumbai	90	51	719	5	22	345	6	7	1354	2599
3	Thane	69	76	831	10	15	335	8	19	3271	4634
4	Kalyan	33	57	904	03	07	373	07	09	1641	3034
5	Raigad	80	64	133	04	13	202	01	03	377	877
6	Pune	255	150	1189	32	105	1678	43	98	4959	8509
7	Nashik	207	103	846	33	42	966	24	41	8845	11107
8	Nagour	140	140	280	9	32	2604	3	7	4341	7556
9	Amravati	39	24	324	4	10	1660	1	1	2300	4363
10	Aurangabad	139	84	601	21	29	1597	4	8	4365	6848
11	Kolhapur	115	141	1248	33	10	2059	2	1	13291	16900
Total		1215	917	7285	190	295	12039	101	233	48734	71009

In order to control industrial pollution, the government has proposed several plans and policies. Under the **Central Action Plan**, 656 major polluting industries have been identified. 354 industries identified under the Plan have taken necessary control measures. 113 industries are closed. A special drive was taken to guide these industries to comply the CREP conditions by arranging the meetings/hearing at various places such as Pune, Mumbai, Nasik, Aurangabad etc. during the month of February/March, 2007. The actions are being taken against the defaulting industries particularly of distilleries, pharmaceuticals and bulk drugs etc. which are mostly responsible for creation of underground water pollution problems.

For small scale clusters of industries, **Common Effluent Treatment Plants (CETP)** have been established at 26 industrial locations. The State has a policy which states that a safe distance be maintained between industrial units and rivers in order to avoid discharge of effluents into water bodies. The policy also ensures that no industry will be established along the river bank. The recycling and reuse of waste by industries are encouraged.



Common Effluent Treatment Plants

This scheme is implemented for the clusters of industries in MIDC areas as a part of the common environmental infrastructure for environment protection. Common effluent treatment plants (CETPs) are being promoted by the Central Government for cluster of industries for management of industrial effluents, generated especially from small and medium entrepreneurs. CETPs are being constructed where 25% subsidy is given by the Central Govt., 20% by the MIDC, 5% by MPCB, 15% is by the user industries and 35% in the form of loan from the financial institutions. The scheme was started in 1990. First CETP in Maharashtra came up at Tarapur. This was followed by CETPs at TTC, Navi Mumbai, Dombivali, Talaja, Mahad, Lote Parshuram etc. However, due to one or the other reason most of the CETPs were not complying with the standards in terms of effluent quality of treated wastewater at the outlet. As a result, several complaints are received from various people in the area.

A concerted action was initiated by MPCB in July 2004 so as to secure the compliance by the CETPs and also to ensure implementation of the directions of the Hon'ble Supreme Court regarding the management of hazardous wastes. The series of actions were taken by the Board against the defaulters, intensive discussions and meetings were held with industry and time-bound action plans were prepared for each CETP. Work of strengthening and up gradation of treatment units at CETPs is now in progress. Primary standards are complied by all CETPs.

Board has obtained bank guarantees from most of the CETPs as a proof of their commitment for complying with the standards and completing the work within the agreed time, failing which, bank guarantees are liable to be forfeited. Board is getting very good response from the industries and MIDC. There are 26 CETPs in Maharashtra covering 7353 units with total capacity to treat 202MLD effluent. Out of these 17 CETPs are already in operation, 2 are ready for operation and remaining CETPs are under construction.

CETPs are planned as a part of Common infrastructure in all major industrial areas, to take primary treated effluent from SSI units and treated effluent from MSI and LSI units.

Financial assistance given by MOEF to CETPs in the year 2007-08 is **415.43 Lakhs**.



Initiatives taken by MPCB to improve efficiency of CETPs:

- Prepared guidelines for operation and maintenance of CETP and published manual.
- Directions u/s 33A of The Water (P&CP) Act, 1974 issued to CETP's to operate and maintain the CETP as per the manual published.
- Directions were given to CETP's to upgrade / strengthen the existing treatment facility and enhance the capacity of CETP to achieve the prescribed standards.
- Constituted Local Area Environmental Monitoring Committee, comprising of members from MPCB, MIDC, CETP representative, local body representative for vigilance of CETP's.
- Performance evaluation of CETP's is undertaken for some of the CETP.

Achievements Of CETPs:

Due to constant vigilance, time to time actions against defaulter CETP's as well as industries, upgradation and expansion of CETP's resulted in reduction in pollution load from CETP's (COD) as shown below:

Inlet Pollution Load at CETP (MT)	Outlet Pollution Load from CETP (MT)	Total Pollution Load Reduction (MT)	Pollution Load Reduction (%)
1,43,947	37,202	1,06,745	74

The monitoring results obtained for performance evolution of CETP at Thane Belapur is illustrated in the following table. It is seen that there is 90% reduction in BOD and COD concentration at the outlet. However TAN concentration is increased by 7% at the outlet. Most of the time O&G concentration found below detection level but monitoring results of few days indicate 20% reduction at the outlet. The overall performance indicate efficient operation of CETP.

		pH	BOD	COD	TAN	O&G
CETP Thane-Belapur Navi-Mumbai	Inlet	7.57	597.2	1567	86.9	7.8
	Outlet	6.92	51.6	149	93	6.2
	% increase/ decrease		(-)91.3	(-)90.4	(+)7.0	(-)20.5



Some initiations of the Board in reducing industrial pollution

- Frequency of inspection & monitoring of the industries of large, medium and small are fixed by the Board. The monitoring of industries includes checking compliance of consent conditions and environmental standards. Collection of samples of Untreated / treated effluents, law evidence samples, hazardous waste samples to observe the concentration of pollutants. Industrial stacks are also monitored to observe the emissions. Adequacy of treatment plant and its operation is checked for further improvement. The arrangement made for reuse, recycle of treated effluent / waste is also checked. The industries covered under Cess are also monitored to assess the quantum of water consumption.
- Show Cause notices have been issued to 5332 polluting industries. Proposed directions under section 33A of the Water (Prevention & Control of Pollution) Act, 1974 issued to 685 units and under section 31A of the Air (Prevention & Control of Pollution) Act, 1981 issued to 266 polluting industries. The closure orders were issued to 548 industries for non compliance. The Region wise break up of directions issued to defaulting industries is shown in following **table**

Regional Offices	No. industries to whom direction are issued			
	u/s 33A of Water Act, 1974		u/s 31A of Air Act 1981	
	Proposed Direction	Final Direction	Proposed Direction	Final Direction
Mumbai	104	51	33	39
Navi Mumbai	69	4	17	8
Raigad	9	5	6	5
Thane	56	159	3	7
Kalyan	31	29	12	28
Pune	62	48	10	4
Nashik	53	1	13	1
Aurangabad	28	6	7	2
Nagpur	129	17	23	16
Amravati	13	12	13	12
Kolhapur	131	57	129	37
Total	685	389	266	159



- Personnel hearings of those industries who have not responded to the directions are also conducted. The bank guarantees are being taken from them. The status of Bank guarantees obtained during the year is enclosed as **Annexure-VI**
- The Board has taken very serious steps of closing down no. of industries under various sections for non-compliance of various standards; As a result, most of the industries have improved and are in the process of improvement of pollution control facilities.
- In most of the industrial areas night vigilance become effective and resulted in control of acidic effluent discharge from polluting industries. For Dombivli MIDC area stack monitoring of coal fired boiler has been carried out & issued notices to the defaulter industries. Industries have now started the up gradation work in existing air pollution control system by providing wet scrubbers. Hence, the dust emissions from the coal-fired boilers will be controlled.

Technology adopted by the industries to minimize the waste and pollution

Aurangabad

- Almost all Large/Medium industries have full fledged effluent treatment arrangements.
- In Aurangabad all the major electroplating plants have installed chrome and nickel recovery system thereby saving the treatment cost towards effluent treatment and HW disposal.
- M/s. United Spirits Ltd. has installed Bio-digester as a primary treatment followed by Reverse Osmosis and composting system for the treatment of spent wash generated from the process & thereby achieve zero discharge. Recently the capacity of the Reverse Osmosis system is increased from 300 m³/day to 450 m³/day.
- M/s. Orchid Chemicals & Pharmaceuticals Ltd. has installed additional Reverse Osmosis System for the treatment of industrial waste.
- M/s. Sterlite Optical Technologies Ltd. has upgraded the technology to reduce the generation of spent acid and its ultimate disposal.

Nasik

In Nasik region there are 09 no. industries which have adopted Clean Technologies for waste minimization, thereby, reducing the pollution load in the environment as well as reduction in expenses towards treatment cost. The illustrative list of few industries which have adopted cleaner technologies are as below:-



Sr. No.	Name of the industry	Technology adopted	Remarks
1.	M/s. M/s. Iternit Everest Ltd	In plant control measures for consumption of raw water & providing up-gradation of ETP.	100 % recycling of treated effluent
2.	M/s. Mega fine Pharma Ltd	Forced multiple evaporation system	Achieved zero discharge.
3.	M/s. XLO India Ltd., MIDC, Satpur	Eliminated the cyanide route by switching over to hardening by adopting the methanol	Achieved nil HW generation & zero discharge
4.	M/s. Zenith Metaplast & M/s Govindsons Flashlight Ltd.	Discontinued the plating activities & adopted dry process for plating.	Minimized HW from ETP & achieved zero discharge
5.	M/s. Atlas fine Chemicals, STICE & M/s Mahindra & Mahindra Ltd., Igatpuri	Switch over to phytoremediation process for the treatment of industrial effluent	Minimized HW from ETP & achieved zero discharge
6.	M/s. Tilaknagar Industries, Tilaknagar, Dist: Ahmednagar	Installed DTRO system to minimize spent wash.	Helped in achieving zero discharge.
7.	M/s. Shradha Park Inn, Shirdi	Installed STP	Used treated effluent for gardening within premises.
8.	M/s. Hotel Sun & Sand, Shirdi	Installed & upgraded STP	Used treated effluent for gardening within premises
9.	M/s. Hotel Gordia, Shirdi	Installed STP	Used treated effluent for gardening within premises

Apart from above, there are about 17 nos. of distilleries in the process of adoption of cleaner technology such as Reverse osmosis followed by bio-composting/ multi effect evaporation system, which ultimately converted in to value added manure. Industrial association at Nashik is in the process of providing CETP in MIDC area of Satpur and Ambad.

Kalyan

Most of the coal fired boiler Textile processing industries in Kalyan have up graded the existing air pollution control system by providing wet type of ventury scrubber. Follow up is being taken with yarn dyeing industries for up gradation of existing Air Pollution Control System. The industries which have adopted cleaner technologies are **M/s. Danube Fashions, Murbad; M/s. JSW Ltd, Shahapur & M/s. Global wool alliances, shahapur**



Thane

Management of Hazardous Waste as per the Hazardous Waste (M&H) Rules, 1989 as amended in 2003.

Thane Region accommodates large no. of chemical industries and as such the Hazardous Waste generation is significant. There are 668 units which comes under the Hazardous Waste (M & H) Rules, 1989 as amended in 2003. The Hazardous Waste generated by these industries is about 9415 T/ M.

All industries have hoisted the hazardous waste data by installation of the display boards as per SCMC guidelines.

In Tarapur area most of the industries were dumping Hazardous Waste on one vacant plot before establishment of common facility site at Taloja. MIDC & NEERI have decided to carry out encapsulation of Hazardous Waste dumped, as per directives of MPCB. The Hazardous Waste dumped on other plots was also brought to this site before the final encapsulation work is completed. This encapsulation is done by adopting proper technology i.e. by using two layer systems for not allowing any leachets to leach into ground water. Thus it has helped in preventing pollution and in strengthening environment protection.

There are two industries namely **M/s Bayer Cropscience Ltd. and M/s Clearient (I) Ltd.** in the Region having Incinerators to handle Hazardous Waste and are operating as per the CPCB guidelines. The online monitoring system is also provided.





7. ENVIRONMENTAL STUDIES AND SURVEYS

Implementation of environmental regulations require solid base of science and technology with a back up of research and development activities. Board is required to undertake investigative research, develop and assess its policy programmes and initiatives. Board has taken up several such projects which are of great importance for the environment protection and public health.

Following is the list of important research based surveys/studies implemented by the Board either on its own or in collaboration with other scientific institutions:

7.1 Monitoring of Noise Pollution during Ganesh Festival, 2007

Ganesh festival is one of the main festivals in Maharashtra. This festival is also celebrated as community festival. Festival duration is of 10 days. After 10 days, Ganesh idols are immersed in water bodies. Large number of people participates in the festival and in immersion procession on the last day. Vocal music and musical instruments during the festival causes high levels of noise. In general, ambient levels of noise poll increase considerably. In order to access the situation of noise levels in various cities in the state of Maharashtra, Board has carried out the survey for 5 days during Ganesh festival in the month of September 21st to 25th, 2007. Following is the report.

Noise Level Measurement and Noise Pollution Standards

Noise is often measured in decibels (dBA). A symbol indicates a measurement of a logarithmic scale. In each case, the actual measurement 'a' is compared to a fixed reference level 'r' and the "decibel" value is defined to be $10 \log 10 (a/r)$. 'A' weighing filters out lower frequencies very severely. Fast responses closely match to the simulations of human ear sensitivity. Fast response (125 to 200 milli-seconds) was selected to measure noise levels. The human response to Noise depends upon the frequency of the sound, the type of noise (continuous, intermittent or impulsive) and

the time (day or night) it occurs. Noise has been recognized as ambient air pollutant. Standards in this regard are laid down under The Environment (Protection) Act, 1986 (and rules made there under) and under the Model Rules of the Factories Act, 1948 for occupational health and safety purposes.

The Central Pollution Control Board constituted a National Committee of Experts on Noise Pollution Control. The Committee recommended noise standards for ambient air and for automobiles, domestic appliances and constructions equipment, which were



later notified under The Environment (Protection) Act, 1986.

Methodology of the Survey

The noise pollution monitoring survey was carried out during September 21st to 25th, 2007. Noise level measurement was done during 19.00 hrs to 24.00 hrs. The monitoring was carried out at distances of 50 meters and 100 meters around Ganesh pandals/ source of noise pollution. The frequency of the monitoring was twice in a day, for a minimum period of 30 minutes. The noise levels were also recorded at few selected places during 19.00 to 24.00 hrs where festival procession was not there. This was done for comparison of noise levels in festival area and outside/ far away places.

Noise Levels at Various Locations in different Cities.

In different cities various locations were monitored for noise pollution from the 21st to the 25th of September 2007 between 19.00 to 24.00 hrs. At every location two sets of readings were taken, one at 50 m from the the pandal the other at 100m. Also one set of reading was taken from 19.00 hrs to 21.00 hrs and the other from 22.00 hrs to 24.00 hrs. On the final day i.e. 25th September the readings were taken mostly from the immersion point in different cities.

Observations

In Mumbai 25 locations were monitored and Sound level dB(A) Leq in all the locations were above the permissible limit prescribed under The Environment (Protection) Act, 1986, and it ranges from 63.4 dBA to 102.7 dBA. (In 2006 the noise level ranged from 52.2 dBA to 97.8 dBA).





In Thane 5 locations were monitored and Sound level dB (A) Leq during the survey ranged from 59.2 dBA to 92.4 dBA. (In 2006 the noise level ranged from 70.1 dBA to 88.8 dBA).

In Aurangabad 5 locations were monitored and Sound level dB (A) Leq during the survey ranged from 65.2 dBA to 114.1 dBA. (In 2006 the noise level ranged from 52.0 dBA to 115.0 dBA).

In Kolhapur 3 locations were monitored and Sound level dB (A) Leq during the survey ranged from 56.9 dBA to 105.4 dBA. (In 2006 the noise level ranged from 50.0 dBA to 110.0 dBA).

In Navi Mumbai 2 locations were monitored and Sound level dB (A) Leq during the survey ranged from 85.9 dBA to 100.6 dBA. (In 2006 the noise level ranged from 57.7 dBA to 96.1 dBA).

In Nagpur city 40 locations were monitored and Sound level dB (A) Leq during the survey ranged from 62.2 dBA to 98.3 dBA.

In Wardha city 6 locations were monitored and Sound level dB (A) Leq during the survey ranged from 72.8 dBA to 102.5 dBA.

In Bhandara 6 locations were monitored and Sound level dB (A) Leq during the survey ranged from 69 dBA to 79.8 dBA.

In Chandrapur 5 locations were monitored and Sound level dB (A) Leq during the survey ranged from 71.2 dBA to 93.2 dBA.

In Satara 3 locations were monitored and Sound level dB (A) Leq during the survey ranged from 62.5 dBA to 96.7 dBA. (In 2006 the noise level ranged from 64.4 dBA to 110.0 dBA).

In Kalyan/Bhiwandi area 3 locations were monitored and Sound level dB (A) Leq during the survey ranged from 65.4 dBA to 103.8 dBA. (In 2006 the noise level ranged from 69.9 dBA to 92.0 dBA).

In Nashik city 5 locations were monitored and Sound level dB (A) Leq during the survey ranged from 40.2 dBA to 89.3 dBA. (In 2006 the noise level ranged from 47.3 dBA to 75.0 dBA).

In Ahmednagar 4 locations were monitored and Sound level dB (A) Leq during the survey ranged from 72.4 dBA to 124.9 dBA. (In 2006 the noise level ranged from 72.0 dBA to 86.5 dBA).



In Jalgaon 3 locations were monitored and Sound level dB (A) Leq during the survey ranged from 54 dBA to 102.9 dBA.

In Dhule 8 locations were monitored and Sound level dB (A) Leq during the survey ranged from 68 dBA to 84 dBA.

In Amravati 3 locations were monitored and Sound level dB (A) Leq during the survey ranged from 52.6 dBA to 93.6 dBA. (In 2006 the noise level ranged from 43.8 dBA to 88.3 dBA).

In Pune 18 locations were monitored and Sound level dB (A) Leq during the survey ranged from 56.8 dBA to 99.3 dBA. (In 2006 the noise level ranged from 55.0 dBA to 83.0 dBA).

Conclusion

It may be seen from the results that noise levels were exceeding the permissible limit during the Ganesh festival in September 2007 at all locations covered during the survey. The noise levels were observed high especially during the immersion day on the 25th of September. Compared to last year's Ganesh Festival noise monitoring survey, this year's Observations were on the higher side in cities like Mumbai, Pune, Amravati, Ahmednagar, Kalyan, Navi Mumbai, Aurangabad, and Thane, where as in cities like Nashik, Satara and Kolhapur the readings were on lower side. In spite of legal standards in place and efforts of regulatory agencies, the noise levels could not be checked and controlled up to the desired levels. In order to make people aware of the noise pollution and its adverse effects on environment and health, a social mission supported by capacity building in the regulatory agencies for effective implementation of the noise standards is required.

7.2 Coastal Monitoring Survey:

The Maharashtra coastline which is about 720 km long is indented by numerous West flowing river mouths, creeks and bays. There are about 18 prominent estuaries along the coast, some of which harbors mangroves and have a variety of floral and faunal species. Many of these inshore waters receive untreated or partly treated domestic wastewater. Significant industrial development in Maharashtra has taken place a few kilometers inland from the coastline. Industries are releasing their treated effluents to inshore areas. The prominent examples of inshore water bodies receiving domestic and/or industrial effluents are Ulhas, Patalganga, Amba, Savitri,



Kundalika and Vashisti estuaries as well as Thane, Mahim, Versova, Ratnagiri, Dahanu and Tarapur Creeks.

There are number of complaints regarding coastal water pollution. There have been instances of fish kill due to incidental/ accidental discharges from the industries, ships etc. Last year, a campaign was carried out by the electronic media regarding serious problem of coastal water quality in and around Mumbai area. They have reported presence of highly toxic heavy metals in the coastal water which could affect human being as well as estuarine quality of beaches.

7.2.1 Need for Coastal Monitoring :

The then Department of Ocean Development recently transformed into the Ministry of Earth Sciences, Government of India has been operating "Coastal Ocean Monitoring and Prediction System (COMAPS)" program for over a decade now. Under this program, the coastal waters of India are monitored at pre-decided transects through a number of coastal institutions including NIO which monitors the Gujarat, Maharashtra and Karnataka coasts. The overall findings of COMAPS (1991-2000) with respect to the Maharashtra coast are: (i) open-shore region beyond 1-5 km is unpolluted, (ii) Versova and Mahim Creeks are severely degraded, (iii) Bassein, Thane and Ratnagiri Creeks are moderately degraded, (iv) the marine sediment is grossly free from anthropogenic trace metals except for Hg around Mumbai, petroleum hydrocarbons, organic carbon and phosphorus, and (v) domestic wastewater is the major source of pollution though industries contribute locally in some instances.

The COMAPS program has been designed to assess the health status of open-shore waters of the Arabian Sea with low coverage of inshore coastal segments such as estuaries. Thus, with respect to Maharashtra though there are a large number of estuaries, creeks and bays along the coast, only a few namely Bassein, Versova, Mahim, Thane, Murud, Dhabol and Ratnagiri are included under COMAPS and that too only mouth zones of these water bodies are sampled. Thus, the information on majority of Maharashtra's inshore waters particularly the segments receiving effluents, is scanty. With the rapid urbanization and industrialization along the coast of Maharashtra it was thought necessary to conduct an exhaustive study of the water quality and status of ecosystem in the coastal areas of Maharashtra in order to develop integrated pollution control strategies.



7.2.2 Salient Features of the Study:

- Physio-chemical and biological analysis of the coastal water twice in a year
- 23 sampling locations are identified along creeks, sea coast, bays, estuaries etc.
- Sampling at 4 location at different distance from the shore at each location
- Involvement of MPCB field staff and laboratory scientist in sampling and analysis as capacity development activities.
- Detailed analysis of sediments
- Predictive modeling of selective marine areas for planned disposal of waste

Sampling locations of Coastal Monitoring Programme

TRANSECT	OFFSHORE			INSHORE					TOTAL		REMARK
	Sampling Locations			Sampling Locations							
Distance	3-5km	2-3km	0-1km	DV	L	M	U	U1	Spot	DV	Spot/dupli, DV(12h)
Sidhurdurg dist..											
Redi	1	2	3						3	—	
Malwan	1	2	3	4							
Deogad	1	2	3		4	5	6	—	5	1	
Vijaydurg	1	2	3		4	5	6		5	1	
Ratnagiri dist.											
Pawas Creek	—	—	—	—	4	5	6	—	2	1	Phinolex DP
Ratnagiri	1	2	3	4	—	—	—	4A	4	1	4A- Additional
Bhatya Creek	—	—	—	—	4	5	5		2	1	
Jaygad (shashtri River)	1	2	3		4	5	6	—	5	1	
Dhabol Creek (Vashishiti River)	1	2	3		4	5	6	7	—	—	6-MIDC DP, +Enron DP
Raigad district											
Savitri River	1	2	3	—	4	5	6	7	5	2	6-MIDC DP
Rajpuri Creek	1	2	3	—	4	5	6	7	5	1	4-DV
Kundalika River	1	2	3		4	5	6	7	5	2	4, 6-DP as DV
Thal/Alibag	1	2	3		4				3	1	4-Thal DP as DV
Amba River					4	5	6	7	3	1	4-IPCL DP as DV
TOTAL									57	16	



Sampling locations of Coastal Monitoring Programme

TRANSECT	OFFSHORE			INSHORE				TOTAL		REMARK
	Sampling Locations			Sampling Locations						
Spot Sampling								57		
DV Sampling for 12hrs					12 hrs		12 hrs	16		
Tarapur area..										
Tarapur coast	1	1	1		1	1		4	1	
Dahanu coast	1	1	1	4	1	1	1	5	1	
Mumbai coast										
Harbour	1	1	1	1				4	—	
Vashi creek		1		1		—	—	1	1	Near TTC bridge
Mahim creek	—	1		1				1	1	Near S/outfall
Bandra creek	—	1		1				1	1	Near S/outfall
Mithi River-confl.	1	1	—	1				2	1	Confluence _MR

Note: L- Lower, M-Mid, U-Up, U1- Up

7.3 Review of Standards for Land Disposal of Treated Effluent

for Irrigation – Study at Aurangabad :

Land application of treated waste water for agriculture purpose, gardening has been adopted as one of the method for the disposal of treated waste water. However an unscientific disposal practice of waste water on land has created soil contamination and ground water pollution problems in main areas. At MIDC Waluj area due to unscientific disposal of treated, partly treated waste water, ground water contamination is noticed and due to this drinking water in many villages of the area is affected. To study this problem MPCB has engaged the services of NEERI, Nagpur. This study has the following objectives.

1. To evaluate suitability of various types of soils for treatment and disposal of wastewater.
2. To measure the ground water pollution potential by leachates/percolates from land disposal system.
3. To evaluate physico-chemical and microbiological changes in different soils irrigated with wastewater.



4. To undertake geophysical investigations near the discharge points of treated effluent.
5. To develop mathematical models, this will help in predicting transport and removal of contamination, in the partially saturated soil.
6. To calibrate and validate the models from column lysimeter study.
7. To carry out sensitivity analysis of various model parameters and to study system behavior under various operating conditions.
8. To develop guidelines for the disposal of wastewater through a design protocol.

The technical and scientific staff of NEERI, Nagpur along with MPCB officials has made detailed survey of the area and collected water samples from Bore wells, Open wells, Reservoir Nallas etc. in the area through out the year and recently NEERI has submitted report to MPCB and recommendations are made on the basis of observations during visits to different industrial sites. The practice of indiscriminate disposal of wastewater on land has lead in deterioration of soil quality, groundwater pollution, damage to crops in nearby area and health problems to the local peoples who uses the groundwater. Therefore, the following recommendations are made:





1. Site-specific land application of wastewater needs to be adopted. As Soil characteristics determines the amount of wastewater to be discharged on land, it is recommended that before discharging the wastewater, soil characteristics must be known.
2. The modeling studies indicate that the application rate of wastewater should be less than the average vertical hydraulic conductivity of soil to avoid ground water contamination due to leaching.
3. For land application, the characteristics of the wastewater determine the quality of wastewater and amount to be used on land. Each type of wastewater contains one or more constituents that limit its application. Therefore, it is recommended to establish a CETP with appropriate unit operations and process which can produce effluent suitable in all respects for land disposal.
4. Some of the industries are not meeting the criteria of wastewater disposal on land and the effluent is disposed unscientifically and indiscriminately. The current land disposal practices should be stopped immediately. To avoid further contamination, CETP at Waluj MIDC, Aurangabad should be made operational at the earliest.
5. The capacity of soil to use, retain, or reduce the undesirable effects of wastewater varies significantly according to the physical, chemical, and biological properties of the soil and the characteristics of the wastewater. Thus, the development of a land treatment system must be tailored with the characteristics of the specific site and the specific wastewater. Industries like Garware Polyester Ltd., Wockhardt Biotech Park Ltd., Fosters India Ltd., and Aurangabad Breweries Ltd. possess different types of soil and hence have different soil characteristics. Therefore it is recommended that hydraulic loading (quantity and schedule) of wastewater should be carefully implemented by these industries to avoid further deterioration of soils.
6. Based on lysimeter studies, it is recommended that the treated wastewater having BOD load of 30 and 60 mgL⁻¹ can be disposed on land with suitable plantation at optimum hydraulic loading of 150 m³/ha/day during pre monsoon and 125 m³/ha/day during post monsoon respectively.
7. It is also recommended that the plant growth is the best among all treatments with the composite treated wastewater having BOD load of 30 mgL⁻¹. This is more suitable for land application.



8. Wastewater disposal sites of industries like, Garware Polyester Ltd., Wockhardt Biotech Park Ltd., Innotech Pharma Ltd., Paschim Chemical Pvt. Ltd., Ariane Orgachem Ltd., Fosters India Ltd., and Aurangabad Breweries Ltd., are severely polluted due to continuous wastewater application and needs remediation/ reclamation.
9. The lysimeter investigations for assessing the feasibility of the wastewater application on land need to be performed to assess the amount of wastewater to be applied at a specific site.
10. Land disposal sites should be monitored regularly to assess the soil and groundwater quality in the area.
11. Each of the alternatives discussed above can go wrong if a site-specific waste management and monitoring programme is not implemented. The results of monitoring must be reviewed periodically and the management plan may be notified, if necessary.





7.4 Assessment of Volatile Organic Compound (VOC) - BTX

Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short- and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors. VOCs are emitted from a wide range of products numbering in thousands, e.g. paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. Organic chemicals are widely used as ingredients in household products like Paints, varnishes, and wax which may contain organic solvents, as does many cleaning, disinfecting, cosmetic, degreasing, and hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while using them, and, to some extent when they are stored. VOCs are principal contributors to the formation of ozone & other petrochemical oxidants leading to urban smog.

VOCs are sometimes accidentally released into the environment, where they can damage soil and ground water. Vapours of VOCs escaping into the air contribute to air pollution.

VOCs are an important outdoor air pollutant. They are often divided into separate categories of methane (CH_4) and non-methane (NMVOCs). Methane is an extremely powerful greenhouse gas which enhances global warming. Other hydrocarbon VOCs are also significant greenhouse gases responsible for creating ozone and prolongs the life of methane in the atmosphere, although the effect varies on local air quality. Within the NMVOCs, the aromatic compounds benzene, toluene and xylene are suspected carcinogens and may lead to leukemia through prolonged exposure. 1, 3-butadiene is another dangerous compound which is often associated with industrial uses.

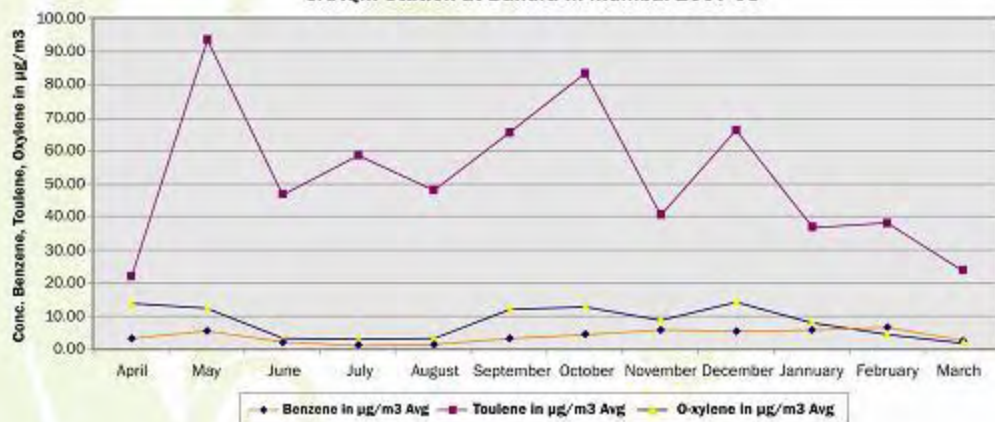
Some VOCs also react with nitrogen oxides in the air in presence of sunlight to form ozone. Although ozone is beneficial in the stratosphere due to its absorbing capacity of UV rays and thus protecting humans, plants, and animals from exposure to dangerous solar radiation, it poses a health threat in the lower atmosphere by causing respiratory disorders. Besides this the high concentration of low level ozone can damage crops and buildings.



Table-IV:-BTX levels in the ambient air of Bandra Mumbai during April, 2007 to March, 2008.

Months	Benzene in $\mu\text{g}/\text{m}^3$	Toulene in $\mu\text{g}/\text{m}^3$	O-xylene in $\mu\text{g}/\text{m}^3$
	Avg	Avg	Avg
April,07	3.40	21.90	13.70
May,07	5.60	93.50	12.20
June,07	2.10	46.50	3.10
July,07	1.00	58.50	2.80
August,07	1.60	48.00	3.30
September,07	3.20	65.40	12.10
October,07	4.30	83.10	12.80
November,07	5.70	40.50	8.80
December,07	5.60	66.30	14.30
January,08	5.80	36.90	7.90
February,08	6.70	38.20	4.20
March,08	2.40	23.60	1.70

CAAQM Station at Bandra In Mumbai 2007-08





8. ENVIRONMENTAL TRAINING

It is one of the functions of MPCB to plan and organize training in various aspects of prevention, abatement and control of pollution.

The Board deposes its staff for training so that they may acquire knowledge in the various topics related to the environment field, to equip them fully to discharge their duties efficiently. Before deposing staff to any course, the nature of work and duties performed by them and the need felt by the Board is considered.

Training is recognized as an essential ingredient for the effective implementation of the stipulated pollution control norms. Thus, training is imparted not only to personnel of the Board, but also for workers in industries and local municipal bodies. Common topics for training generally include:

1. Planning, funding and execution of activities for state Board personnel.
2. Upgrading the knowledge and capacity of state Board personnel as and when new advancements are made in the field from time to time.
3. Efficient operation and maintenance of industrial effluent treatment plants and sewage treatment plants operated by industries and municipal-bodies respectively.

Additionally, with the new environmental norms coming into force recently, such as BMW Rules – 1998, MSW Rules – 2000 and HW Rules – 1989 / 2000/2003, it has become imperative to impart special training to the operators of these facilities for the correct treatment, storage and disposal of such wastes. Training is also needed to upgrade the knowledge and capability of officials already working in the Board and related fields.





Seminars and workshops:

Workshop:

The Maharashtra Pollution Control Board jointly with Dr. Babasaheb Ambedkar University Aurangabad and S.B. College of Environment Science has organized two day workshop on Hazardous Waste Management on 26th & 27th of February, 2008 at Dr. Babasaheb Ambedkar University, Aurangabad. Representatives from Industries, educational Institution, and Government Organization have participated in the work shop. Senior Officers from MPCB, Industries, and Hospitals have participated and made presentation on different issue related to Hazardous Waste Management. Due to this workshop the concerned industries become aware of the information about implementation of Hazardous Waste (Management & Handling) Rules. This will help to overcome the pollution problems in the area. The participants have expressed the great success of this work shop and requested the organizing committee to conduct such programmes in future also.

The various training courses / workshops / seminars / lectures attended by the staff and officers of the Board are summarized in **ANNEXURE III**.





9. ENVIRONMENTAL AWARENESS AND PUBLIC PARTICIPATION

Public awareness, information sharing and education are very important today, as these bring about attitudinal changes and also cause for effective implementation of environmental legislations. The Board has set up a dynamic website (<http://mpcb.mah.nic.in>) and this website hosts the documents and data concerning the state of environment in Maharashtra.

The Board has been conducting numerous programmes for raising awareness across the different stakeholders like conducting competitions, instituting awards, sponsoring films and other multi-media materials, placing advertisements in the print and electronic media etc. The Board, conducts environmental monitoring during important festivals such as Ganesh festival, Diwali, etc. on parameters such as air quality, water quality and noise and shares this information to the public. Guidelines on eco-friendly immersion of lord Ganesh idol is already hosted on website of the Board and these are being followed in most of the places in Maharashtra. The river water quality and ambient air quality monitored by the Board is regularly updated and displayed on TV Channels also. The Board is organizing and participating in environment related exhibitions.

9.1 Continuous air quality monitoring station Dedication to the people May 19, 2007

The Continuous Air Quality Monitoring Station was inaugurated at the hands of Hon' Environment Minister, Govt. of Maharashtra, Shri Ganeshji Naik. Dr. D. B. Boralkar, Member Secretary, MPCB were also present for the inaugural function, on May 19th 2007 at Premises of Directorate of Technical Education, Western Express Highway, Bandra (E). Environmental surveillance and monitoring is one of the core functions of the Pollution Control Board. Ambient air quality (AAQ) in urban areas is affected due to the emissions of air pollutants, which are either in gaseous form or in particulate form. The gaseous air pollutants causing air pollution include sulphur dioxide, oxides of nitrogen, carbon monoxide, hydrocarbons etc. Particulate air pollutants mainly include dust arising out of vehicular exhaust, construction activities, industrial chimneys, stone crushers, hot-mix plants, etc. Air quality is important from the health point of view, particularly for children, senior citizens and ailing patients. Air pollution causes mainly respiratory diseases, asthma, bronchitis etc. The long term impact of air pollutants can also lead to serious diseases like loss of oxygen in the blood, toxicity due to heavy metals such as lead, arsenic etc. Now, going to the scenario of Mumbai, the population



of city is increasing and also congestion in the city and vehicular pollution. The industrial air pollution is due to stone crushers, hot-mix plants, power plants, refineries, open burning, household emissions etc. Large population in Mumbai is exposed to the deteriorating air quality. Particularly we are concerned about respirable suspended particulate matter (RSPM). Second area of concern is oxides of nitrogen, which is a gas, having pungent odour when in high concentration. This is arising from the vehicular traffic, air crafts and other situations where fuel combustion is taking at very high temperature. Considering the severity of the air pollution situation in Mumbai, the Hon'ble High Court has directed to prepare and implement action plan for control of air pollution in the city. As a result of various directions from the court, more than 15 years old vehicles were not permitted to ply on the road, CNG has been introduced, Euro-III (Bharat Stage III) is made applicable to new vehicles registered in Mumbai from April 2006. Similarly, fuel quality is also improved and benzene content has been restricted to less than 1% in petrol and sulphur content is restricted to less than 0.05%. At the same time, industries have been directed to upgrade air pollution control systems and comply with the standards of emissions. Hon'ble Supreme Court of India has directed Central Pollution Control Board (CPCB) to set up air quality monitoring network in 16 cities in the country, which are identified as 'where air quality is deteriorating and urgent action is required'. Three such cities out of sixteen, identified in Maharashtra are Mumbai, Pune and Solapur. Earlier, Supreme Court has directed to set up most modern and well equipped air quality monitoring stations in these cities. CPCB was directed to provide 50% capital cost and balance was to be borne by state pollution control board





(SPCB). In compliance of these directions, MPCB has completed installation and commissioning of air quality monitoring stations, one each at Mumbai, Pune and Solapur. Today, Hon'ble Minister for Environment, Shri Ganesh Naik has dedicated these air quality monitoring stations to the people. Besides, parameters of air quality, measurement of meteorological parameters will also be done at these stations. The ambient air quality data will be available on continuous basis at the interval of six minutes and it will be displayed on the MPCB website. The real time values will be available on site at the electronic display board. MPCB has spent about Rs.1.5 crores for this station, which include Rs.40 lakhs from CPCB. The supply of equipments and commissioning work was awarded to M/s.Chemtrols Engineering, Mumbai. For the first time in the country, the Board has outsourced the entire operation and maintenance of this station for a period of 7 years, where stations shall be operated on continuous basis at least for 350 days in a year, round the clock. The data will be properly interpreted and information in the form of 'air pollution index' will be provided for the benefit of the people.

9.2 M.P.C. Board celebrated World Environment Day, 5th June, 2007

M.P.C. Board celebrated World Environment Day, 5th June, 2007 at Navi Mumbai Sport Club, Vashi. The said programme was celebrated in presence of Hon'ble Minister of Environment, Shri Ganeshji Naik, as a Chief Guest. Hon'ble Environment Minister stated the necessity of the participation of society to develop pollution free environment and he also planned to pollution free Maharashtra 2009. Maharashtra Pollution Control Board mooted the concept of running an umbrella programme of infrastructure developing for the entire State. The special purpose plan (common environmental infrastructure) will catalyze large flow of resources into the environmental sector through introduction of efficient and innovative financial instrument by public, private partnership and enhance the capacity building. Every corporate must have environment protection as a corporate responsibility and should make genuine efforts to make it feasible stated Shri Ganesh Naik. On the occasion of this programme prizes were distributed to the winners of Poster/Painting Competition 2006. The Member Secretary of M.P.C. Board delivered speech on global warming. On this occasion N.A. Lentin memorial lecture delivered by Shri B.G. Bukkewar. Shri Vishwanath Davari delivered his good thoughts on water and environment subject through his kirtan musical performance.



Hon'ble Shri. Ganeshji Naik, Minister for Environment, GoM inaugurating the Seminar on the eve of World Environment Day, 5th June 2007

(L to R): Shri Sanjay Khandare, Member Secretary, M.P.C.B., Hon'ble Shri. Ganeshji Naik, Minister for Environment, Govt. of Maharashtra, Dr. D.B. Boralkar, Ex. Member Secretary, MPCB, Dr. G.N. Warade, Director, Environment Department, Govt. of Maharashtra.

9.3 Conference on "Changing Needs for Green Environment"

Maharashtra Pollution Control Board Officers' Welfare Association along with the Environment Club of India and with the financial support of Maharashtra Pollution Control Board organized Two Days Conference on "Changing Needs for Green Environment" held on 13th & 14th January, 2008 at Bright Land Hotel, Mahabaleshwar.

The conference was successful and attended by more than 100 participants including the representatives of the industries, officers of both Mahabaleshwar and Panchgani Municipal Councils, representatives of the Hospitals, Hotels and Government Offices. The conference was inaugurated by Shri. Sanjay Khandare, Member Secretary,



Maharashtra Pollution Control Board and the Guest of Honor were Shri. Vithal Kamat, CMD, Orchid Eco-Tel Hotel, Santacruz, Mumbai, Shri. Deepak Naik, Retired Commander and Dr. Shubhanand Rao, Outstanding Scientist and Director, HEMRL. Various subjects in respect of urban waste management (modern technologies in the Municipal Solid waste management / Hazardous waste management / bio – medical waste management / E-waste management and defense waste etc.) were discussed at length and the presentations were given by the experts in the field.



Inaugural of "Maharashtra Environment" 7th Quarterly Magazine 4th official issue, published by MPCB officers ' Welfare Association as well as inauguration of "Enviroplus" 3rd issue published by the Environment Club of India, by Shri. Sanjay Khandare, IAS, MS MPCB.

9.4 Exhibitions

- M/s U.B.A. India Pvt. Ltd. had organized a National level exhibition on Environment 'ENTECH INDIA-2007'. In this exhibition posters on the activities of Board were displayed. The exhibition was organized on the ground of MMRDA during 6-8 Dec 2007.
- During 31 Jan 2008 to 2 Feb 2008 the Board has participated in an Exhibition 'Municipalica-2008'. The theme of the Exhibition was use of environment friendly energy and advance technology. In this programme a film on Board's progress towards pollution –free environment was shown. A special Desk was kept by the Board to review the public awareness.



9.5 Eco-friendly Festival

Ganesh Festival

- This Festival is one of the main Festivals in the State. In this Festival to avoid plaster of Paris and use clay for idol of Lord Ganesh and to have eco-friendly decoration, a competition was arranged by the Board in association with Sanskar-Bharti Kalwa Dist Thane. The Prizes were distributed to the winners.
- To celebrate Ganesh Festival eco-friendly the Board in association with Mumbai Municipal Corporation and Mumbai traffic police, displayed big banners at 25 different places from Dahisar check Naka to Haji-Ali on western Express Highway and Chembur to Bhayakula on Eastern Express Highway. In Thane with the help of Thane Municipal Corporation at 20 artificial lakes made for immersion of Ganpati idol and 30 other places the banners on awareness were displayed during the Festival.
- The leading News Paper 'Maharashtra Times' and the Board had jointly organized exhibition on photos of eco-friendly Ganesh Festival-2007. During the period of 10 days of festival, information and photos on use of natural things in preparation of Ganesh idol and in arrangement of decoration were called from Ganesh Mandals. Hundreds of Ganesh bhaktas responded this event. Selected photos were published in daily News Paper 'Maharashtra Times'.





9.6 Advertisements

- During 7-13 Nov.2007 the audio recording on Noise pollution and Air pollution due to fire-crackers and its ill effect on human being was broadcast through all FM channels of the Radio.
- Diwali Festival is celebrated throughout the State by lighting the lamps, fire-crackers. Considering the air pollution and noise pollution arising from fire-crackers, the Board has published its advertisements in 50 Diwali publications to create awareness among the public.
- Holi is another Festival of colors celebrated on big scale in the State. Chemical colors sometimes may be harmful or even blindness may occur due to use of such colors. In this regard an advertisement already prepared by the Board showing use of natural colors instead of Chemical colors and use of dry wood, leaves for burning instead of green, alive trees was shown on T.V. Channels. Similarly on 21 and 22 March an advertisement in respect of eco-friendly Holi Festivals was published in 20 leading News Papers.

9.7 Short-Play Competition

Eco-Folks and MPCB had jointly organized a Short-Play Competition for the school students to make them aware of environmental issues. 32 schools from Mumbai and Thane participated in this Competition. The Competition was held in first and final rounds. The final round was conducted in Yashwant Natya mandir Matunga in Mumbai. Out of 5 schools selected for final round 'Children Academy' Ashoknagar Kandivali and Malad won the first and second prize. Chogale High-school Borivali won the third prize. The 'Best environment friendly school' and 'Best environment Project' awards were given to Children Academy Thirani school Thane, Shramik Vidyalaya Jogeshwari. In inaugural function Shri Sanjay Khandare IAS Member-Secretary MPC Board expressed that such competition will really help the students to make them aware of environment and Pollution control. The prizes were distributed at the hands of Shri Bharatkumar Raut, Editor 'Maharashtra Times'. On this occasion actor Mukesh Khanna and Pramod Pawar were present and appreciated the function. Chief trustee of Helpage India Shri Borgaonkar was also present for this function. Representatives of electronic media 'STAR MAZA' and daily News Paper 'Maharashtra Times' were also present on this occasion.



9.8 Awareness programmes organized by Regional Offices of the Board.

Aurangabad

"World Environment Day was celebrated on 5th June, 2007 by organizing various programmes including display of hoardings with the theme "Melting Ice- a Hot Topic". on this occasion about 3000 notebooks with various environmental related slogans on the front and back page of the notebook were distributed among various schools in Aurangabad district. A Tree Plantation Programme was also organized at the premises of Industrial units in Waluj, Paithan and other areas.

Pune

The World Environment Day celebrated on 5th June 2007 in the Regional Office Pune. On this occasion the boards displaying the slogans were installed at prominent locations in the city. The interaction programme was arranged under the Chairmanship of Dr. Gunale, a professor & HOD Botany Dept. Pune University. He delivered speech in respect of importance of this day & Environmental aspect.

Similar programmes were arranged at Satara and Solapur on the word Environment day and planted plenty of saplings in the slogans various factories.





Nashik

- 1) World Environmental Day - 5 June 2007 was organized at Udyog Bhavan Nashik. A cycle rally was organized to give message to general public for use of cycles as a mean of transport so as to conserve the natural resources and subsequently to control air pollution due to burning of fuel in the vehicle and for betterment of the public health in general. The Cycle rally was inaugurated by Hon. Residence District collector. The route of cycle rally was from Udyog Bhavan-Mahatma nagar - College road-Canada corner - CBS and back. This was organized with the help of students from ITI Nashik in which about 100 students were participated in that program apart from general public of the city. Tree plantation program was also organized at M/s. Perfect Circle Pvt. Ltd., MIDC Satpur, and Nashik where in chief guest and others have planted the trees on that occasion. To spread the message of World Environment Day 2007 about melting of ice is hot topic, a note book, book covers & stickers were distributed to the students of rural area.
- 2) During Ganapati festival the guidelines about immersion of idols were circulated and given wide publicity through local leading news papers for use of non metallic colors for idol painting and immersion of idol in a safe place so as to avoid ground/surface





water pollution. Also carried out noise monitoring in the major cities of the region during day and night time. A report in this regards has been prepared. The noise monitoring report reveals that there is substantial impact on the local public for keeping noise level minimum, especially after 10 p.m. in the night. Also many people had adopted the suggestions about idol immersion which has helped in minimum deterioration of the water bodies.

- 3) Similarly during Diwali festival, the guidelines about minimum use of crackers having noise level below 110 dB only were circulated. Wide publicity was given through local leading news papers for use of less noise generation crackers. A cartoon CD for awareness of the general public about noise pollution due to busting of crackers was made & shown on the local news channels in Nashik. The noise monitoring report reveals that there is substantial impact on the local public for keeping noise level minimum especially after 10 pm in night.
- 4) Participated in AIMA Index 2008 Exhibition held at Nashik during Jan.2008. As awareness campaign a stall was put up in the exhibition, wherein different types of posters, models, monitoring equipments related to the environment were displayed. The general people who visited the stall were given the knowledge on Environmental Laws, various publication of the Board, grievances redressal about environmental issues etc.





10. IMPLEMENTATION OF THE RULES UNDER ENVIRONMENT (PROTECTION) ACT, 1986

10.1 Management of Hazardous Wastes

In October 2003, the Hon'ble Supreme Court of India issued orders regarding management of hazardous wastes and expeditious implementation of the rules. The order, among other things, included time bound action for setting up of hazardous waste management facilities, closure of industries operating without authorization, preparation of inventory of waste generated, identification of illegal waste dump sites and removal of wastes from there to a safe place, mass awareness, dissemination of information, institutional capacity building etc. As per the order of the Apex Court, Supreme Court Monitoring Committee (SCMC) has been appointed by the Central Government. The SCMC is submitting quarterly Action Taken Report (ATR) to the Court. Based on the ATRs filed by the SCMC from time to time, the Court is passing further orders in the matter.

The SCMC has appreciated the exemplary work done by MPCB and MIDC in successful cleaning up operations, compliance of environmental standards by the industries, public awareness, stringent action by MPCB against defaulters by way of levy of fines, prosecutions etc.

There are 4 Common facilities for management hazardous wastes set up at Taloja, T.T.C, Ranjangaon and Butibori Industrial Areas of MIDC in Maharashtra and two more CHWTSDFs are proposed at Shendre, Aurangabad and Mahad, Raigad. The Central Government in the Ministry of Environment & Forests, MPCB and MIDC have provided capital subsidy to these facilities so as to reduce the tariff and motivate the user industries for management of their waste in an environmentally sound manner. The state-of-the-art technology applications at these facilities can be compared with any such units in the world. These 4 facilities cater the need of disposal of hazardous wastes from industries in Maharashtra.





Common Hazardous Waste Treatment, Storage, and Disposal Facilities in Maharashtra

Sr. No	Location	Capacity	Status
1	Taloja, Raigad	SLF: 120000 TPY Incinerator: 2.0TPH Proposed Incinerator 2.0 TPH	• SLF is in operation since (2002) • Incinerator is in operation since November 2004. • The first, second and third cell of TSDF are capped. Post closure monitoring is being carried out by the facility operator. • 4th cell is now in use. • MPCB has issued Consent to establish for establishing new incinerator (2nd). • Construction of 5th Cell is under progress.
2	TTC, New Mumbai	SLF: 10000 TPY	• SLF is in operation since (2004) • The cell being used for the disposal.
3	Buti Bori (Nagpur)	SLF:50000 TPY Incinerator: 2.0 TPH	• SLF is in operation since (Feb 2007) • MPCB has issued Consent to operate for land filling and storage of HW. Facility started receiving the hazardous waste and being disposed in SLF. • The work of erection of hazardous waste incinerator is in progress and likely to complete by May 2008.
4	Ranjangaon (Pune)	SLF: 50000 TPY Incinerator: 2.0 TPH	• SLF is in operation since (Dec 2006) • MPCB has issued Consent to operate for land filling and storage of HW. Facility started receiving the hazardous waste and being disposed in SLF. • The work of erection of hazardous waste incinerator is in progress and likely to complete by May 2008.
5	Shendre (Aurangabad)	-	• MIDC has reported that the proposal to develop satellite transfer station at Shendre (Aurangabad) is approved by MIDC. The plot admeasuring 10 acres is handed over to M/s S.M.S Ltd. • No further progress.
6	Mahad	-	• MIDC has reported that the proposal to develop satellite transfer station at Mahad is approved by MIDC. The plot admeasuring 10 acres is handed over to M/s MWML. • No further progress.



Hazardous waste received at CHWTSDFs in Maharashtra: (2007-08)

Sr. No	CHWTSDF	Direct disposal in SLF (MT)	Treatment and disposal in SLF (MT)	Incineration (MT)	Total (MT)
1	MWML TALOJA	39791	70655	15645	126101
2	TTC WMA	7933.79	3247.29	-	11181.09
3	MEPL	4203.42	1410.95	947.85	6562.23
4	VEPL	2325.26	5739.77	104.68	8169.71

(e) No. of units who have become member of CHWTSDF as on March, 2008

MWML	TTC	MEPL	VEPL
2516	1223	474	226

Incineration of hazardous waste

Before a full fledged hazardous waste incineration facility became operational in Maharashtra, MPCB had given permission to individual industry incinerators for designated utilization and disposal of the undesired liquid/ solid/ effluent arising out of their manufacturing processes and other activities.. MPCB has issued directions under Section 31(A) of the Air (P&CP) Act, 1981 to 69 such industries, which have set up incinerators but not complying with emission standards. The assessment of all such incinerators is being carried out by the Board to decide about their continuation. 42 industries have reported that they have stopped their incineration facilities. MPCB has permitted few industries to operate their individual incinerators for captive use after satisfying the guidelines of the CPCB for Hazardous Waste Incinerators. The fresh assessment of the individual HW incinerators is in process





Common Hazardous Waste Incinerators in Maharashtra

In Maharashtra State there is only one common hazardous waste incinerator in operation at M/s Mumbai Waste Management Ltd, Talaja, Dist- Raigad. Up to 28.02.2008 the total hazardous waste received for incineration at this facility is 56556 MT. The work of installation of other three Common Hazardous Waste Incinerators at CHWTSDFs, Ranjangaon (Pune), Butibori (Nagpur) and additional at MWML (Talaja) is in progress. Out of these two, CHWTSD facilities at Ranjangaon, Dist- Pune and Butibori, Dist- Nagpur have proposed Plasma Incineration Technology. MPCB is monitoring the progress of these incinerators.

Inventorization of Hazardous Waste

The Inventory of Hazardous Wastes prepared by the Board was submitted to SCMC on 25.8.2005 and the report was made available to CPCB for the preparation of National Inventory of the Hazardous Wastes, in compliance of the direction of the Hon'ble Supreme Court of India.

As per the directions of MoEF and CPCB the work of revised inventorization of hazardous waste generated in Maharashtra is completed and the same was submitted to CPCB, SCMC and MoEF on 31.08.2007. The Inventory is available on the website of MPCB, which is interactive and gives information on each industrial unit generating hazardous waste in the state. The findings of the revised inventory are given below.

The total hazardous waste generated in Maharashtra State is 15, 52,221.5 MT/Annum, of which about 36.4% is useful for land filling, 54.07% is recyclable and remaining 9.51% is incinerable.

The break-up of Hazardous Waste generated in various Regions of Maharashtra Pollution Control Board including generation from non-industrial sources is presented in the Table given below. It is clear from the table that Mumbai Region is the highest generation of waste 3, 43,926.4 MTPA (22.2%) followed by Kalyan Region with 2,50,313.6 MT/A (16.1%). The Amravati Region generates 8,776 MT/A (0.57%). The generation from other non-industrial sources was observed to be 72981.8 MT/A (4.7%).

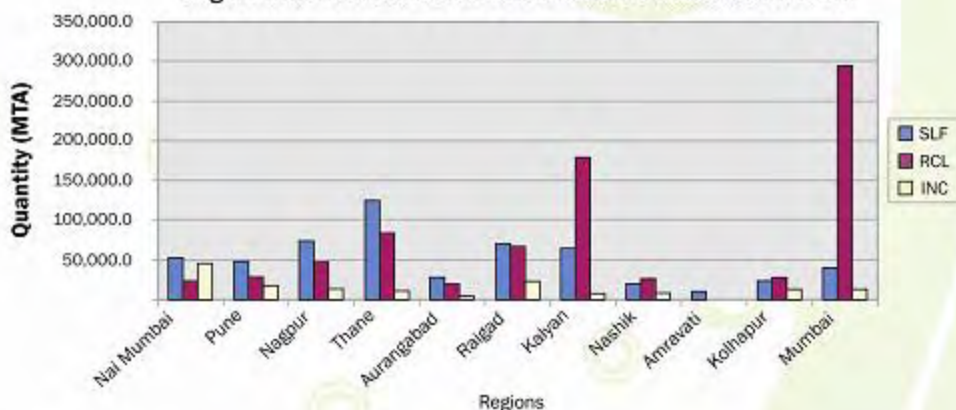


Region wise Break-up of HW according to Disposal Methods

Sr. No	Region	Quantity of HW (MT/Annum)			Total
		SLF	RCL	INC	
1	Navi Mumbai	50791.3	22122.7	44251.3	117165.3
2	Pune	47588.9	27625.9	15317.0	90531.8
3	Nagpur	73647.4	46616.2	12638.3	132901.8
4	Thane	123578.0	83209.5	8965.6	215753.1
5	Aurangabad	26436.0	17282.4	3572.0	47290.3
6	Raigad	70110.2	66463.9	23072.8	159646.9
7	Kalyan	64128.4	179506.7	6678.5	250313.6
8	Nashik	20093.5	25637.1	7479.1	53209.7
9	Amravati	7528.5	690.7	556.8	8776.1
10	Kolhapur	22716.5	25024.7	11983.4	59724.6
11	Mumbai	39134.9	293333.2	11458.3	343926.5
12	Non-Industrial Sources	19581.0	51773.0	1627.8	72981.8
TOTAL		565334.6	839285.9	147601.0	1552221.4

SLF : Secured Landfill, RCL : Recyclable, INC : Incinerable

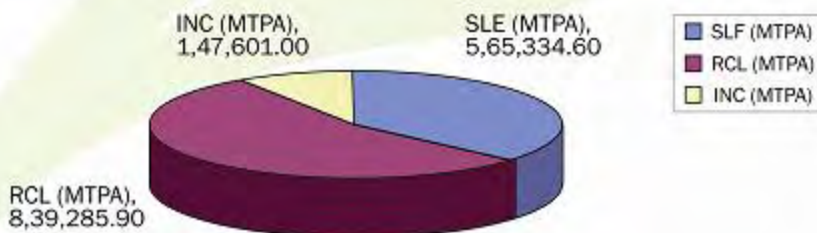
Region wise Hazardous Waste Generation In Maharashtra State





Based on disposal method, salient findings are as below:

HW Generation Summary



Total HW Generation: 15, 52, 221.5

Interstate Transportation of Incinerable Hazardous Waste for treatment and disposal from Goa to Maharashtra

Since the hazardous waste quantity generated by the industries in Goa is not very high, SCMC had directed Goa State Pollution Control Board to explore possibilities of setting up a joint landfill site in the State of Maharashtra at MIDC Lote-Parshuram or any other suitable site in South Konkan to cater to the HW disposal needs of the industries in Goa and Maharashtra state. MPCB has taken a proactive role. The details of the actions taken by MPCB on the proposal of Goa SPCB have been reported in the earlier Action Taken Reports submitted to SCMC

MPCB and Government of Maharashtra have however considered the request of Goa SPCB to allow them to bring incinerable hazardous wastes in Maharashtra for incineration at CHWTSDF at Taloja. This decision was taken on the basis of the policy decision taken at the 13th Meeting of SCMC jointly with the 52nd Conference of the Chairpersons and Member secretaries of the SPCBs/ PCCs held in Mumbai. MPCB has permitted Goa Pollution Control Board to authorize the industries in Goa to send the incinerable hazardous waste for incineration at CHWTSDF, Taloja in Maharashtra on certain terms and conditions. A maximum 20,000 tones/annum of hazardous waste shall be allowed in Maharashtra as per the conditional orders issued by MPCB on 9.6.06.

M/s Mumbai Waste Management Ltd. has started actual operation of lifting of hazardous waste from Goa to MWML from 02 December 2006 and till February 2008, 689.61 MT of incinerable hazardous waste is received at MWML for incineration



Rehabilitation of illegal Hazardous Wastes Dump Site at Tarapur

All the illegal HW dump sites were cleared by MIDC within the stipulated time and there are no illegal dump sites in the MIDC industrial areas. The details regarding rehabilitation of the illegal dump site at Tarapur was already reported in previous ATRs.

Currently following post closure monitoring activity is being carried out at the SLF Tarapur.

- Monitoring of the leachate, if any, in the leachate collection sumps.
- Seven no of Piezometric wells are provided within an area of 50 to 500 meters in upstream and downstream directions of the SLF to monitor the ground water quality.
- Well equipped Laboratory is provided for analysis of the leachates, if any.
- Ambient air quality monitoring is carried out at specific interval.
- A grass lawn created on SLF is being maintained properly.
- SLF operator is submitting the monthly status report to MPCB.
- Both MPCB and MIDC are keeping strict vigil on illegal dumping of the HWs in Tarapur MIDC area.

Illegal Dumps of Hazardous Waste lying in various industrial areas

Currently there are no illegal HW dumps in any industrial areas in Maharashtra. The progress of clearing those illegal dumps has been reported from time to time to SCMC through the quarterly ATRs submitted by MPCB.

In the areas other than Tarapur, no ground water monitoring is being carried out since most of the dumps were located in the industrial areas and quantity of the dumps was very less. The villagers in the vicinity of MIDC areas do not depend on the ground water for drinking purposes and MIDC has a policy to supply clean treated drinking water to the villages in the area. MPCB is keeping strict vigil for avoiding illegal dumping of the hazardous wastes inside and outside MIDC industrial areas.

As per the suggestions of the Central Pollution Control Board MPCB has issued the public notice in English and vernacular language on 01.03.2008 in the leading news papers regarding illegal dumping of the hazardous waste for creating the awareness among the peoples. Through this public notice MPCB asked members of public / NGOs to come forward and report the presence of any illegal dumps in their vicinity to the Board.



Status of 209 Waste oil Containers

As directed by SCMC under Section-11 of Environment (Protection) Act, 1986, MPCB has completed the process of sampling of the waste oil, imported by 12 importers and stored in 213-containers (Waste Oil Containers 190 and Non Ferrous Metal Containers is 23 Nos.) from various CFS at JNPT. In spite of giving notices to the importers by the Customs dept., they remained absent and therefore the Customs department allowed MPCB representatives to collect samples in the absence of importers and accordingly the sampling was carried out.

28-nos of Composite Samples (24- Samples from 137- loaded containers, 4-samples from 57-destuffed Containers, Total-190) were collected in presence of CFS representatives and Customs Appraisal officers. These collected samples were sent to CPCB Laboratory, New Delhi for analysis as per Schedule-5 & 6 of Hazardous Waste (M&H) Rules, 2003. However it was informed by CPCB that they do not have the facilities to analyze the required parameters and suggested the name of M/s AES Laboratories, Noida where the samples were analysed. MPCB has paid of Rs. 3.38 lakhs to M/s AES Laboratories as analysis charges and received the analysis report which then submitted to Hon'ble Supreme Court, MoEF and CPCB on 08.05.2007 for further orders.

10.2 Lead Acid Batteries Management

Government of India made Lead Acid Battery (Management & Handling) Rules, 2001. This rule represents a major step forward in the effort to facilitate the recycling of nickel-cadmium and lead-acid rechargeable batteries.

The Lead Acid Battery (Management & Handling) Rules, 2001 are applicable to battery product manufacturers, Assembler, Re - Conditioner, Dealers, Bulk Consumer, Auctioneers, Importer and Recyclers.

To implement Battery rules effectively in the state for the collection, storage, and transportation of batteries covered by the Battery Rules 2001, Public education program on battery recycling and the proper handling and disposal of used batteries required to consult with manufacturers and retailers to carry out this initiative.





Enforcement Authority –

Authority for ensuring compliance of rule is the state Pollution Control Board and state Board has to submit annual compliance status report to the Central Pollution Control Board.

Proper Disposal or Recycling Necessary for Lead Acid Batteries -

The toxic heavy metals, such as cadmium and lead, found in rechargeable Lead acid batteries perform critical functions within the battery. Heavy metals are contained within the battery's casing and pose no real risks while the battery is in use. But they can be of concern when discarded with ordinary municipal solid waste, as most batteries are Lead acid batteries were estimated to represent approximately 75 percent of the cadmium found in municipal solid waste in 1995. EPA projected that lead-acid rechargeable batteries, of are a small percentage, would represent approximately 65 percent of the lead found in municipal solid waste in 1995.

At present, approximately 73 percent of municipal solid waste is either land filled or incinerated. Neither of these methods is ideally suited for batteries that contain heavy Metals. In landfills, especially those without liners and controls, heavy metals have the potential to leach slowly into soil, ground water, and surface water. When incinerated, metals such as cadmium and lead can concentrate in the ash produced by combustion and enter the atmosphere through incinerator smokestack emissions. When disposed of, the metals in the incinerator ash can leach into the environment. In the environment, certain types of heavy metals can also concentrate in the tissues of organisms and make their way up the food chain. Several metals, such as cadmium, are known carcinogens. The possible health effects associated with ingestion or inhalation of water, food, or air that has been contaminated with high levels of heavy metals range from headaches and abdominal discomfort to seizures, cancer, comas, and even death. The severity of the health effects are usually dependent on the total concentration of the metals to which one is exposed over time. Recycling programs for Ni-Cd and Lead acid batteries can address the potential risks posed by land filling or Incinerating these batteries by diverting them from the waste stream. In the case of battery recycling, metals are recovered from the used batteries, and the remainder of the product is recycled or discarded.



Action taken by MPCB –

State Pollution Control Board plays an important role in developing and implementing a successful battery-recycling program.

- MPCB has issued letters to identified Manufacturer, Re-conditioner, Assembler, Dealer, Bulk consumer, Recycler & Importer to comply by rules & submit annual returns in form I, II, IV, VI, VII.
- MPCB has also issued directions to Regional officers regarding stricter compliance of the Battery Rules in Maharashtra. MPCB is taking effective steps to achieve the compliance in this regard and needs more time to make appropriate inventory.
- MPCB has issued closer direction to 4 lead battery recyclers under Hazardous Waste Rules, 2003. In response, these recyclers have applied for Reg. as Recycler / obtain registration as recyclers from CPCB.
- Annual compliance report is submitted to CPCB.
- For public awareness Public Notice is published in leading news paper of Maharashtra edition.

The information on the sale of batteries by the dealers throughout the State of Maharashtra has been collected by the Regional offices of MPCB. There are difficulties in getting correct information in this regard due to lack of awareness among the battery consumers. The paucity of manpower at MPCB is also an issue in ensuring compliance of the Battery Rules. However, efforts are being made by MPCB to overcome these difficulties.

The information collected by MPCB from the Battery Manufacturer, Assembler, Re- conditioner, Dealers, Bulk Consumer and Recycler from different regions of Maharashtra is given in the table below.





Table:-A Status of Lead Acid Battery Manufacturer, Re-conditioner and Assembler.

Sr. No	Type of category	Total No	Production of lead acid batteries in unit /Y	Total Collection of lead acid batteries in unit /Y	Annual returns submitted to MPCB	Remark
1	Manufacturer	06	5,70,796	72,345	Submitted - 31,	53
2	Re -conditioner & Assembler					

Table:-B Status of Lead Acid Battery Dealer

Sr. No	Total No of dealers	No. of Sale of lead acid batteries in unit /Y	Total Collection of lead acid batteries in unit /Y	Annual returns submitted to MPCB	Remark
1	251	1,93,502	57,600	Submitted - 106,	

Table:-C Status of Lead Acid Battery Bulk consumer, Auctioneer

Sr. No	Total No. of Bulk Consumer, Auctioneer	No. of used lead acid batteries in unit /Y	Total Collection of lead acid batteries in unit /Y	Annual returns submitted to MPCB	Remark
1	49	29,096	68,621	Submitted - 34,	

Table:-D Status of Lead Acid Battery Recycler

Sr. No	Total No. of Recycler	Total No. of Lead Acid Batteries recycled in MT	Annual returns submitted to MPCB	Remark
1	27	4303.78	27	

Table:-E Status of Lead Acid Battery Importer

Sr. No	Total No. of Lead Acid Batteries Importer	No. of lead acid Batteries Imported	Annual returns submitted to MPCB	Remark
1	31	1,32,764	06	



Apart from the major battery manufacturers, there are few new lead acid batteries importers who have obtained registration from Ministry of Environment & Forest under the Rule 4 of the HW Rules for sale of lead acid batteries in India. There are 25 such importers of new lead acid batteries in the State of Maharashtra

The information collected by MPCB on repurchase of lead acid batteries by the dealers and disposal of the batteries by the bulk consumers by auction, reveals that the percentage of the batteries returned to the dealers continues to be poor as compared to the percentage of batteries auctioned by the bulk consumers. Although the percentage in respect of collection of batteries by the dealers appears less the number of batteries returned to the dealers is more. The percent compliance in respect of bulk consumers is more or less steady and they are maintaining the compliance status.

In the State of Maharashtra, the major bulk consumers of lead acid batteries are Maharashtra State Road Development Corporation, Maharashtra Electricity Board, Airport Authority of India, Military establishments in and around Mumbai, Municipal Transport (BEST) and Railways. From the information gathered by the Board, it is seen that these bulk consumers generally auction used lead acid batteries as per the Hazardous Waste (Management & Handling) Amendment Rules, 2003 only to the authorized recyclers / re-refiners having EST along with valid registration from CPCB.

There are 19 Lead acid Battery recycling units having valid registration from CPCB. Out of these, 19 units have submitted half yearly returns on recycling of the batteries. The information from the remaining units is being collected.

It has been observed that there is general lack of awareness among the consumers, dealers, bulk consumers, re-conditioners and assemblers of the batteries, importers and recyclers about the compliance of Battery (M&H) Rules, 2001. Efforts are being made by MPCB with the help of its Regional offices to create awareness among the various stakeholders to ensure that they comply with the Batteries Rules.

10.3 Management of Bio-Medical Waste

Bio-Medical Waste (M&H) Rules, 1998 have been enforced in the State of Maharashtra and the rules stipulates a time bound action plan for providing treatment and disposal facility for the bio-medical waste generated in their establishments. It is necessary in the larger interest of public health and properly to treat and dispose the bio-medical wastes in the most appropriate scientific manner as prescribed in the said Rule.

There are in all 12,753 Health Care Establishments (HCE's) which can be covered for



regulations under the management of Bio- medical Waste Rules, 1998 as amended. The Board has granted authorization to 10624 HCE's. Out of these 10076 have become the members of Common Bio-Medical Waste treatment and disposal facility in their region. Board has issued 2155 Show Cause Notices to defaulting HCE's who have not applied for authorization, obtained authorization but not joined to CBMWTSDF and member of CBMWTSDF but not sending Bio-Medical Waste.

Board has taken proactive measures in facilitating the development of 38 Common treatment and disposal facilities for the management of BMW in different cities in Maharashtra.

Survey conducted by the Board

- a) In pursuance to the directions issued by Hon'ble High Court of Judicature at Bombay, Board has carried out survey of 366 Public hospitals in Maharashtra which are having deep burial system in the towns with populations of more than five lakhs and more in urban areas. On the basis of this survey, the Board has issued Prosecution Notices to 162 non-complying Public Health Hospitals.

Now Court has again directed Board to Conduct the survey of the above 162 hospital and submit the report. As per the survey conducted by Board there are still 71 Hospital which are not complying with the provisions of BMW Rules and the report is submitted to Hon'ble High Court.

- b) In connection to the Court matter Board has conducted survey of 40 Hospital in Mumbai along with the Court Commissioners. As per the visit report submitted to Hon'ble High Court, Board has issued direction u/s 5 of Environment (Protection) Act 1986 to M/s. M. A.Poddar Hospital, Worli and M/s. Bai Sakarbai Dinshaw petit hospital for Animals, Parel on 02.02.2008 and direction u/s 15 to non complying 14 hospitals on 06.02.2008.

Financial Assistance provided to CPR Hospital in Kolhapur.

This will be the first model project in the state for hospital waste. As per the Memorandum of Understanding (MoU) was signed between MPCB and CPR hospital. CPR hospital has allotted Work Order to the recommended bidder namely M/s. Deccan Environmental Consultant and the STP work is in process. Board has released the first installment of CPR hospital and the work is in progress.



Initiatives of Board

- In order to stream line the operation and bring uniformity in Boards working it is decided to install new software for Bio-Medical waste at each Regional Office.
- MPCB has already delegated powers to Regional Officers to grant / renew authorizations to the HCEs with bed capacity 50 and below.
- MPCB has prepared a format to obtain undertaking on Stamp paper from the HCEs providing service / treating less than 1000 patient per month to ensure that Bio Medical Waste Management is done in proper manner through CBMWTSDF.
- MPCB is coordinating with Govt. agencies such as Department of Public Health Services, Labour Department, Municipal Corporation / Councils etc. to address the issues of Bio-Medical waste management. The meetings are also held with these officials regularly to apprise them about the necessity to achieve better compliance of the Rules.
- MPCB has instructed all local bodies, DHO, civil Surgeons etc. to issue instruction to the HCEs under their purview to obtain authorization under BMW Rules. These Govt. agencies now, have issued necessary instructions and the response is healthy.
- MPCB has issued instructions to Department of Health Services and Commissioner of Labour, GOM, to cause amendment in Bombay Nursing Home Act, 1949, and Shop and Establishment Act, 1948 so that, while registration of the HCEs under these relevant acts, it would be checked whether these HCEs have obtained authorization under the BMW Rules.
- MPCB has conducted meetings with the high level officials of the State Govt. for proper coordination to achieve better compliance.

10.4 Municipal Solid Waste Management

In the State of Maharashtra, there are 252 No. of local Bodies (Metro cities, Corporations, 'A'-class Councils, 'B' & 'C' class Councils, Cantonments Boards & Nagar Panchayats). The detail breakup of ULB's is as below:-

1	Corporations	22
2	'A' class Council	18
3	'B' & 'C' class Council	204
4	Cantonment Board	05
5	Nagar Panchayat	03
Total		252



Maharashtra Pollution Control Board has prepared a summery statement of all local bodies indicating class, populations, Quantum of MSW generated, status of Authorization and submission of Form - II by the local bodies. The legal time frame worked for implementation of MSW (M&H) Rules, for setting up facility as well as improvement in existing landfill has already got expired on 31/12/2003. The identification of landfill sites for future use and making sites(s) ready for operation has also expired on 31/12/2002.

The compliance achieved by the Board as per the time frame given in the Rules is shown herewith as Summery statement on progress made by Municipal Authorities in respect of implementation of Schedule-I [Rules 4(3)].

Municipal Solid Waste generated (MT/day) in the State of Maharashtra.

Region	Corporation	"A" Class	"B" Class	"C" Class
Amravati	300.0	53.0	114.0	112.0
Aurangabad	450.0	254.0	137.0	274.0
Kalyan	1134.0	75.0	-	52.0
Kolhapur	330.0	60.0	74.0	62.0
Mumbai	7000.0	-	-	-
Nagpur	770.0	205.0	148.0	126.0
Nashik	611.0	40.0	167.0	152.0
Navi Mumbai	500.0	-	-	8.0
Pune	1740.0	51.0	99.0	107.0
Raigad	-	18.0	12.0	111.0
Thane	1255.0	165.0	20.0	29.0
Total	14090.0	921.0	771.0	1033.0

Corporation:	14090.0	-	83.79%
A Class:	921.0	-	05.48%
B Class:	771.0	-	04.59%
C Class:	1033.0	-	06.14%
Total:	16815.0		



Summary statement on progress made by Municipal Authorities in respect of implementation of Schedule-I [Rules 4(3)]

Sr. No.	Compliance Criteria	No. of complied Local Bodies
1	Setting up of waste processing and disposal facilities (31.12.2003 or earlier)	1. Nashik M. Corp 2. Ambad M. Council 3. Navapur M. Council 4. Sonpeth M. Council 5. Murud-Janjira M. Council
2	Monitoring the performance of waste processing and disposal facilities (once in a six months)	1. Nashik M. Corp 2. Navi Mumbai M. Corp 3. Kolhapur M. Corp
3	Improvement of existing landfill sites as per provisions of these rules (31.12.2001 or earlier)	1- Nashik M. Corp
4	Identification of landfill sites for future use and making site(s) ready for operation (31.12.2002 or earlier)	250 (Sites were identified as on date.)

List of Local bodies complied as per Schedule-I:

1) Setting up of waste processing and disposal facilities-

The Nashik and Kolhapur Municipal Corporations have provided waste processing facility. Nashik and Navi Mumbai Municipal Corporation have provided secured landfill cell. The MSW demo projects at Sonpeth M. Council Dist: Parbhani, Ambad M. Council Dist: Jalna and Navapur M. Council Dist: Nandurbar were inaugurated by MPCB and now working smoothly, Murud-Janjira M. Council Dist: Raigad have taken trial runs of the project.

2) Monitoring the performance of waste processing and disposal-

Environment monitoring as per schedule has been carried out of the facility provided by Nashik Municipal Corporation

3) Identification of landfill sites for future use and making site(s) ready for operations –

250 sites have been identified as on date for processing MSW .



A summary statement on process made by Authorities in respect of implementation of schedule –II [Rule 6 (1) & (3), 7 (1)]

Maharashtra state has total 252 Nos. of ULB's. Out of these, most have submitted their proposals for solid waste treatment and disposals by way of composting.

The Bio-medical waste and industrial hazardous waste generated in the area of local bodies are not mixed with MSW. Such wastes are disposed off separately in accordance with provisions made under BMW (Management & Handling) Rules, 1998 and Hazardous waste (Management & Handling) Rules, 1989.

1. Collection of Municipal Solid Waste:

Generally in all Municipal area littering of MSW is prohibited. At several places MSW is collected house to house, by using Ghanta gaddies, or collection bins. The waste from slaughter houses, meat & fish markets, fruit & vegetable market, which are biodegradable in nature, are disposed off by way of composting or vermi-composting.

2. Segregation of Municipal Solid Waste:

The segregation of MSW is generally done at source or in transportation vehicle by the workers or in some cases, at waste disposal processing facility by ragpickers. The recyclable waste is used for recovery/recycling. The inert material, construction debris is being disposed off by land filling/leveling.

3. Storage of Municipal Solid Waste:

The storage facilities provided by ULBs are in the form of RCC Bins, plastic bins, and plastic containers. In some ULBs house to house collection is carried out & the collected waste is directly taken to dump site.

4. Transportation of Municipal Solid Wastes:

Mostly the tarpaulin cover is put on the waste while transporting and in some cases the vehicle carrying wastes are closed or pneumatic compactors are used in few corporation areas.

5. Processing of Municipal Solid Wastes:

Municipal authorities have to select technologies so as to minimize burden on landfill. The biodegradable waste processed by composting, vermi-composting, anaerobic digestion, etc. Many ULBs have provided processing facilities to part of MSW generated.



6. Disposal of Municipal Solid Wastes:

Secured landfill facilities have been provided by very few ULBs. Only two corporations and four councils have provided landfill facilities for disposal of wastes. The others are in the process of setting up of such facilities.

Summary statement or progress made by Municipal Authorities in respect of implementation of schedule-III [Rules 6(1) & (3), 7(2)]

The main constraint in effective implementation of MSW Rules & setting up of waste processing facility for local bodies is non-availability of suitable land. To identify & select landfill and waste processing sites District level committees under the Chairmanship of District Collector are formed. The Committee comprises of 10 members of various concerned department. While identifying the suitable location for landfill and waste processing site, care is taken that the site should be away from habitation clusters, forest, water bodies, monuments, wet lands and places of important cultural, historical and religious importance & CRZ areas. Almost all local bodies have provided internal roads for free movement of vehicles and provided Primary services such as drinking water, lighting at site, local bodies have planted trees in an around the site to avoid soil erosion.

In the Maharashtra State, District level committee has so far finalized 250 MSW landfill / waste processing sites. Remaining sites is under consideration of District level committee for further necessary action. The main constraints in identifications of these sites are coastal regulation zone, nearness to water bodies, non-availability of sufficient land fulfilling the distance criteria & opposition of local people.

A SUMMARY STATEMENT ON PROGRESS MADE BY MUNICIPAL AUTHORITIES IN RESPECT OF IMPLEMENTATION OF SCHEDULE- IV [RULES 6(1) & 3, 7 (2)]

Out of 252 ULBs in the State of Maharashtra, most of the local bodies are treating their solid waste by way of composting to part of the waste & rest goes for dumping. The Central Government under 'Air Field Town' for selected cities has sanctioned fund to Pune M. Corporation and Pimpri-Chinchwad M. Corporation for Municipal Solid Waste management.

MPC Board has carried out Ambient Air Quality Monitoring in the vicinity of waste processing facility and ground water monitoring at few facilities. Nashik and Navi Mumbai M. Corporation have carried out such monitoring.



Initiative taken/proposed by the MPC Board:

- The Board in consultation with AILSG have prepared check list for identification of processing sites to facilitate the implementation of Rules.
- To speed up the process of grant of Authorization, MPC Board has delegated the power to respective Regional Officers for grant of Authorization in respect of 'B' & 'C' class ULBs.
- For effective implementation and compliance of these Rules, Board has requested Principal Secretary Urban Development Department, Mumbai to look into the matter personally for compliance.
- The Board has extended financial assistance to five local bodies for setting up model/demo MSW projects

The amount that has been released to the MSW demo projects is as given below:

Name of M. Council	Amount in lakhs
1. Ambad M. Council	Rs. 98.5/-
2. Murud-Janjira M. Council	Rs. 75.0/-
3. Navapur M. Council	Rs. 79.0/-
4. Sonpeth M. Council	Rs. 68.5/-
5. Baramati M. Council	Rs. 36.0/-

The projects at Sonpeth Municipal Council, Ambad Municipal Council, & Navapur Municipal Council are working satisfactory. The Murud-Janjira Municipal Council has taken trial runs of the plant. Baramati Municipal Council has obtained land for developing facility for MSW and is in process to start the work; tendering process has been completed in this regard.

In addition to this Board has decided to extend financial & technical assistance to Jalna M. Council for MSW TSDF facility with CPCB contribution. Released financial assistance to the Latur M. Council under 'Latur Environment Action Plan' for development of secured landfill (SLF) facility & one lakh tree plantation in the city for environment improvement.

- MPCB has conducted awareness programmes, workshop/seminars of MSW management.
- Continuous and strict follow up taken by MPCB has resulted in establishment of large no. of Municipal Solid Waste facilities catering part of the Municipal Solid waste. This will be further developed to cater complete municipal waste.
- Aurangabad Municipal Corporation has appointed MPC Board as Project



Management Consultant for helping and guiding them in selecting the technology and the facility producer for management of Municipal Solid waste in their Corporation area. Accordingly MPC Board has completed the tendering process; short listed the bids and recommended L1 bidder.

- Board has given financial assistance under 'Environment Improvement of religious places' to the religious places for installation of MSW plant scientifically. The vermi composting plant at Shani-Shingnapur is working satisfactorily.
- Board is not only extending the financial assistance to the Municipal Council but actively participate in the Workshop and make the local body responsible for better implementation of Municipal Solid Waste (M & H) Rules, 2000.

Constraints/difficulties in Implementation:

- Non availability of suitable land with the local bodies.
- The local bodies in coastal area face the difficulties in identification of suitable land due to CRZ notifications.
- The location policy of State Government in respect of notified Rivers (RRZ Policy) doesn't allow for sitting of such type of activity
- Selection of proper waste processing technology with respect to waste generated including waste to energy plants.
- Non availability of sufficient funds with local bodies.
- Lack of public awareness/participation.
- Lack of manpower with MPC Board for proper and effective implementation & monitoring of MSW (M&H) Rules, 2000.

Suggestions:

- Speedy identification and handing over landfill and waste processing sites by State Government to concerned local bodies particularly in the coastal region.
- Low cost standard models shall be made available for 'B' & 'C' class Councils.
- Provision of adequate funds to ULB & MPCB for effective implementation of MSW Rules, 2000.
- Requisition of additional manpower to MPCB for environmental monitoring in respect of AAQM & ground water monitoring in the vicinity of waste processing sites.
- The schedule-I prescribed in MSW Rules be amended for new time schedule, since the most of the local bodies have failed to adhere the implementation schedule due to above mentioned difficulties.



SONPETH MSW DEMO PROJECT





SONPETH MSW DEMO PROJECT



10.5 Plastic Waste Management

Plastics are divided into two distinct groups: thermoplastics and thermosets.

- Thermoplastic: The majority of plastics are thermoplastic, meaning that once the plastic is formed it can be heated and reformed repeatedly. e. g. Celluloid.
- Thermoset: The thermosets, can not be remelted. Once these plastics are formed, reheating will cause the material to decompose rather than melt. e.g. Bakelite, poly phenol formaldehy

As per "Maharashtra Plastic Carry Bags (M & U) Rules, 2006", MPCB and Industry Department of State (DIC) are authorized to take actions against manufacturers and recyclers of plastic carry bags and containers. In addition, Municipal Commissioners, DC and chief officer of local bodies are authorized to take actions against use, sell, collection, segregation, transportation and disposal of plastic carry bags having thickness below 50 micron and size of 8 x 12 inches.



However, the above said rules are amended on 31/08/2007. As per amended rules, "the Municipal Commissioner or any other officer nominated by the Municipal Commissioner, the Member Secretary of the State Pollution Control Board or any other officer not below the rank of Sub-Regional Officer, nominated by the Board, the Development Commissioner (Industries) of the Directorate of the Industries or any other officer not below the rank of the Deputy director, nominated by the Development Commissioner (Industries); the Collector of the District or any other officer not below the rank of the Tahsildar nominated by the Collector for his district, and the Chief Officer of a Municipal Council shall be competent authorities for enforcement of the provisions of these rules, within their respective jurisdiction".

Following are main features of the "Maharashtra Plastic Carry bags Rules, 2006":

- Applicable to Manufacturer, Recycler, Sellers & Stockiest
- Ban on manufacture & Use of Recycled plastic carry bags & container for food stuff having thickness less than 50 micron for virgin or recycled plastics and size 8 x 12 inches.
- Virgin plastic Bags in natural shade or white
- Colored recycled bags not to be used for storing & packaging of food stuff





- Marking or stamping of - Name & address of manufacturer, Thickness of each bag, Weight of 100 bags on package & Material used virgin / recycled.
- Municipal Corporation, councils & State Pollution control Board / District Industrial Center are Enforcement Authorities.
- MPCB to submit quarterly report to Environment Dept. regarding registration, Action taken against defaulters.

I.	No. of units (Carry bag virgin/ Container virgin) registered	39
II.	No. of PD/ Show-cause notices issued	06
III.	No. of closer directions issued	06
IV	No. units from which fine collected	12
V.	Fine collected	60, 000/-

Following actions are taken by the MPCB:

- i) Applications were received from Manufacturer & 39 units are registered with MPCB up to March 2008. The registration is under process.
- ii) The closer orders were issued against 16 defaulters and the fine collected from 10 defaulters was Rs. 50,000/-.
- iii) For creating mass awareness about the handling, management and disposal of plastic carry bags to avoid pollution and environment problem, MPCB has appointed an organization 'UNSAT' to conduct awareness campaign in MMRDA area by conducting 100 street shows at different places and displaying posters on ban on plastic carry bags with < 50 micron thickness.





11. PROSECUTION LAUNCHED AND CONVICTIONS SECURED

In order to regulate and control pollution from different sources, the Board maintains constant vigil on industries, local bodies and health care establishments. The Consents and Authorizations are being issued with certain conditions to be complied by the industrial units, local bodies and health care establishments. These conditions are based on the type and load of pollution generated. The environmental conditions are also responsible for generation of pollution. The Board regularly conducts environmental monitoring of polluting units and pursues them for necessary installation of pollution control equipment or joining to common facilities established for treatment & disposal of wastes. Notices/show cause notices are served for installation /up gradation of treatment plant and for achieving the standards/ pollution control norms. Legal action under appropriate sections of the Acts is the last remedy used against defaulting units that consistently fail to comply with the consent conditions even after serving the notices. As a principle of natural justice, the defaulting units are called for a hearing to understand their problems better and to find solutions regarding control of pollution. It is observed that large-scale industries generally take necessary measures for pollution control while medium and small scale industries do not take sufficient steps due to constraints like space, money and skilled labors to operate their pollution control systems.

11.1 Water (prevention and Control of Pollution) Cess Act 1977

The Water (prevention & Control of Pollution) Cess Act 1977 was enacted by the Parliament on December 7, 1977. The main object of the Act is levy and collection of cess on water consumed by persons carrying on certain industries and by local authorities and to augment the resources of Central pollution Control Board and State pollution Control Boards.





The Act provides for constitution of Appellate Authority comprising of Chairman (Chairman of the Board) and two members to be nominated by the Chairman from amongst the Board Members. The Appellate Authority is empowered to entertain appeal against the order of assessment imposing penalty. The Appellants are required to prefer an appeal within 30 days.

Accordingly, Appellate Authority has been reconstituted vide order No.E-319/2006 dated 8/12/2006 to hear the appeals. 59 Appeals were pending before the Appellate Authority since 1992. Out of 59 appeals, the Appellate Authority disposed off 23 Appeals & remaining 36 appeals are pending for final hearing. During the year 2007-2008, 3 appeals are filed. A List of Appeals along with status of Appeals is as below.

Partly heard/Pending Appeals filed before the Water Cess Appellate Authority

Sr. No.	Name of the Appellants	Total No. Of Appeals	Status
1.	M/s NRC Ltd, Mohane, Kalyan	14	Partly heard
2.	M/s Tata Power Company Ltd. Chembur, Mumbai	11	Partly heard
3.	M/s Tarapur Atomic Power Station, Boiser, Thane	01	Pending (To be referred to MOEF for advice)
4.	M/s Ballarpur Industries Ltd.Chandrapur	11	Pending
5.	M/s Reliance Energy Ltd. Dahanu, Thane	01	Pending
6.	M/s Ceramic Industries Ltd. Kalmeshwar, Dist Nagpur	01	Pending
Total		39	

11.2 Hazardous Waste (Management & Handling) Rules 1989 as amended

Pursuant to the order of the Hon'ble Supreme Court of India in W.P. No. 657/1995 filed by Research Foundation for Science, Technology and National research policy V/s Union of India & Anrs. For effective implementation of the provisions of the Hazardous Waste (M&H) Rules 1989, the Board has been strictly monitoring the movements of hazardous waste.

During the period 1/4/2007 to 31/3/2008, the Board issued notices under rule 16(3) to 3 defaulting units. The Board extended them an opportunity of hearing and finally imposed fine of Rs. 76,755/- The total fine imposed since the applicability of the Rules till 31/3/2008 is Rs. 36, 52, 255/-



11.3 Action reg. sand dredging activities

The issue regarding taking action against unauthorized sand dredging activities, which are being operated without prior Environment Clearance from Govt. of Maharashtra and without Consent from the Maharashtra Pollution Control Board was discussed at length in a meeting called by the Secretary, Environment Deptt., Government of Maharashtra on 22/1/2008, directed to issue appropriate directions to close down dredging activities, which are being operated without Environment Clearance and Consent to Operate from the Board.

After due deliberations, it was decided that the sand dredging activities require an Environment Clearance from Govt. of Maharashtra as per Addendum dtd.3/6/2000 issued by the Environment Deptt., Govt. of Maharashtra to the G.R. No.ENV.1094/SEAC/CR.170/D-1, dtd.07/08/1997 in respect of sanctioning of Environment Clearance and Consent from the MPC Board and should be immediately closed down, by issuing appropriate directions in this behalf, taking into consideration its impact on environment without proper assessment of assimilative capacity of the stream (river, creek etc.).

Since the permissions for auction of the location for sand dredging are given by the Dist. Collector/Divisional Commissioner as may be applicable to the particular area as per G.R. No.Gaukhani10/2003/Case No.51/Kh, dtd.05/09/2003, it was decided to issue appropriate directions to the defaulting sand dredging activities to close down their dredging activities. Since the Divisional Commissioners and Dist. Collectors are the appropriate authorities to sanction auction of locations, it was decided to issue appropriate directions to the Dist. Collectors/Divisional Commissioners to ensure that such activities are closed down by suspending their permissions for auction and by sealing those activities.

All the Regional Officers of the Board have accordingly issued appropriate directions to the Dist. Collectors with a copy to the Divisional Commissioners to ensure that unauthorized sand dredging activities being carried out without valid Consent to Establish from MPCB and Environment Clearance from the Government of Maharashtra, which are closed down by them and also suspending their permissions for auctions by sealing those activities.

Because of such directions, a number of sand dredging activities have taken effective steps to apply for consent and environment clearance from Govt. of Maharashtra. The Consent to Establish have been granted subject to the condition to obtain Environment Clearance from the Govt. of Maharashtra and then to consider grant of Consent to Operate. However, 10 No. of sand dredging activities had filed civil



suits before the Civil Judge, Sr.Division, Ratnagiri and Khed under order 39 of civil Procedure Code. And obtained temporary injunction from the Court against the orders issued by the Dist. Collectors, Ratnagiri. MPCB had filed preliminary objection to the jurisdiction of civil court as per Section 58 of the Water (P&CP) Act, 1974, u/s 46 of the Air (P&CP) Act, 1981 and under section 22 of the Environment (Protection) Act, 1986, pointing out the Bar of Jurisdiction of Civil Court. However, the Civil Judge, Sr.Division allowed the appeals on the ground of balance of convenience and bonafideness of the action initiated by the Respondent. MPCB has filed appeal before Dist.Judge Ratnagiri on the ground that the Learned Trial Court has no jurisdiction and misinterpreting the bonafide clause. The appeals are pending.

11.4 Action taken against the slaughter house

The Central Pollution Control Board has taken follow up with the Maharashtra Pollution Control Board for implementation of pollution control measures in the slaughter houses in the state of Maharashtra by way of filing an affidavit before the Hon'ble Supreme Court of India in the Writ petition (Civil) No. 309/2003 in the matter of Laxmi Narain Modi V/s Union of India & Ors.

The respective Regional Officers of the Board had carried out extensive surveys of the slaughter houses in their respective regions. Based on the reports of the officers, the Board has issued directions under section 33A of the Water (Prevention & Control of Pollution) Act 1974 and 31A of the Air (Prevention & Control of Pollution) Act 1981 to all Municipal Corporations/ Councils in the state of Maharashtra for not providing adequate and suitable arrangement for processing, utilization and disposal of solid waste from slaughter house activities pertaining their jurisdiction.

Laxman Narayan Modi has filed one Public Interest Litigation before Hon'ble Supreme Court of India bearing Writ Petition (Civil) No.309/2003 in respect of implementation of standards regarding pollution prevention in slaughter houses/meat processing industries notified under the Environment (Protection) Act, 1986 and Rules made there under.

Hon'ble Supreme Court had directed the CPCB to collect the information from various State Pollution Control Boards regarding the Board's action adopted in their respective areas for disposal of the waste generated from the abattoirs, slaughter houses and meat processing units with further direction to the SPCB to co-operate with the CPCB.

MPCB had carried out an extensive survey in respect of all the abattoirs/slaughter houses/meat processing units through its Regional Officers and prepared a comprehensive status report with the aid and assistance of the then Water Pollution



Abatement Engineer and Sr. Law Officer (P&L Division-II)

The Hon'ble Supreme Court is monitoring the compliance of the standards under Environment (Protection) Act 1986 by the slaughterhouses throughout India through the CPCB. Hon'ble Supreme Court directed all the State Pollution Control Board's by its order dated 1/10/2004 to give the requisite information to CPCB, so as to file a chart in terms of its earlier order dated 26/7/2004. The Central Pollution Control Board is calling periodical progress report in respect of latest status report of compliance from all the SPCB's.

Accordingly periodical progress is being reported in respect of all the slaughter houses in the state of Maharashtra by taking appropriate follow up action with all Regional Officer of the Board.

11.5 M/s Dow Chemical International Pvt.Ltd.

M/s Dow Chemical International Pvt.Ltd. approached MIDC for allotment of 100 acres of land in industrial area to establish a world class Research and Development Centre. After careful scrutiny of the application, the MIDC allotted the land measuring 4,00,046.00 sq.mtrs. in Chakan Industrial Area Phase-II to the company for setting up R & D Center.

Thereafter, the company approached MPCB for necessary approval vide their application dtd.27/4/2007. The said application was discussed in CAC meetings held on 24/8/2007 and 18/10/2007. Pursuant to the decision taken by CAC, the conditional 'Consent to Establish' was granted by the Board on 19/10/2007, with the condition that "all the products manufactured by the above activity will be disposed off to the CHWTSDF and the said products are classified as "Off-specification products". After obtaining necessary approvals, the company started their construction activity at the abovementioned site.

On January 16, 2008 in village Shinde, next to the site of the above R & D Centre, the rally was organized for stoppage of work on the approved project. Certain allegations were raised against the company in respect of environmental safety, due to the company in that area. The residents of Shinde also blocked the approach road leading to the site to complete halt to the construction work. The concern officers have conducted a meeting with the shinde village residents on January 28; 2008. The R&D Center representatives were also called to address the specific concerns of villagers. In the meantime, the construction work at the R&D site was decided to continue.

The Govt. of Maharashtra appointed a Committee vide G.R. dated 6/2/2008 under the chairmanship of Secretary (Environment) Govt. of Maharashtra to carry out a



detailed study in respect of the complaints received from the local people/activist and to take an appropriate decision in this behalf.

The committee has taken two meetings with the respective stakeholders, including the complainants, the Govt. officials, and representatives of the Company.

A number of objections were raised by the complainants by their representations dated February 14, 25 and March 03, 2008 in respect of the proposed project. Therefore, clarifications were asked from the Company. The complainants were also given sufficient opportunity to express their views.

The Director, Environment Deptt., Govt. of Maharashtra by his letter dated 4/3/2008 addressed to the Regional Officer, MPCB, Pune communicated him to make available the comments of various Govt. officials. It was also informed to obtain Environment Impact Assessment Report, Environment Management Plan, offsite and onsite plans, Risk analysis report and compliance of other statutory requirements from M/s Dow chemicals international Pvt. Ltd. Regional Officer, MPCB, Pune by his letter dated 9/3/2008 communicated the company to comply with the points raised by the Director, Environment Deptt. Govt. of Maharashtra. Regional Officer, Pune also communicated respective Govt. officials to make available their comments/reports. Similarly, the concept of zero discharge has been made clear to the complainants.

However, taking into consideration, the strong objections and apprehensions of the complainants about the mentioning of manufacture of products in the initial consent to Establish as well as about the concept of "Zero discharge", it was decided by the Board to amend Consent to Establish to M/s Dow Chemicals international Pvt. Ltd. suitably and accordingly an amended consent was issued vide letter dated 12/3/2008.

The committee recommended having a comprehensive Environment Impact Assessment Report, Environment Management Plan, offsite and onsite plans, Risk analysis report and implementing these in letter and spirit. The committee also suggested to advise company to bring necessary Environment clearance from Ministry of Environment & Forests, Govt. of India and to give a notarize undertaking about not to use, store or handle any banned substance and not to take any steps for expansion or modernization of its activity without obtaining statutory permission and also not to change quality and quantity of raw materials used for R&D activity. Taking into consideration strong opposition of the complainants, the committee recommended giving appropriate directions to the enforcing Authority to maintain law & order during and after construction by the Company. it is also recommended to form an expert committee to monitor various compliance of the condition imposed upon the company before giving consent to Operate.



Conclusion

After perusal of the documents, objections raised by the complainants, the clarification given by the company and comments of various Govt. Deptt., the committee come to the conclusion that the complainants apprehension is based on certain information available about the company on the internet in respect of its activities in other countries like America and Europe and not available important information like Impact of the project on the Environment, the quantity & quality of the raw materials being used in the R&D activity, expansion & modernization likely to be carried out etc. Therefore the committee has come to the conclusion that in order to instill proper confidence in the minds of the public at large as well as the availability of detailed information about the company with various Govt. Officials, It is necessary that, the suggestions and recommendations of the Committee can be taken into consideration and necessary conditions can be imposed on the Company before taking any effective steps for establishing R&D activity.

11.6 E. High Court Matters.

1. Shetkari Sangharsh Samittee V/s M/s Maharashtra Energy Generation Ltd. & Ors. PIL No. 126/2006
2. Shetkari Sangharsh Samittee V/s M/s State of Maharashtra PIL No. 140/2007
3. Shetkari Sangharsh Samittee V/s M/s Patni Energy Pvt. Ltd. & Ors. PIL No. 154/2007

Shetkari Sangharsha Samittee has filed Public Interest Litigation against M/s MEGL, M/s Tata Power Co. Ltd. and M/s Patni Energy Pvt. Ltd. on an identical ground to restrain and stop the granting permission or sanctioning environmental clearance in respect of the proposed thermal power project at Shapur, Dherand and Medhakhar,





respectively in Raigad District. The Board was one of the Respondents in the matter. Three different companies are envisaging establishment of power projects in different areas of Maharashtra and there are grievances of the petitioners against the establishment of these three projects.

The Hon'ble High Court while disposing the above matter has passed the order dated 16/1/2008 directing that no steps shall be taken by the concern respondents to initiate the project unless they get clearance needed to set up the projects.

M/s Maza Bharat Samajik Sanstha V/s State of Maharashtra PIL NO. 56/2006

M/s Maza Bharat Samajik Sanstha, a society doing social activities around Kharghar area in Navi Mumbai, had filed the P.I.L. on the ground that the air pollution caused at Navi Mumbai particularly in Kharghar area due to burning of Brick Kilns activities. The Board was Respondent No. 3 in the above petition.

The main prayers of the petitioner were to appoint a committee of experts consisting of at least one advocate of the Hon'ble High Court for the purpose:

- 1) To find out location and places of illegal setting up and operation of Brick Kilns in entire Navi Mumbai and Kharghar areas.
- 2) To examine and report this Hon'ble Court as to whether scientific methods of manufacture of bricks are being complied with in the Navi Mumbai and Kharghar areas?
- 3) To give appropriate directions to the respondents to regulate the activity of the manufacture of bricks in the entire Navi Mumbai and Kharghar areas in accordance with the law in order to eliminate air pollution and health hazards being caused due to illegal manufacture of bricks in traditional way.

Stand taken by MPCB

The Board has appointed Adv. Ravindra V. Govilkar to appear on behalf of the Board. The Air Pollution Control Abatement Engineer of the Board had filed affidavit on behalf of the respondent no. 3 i.e. MPCB on 18/7/2006 stating that the role of the Board is restricted to monitor the environmental compliances in respect of brick kilns. The Respondent-Board has taken policy decision in the year 1997 not to grant any separate consent to the brick kilns operations and accordingly, communicated its decision to all the District Collectors in the State of Maharashtra vide letter dtd. 18.2.1997. It is also mentioned in the affidavit that the Respondent-Board specifically communicated vide said letter to the District Collector that the conditions about the compliance of environmental norms should be imposed by them while granting permissions by them to the brick kilns.



Status

The matter is disposed off on 4th July, 2007. The order dtd. 4/7/2007 is reproduced as under:

"The Collectors of Thane and Raigad are present in Court. They have filed affidavits with complete details. It has been stated in the said affidavits that all the unauthorized brick kilns had been stopped and they would not be permitted to carry on the business of brick kilns. It is further reiterated at the Bar that not even a single brick kiln is operating in both these districts and the Government shall ensure that no such brick kilns are permitted to operate in future in these areas. It is not in dispute before us that it is not permissible to run any brick kiln in those areas. In view of the affidavits filed and the assurance made on behalf of the State, we do not consider it necessary to keep this petition pending any longer before this Court. Consequently, this writ petition is disposed of with the above observations. The State shall abide by its statement".

Enforcement:

Status of cases filed before Trial Courts Water (Prevention & Control of Pollution) Act 1974

1.	No. of cases filed	443
2.	No. of cases disposed off	354
3.	No of cases pending	89

Air Prevention & Control of Pollution) Act 1981

1.	No. of cases filed	149
2.	No. of cases disposed off	149
3.	No of cases pending	Nil





Environment (Protection) Act 1986

1.	No. of cases filed	23
2.	No. of cases disposed off	01
3.	No of cases pending	22

Status of cases filed before Hon'ble High Court of Judicature at Bombay Bench at Mumbai/Aurangabad/Nagpur as on

1.	No. of Writ Petitions filed	354
2.	No. of Writ Petitions disposed Off	169
3.	No. of Writ Petitions pending	185

Status of cases before the Hon'ble Supreme Court of India

1.	No. of Special Leave Petitions filed	29
2.	No. of cases dismissed	19
3.	No. of cases pending	10

Appeals filed under section 28 of the Water (Prevention & Control of Pollution) Act 1974 & Air (Prevention & Control of Pollution) Act 1981 - 24

Appeals disposed off under section 28 of the Water (Prevention & Control of Pollution) Act 1974 & Air (Prevention & Control of Pollution) Act 1981—18

11.7 Maharashtra Right to information Act 2005

The said Act provide for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, the constitution of a central information commission and state information commission and for matters connected therewith or incidental thereto.

Being aggrieved by the order passed by the Public Information Officer, the 12 appeals are preferred by the Appellants under section 19(1) of the Maharashtra Right to information Act 2005 and all appeals are disposed off during the year 2007-2008. The important orders are placed on the website of the Board.



12. FINANCE AND ACCOUNTS 2007-2008

The Board's actual receipts for the financial year are Rs 7594.71 Lakhs.

The same are classified as under :-

Figres : Rs. In lacs

Sr. No.	PARTICULARS	WATER	AIR	TOTAL
1.	Grant - in - Aid from State Govt.	0	0	0
2.	Reimbursement of Water Cess received from Central Govt.	1696.86	0	1696.86
3.	Interest on Investment	1116.95	0	1116.95
4.	Receipt from Central Board for analytical work	17.93	42	59.93
5.	CETP	415.42	0	415.42
	TOTAL (A)	3247.16	42	3289.16
	NWMP	Rs. 568583		
	TERI	Rs. 240000		
	UNEP TIE	Rs. 480000		
	A'BAD MUN CORP	Rs. 500000		
	Suprem Court Committee	Rs. 4213		
	Total (water)	Rs. 1792796		
	NAMP	Rs. 4200417		
	Total (AIR)	Rs. 4200417		
	GRAND TOTAL	Rs. 5993213		
6.	Other Receipts			
	Consent Fee	2469.49	1248.21	3717.7
	Consent Form Fee	10.91	5.07	15.98
	Analysis Charges	294.61	33.18	327.79
	Laboratory Fee	0	0	0
	Appeal Fee	0.01	0	0.01
	Misc. Receipt	69.74	0	69.74
	Hazardous Waste	2.21	0	2.21
	Hazardous Waste Form Fee	2.44	0	2.44
	Hazardous Waste Analysis	20.58	0	20.58
	Hazardous Waste Remending	1.28	0	1.28
	Bio Medical consent Fee	111.24	0	111.24
	Bio Medical Form Fee	5.28	0	5.28
	Env. DEV	10.00	0	10
	Env Planning Report	16.13	0	16.13
	Regn. For Plastic	2.07	0	2.07
	Noise Pollution	2.93	0	2.93



Figures : Rs. In lacs

Sr. No.	PARTICULARS	WATER	AIR	TOTAL
	Fine & Foreiture	0.00	0	0
	Profit on sale of Asset	0.10	0	0.1
	Spl. Env Act	0.00	0	0
	Right to Information	0.07	0	0.07
	Previous Yr. Adj	0.00	0	0
	Total (B)	3019.09	1286.46	4305.55
	Total A+B	6266.25	1328.46	7594.71

The total expenditure of the Board was Rs4273.04 Lacs. Out of this an amount of Rs. 485.33 Lacs for capital expenditure and an amount of Rs. 3787.71 Lacs for revenue expenditure. The details are as under :-

Figures : Rs. In lacs

Sr. No.	EXPENDITURE	WATER	AIR	TOTAL
I.	CAPITAL EXPENDITURE			
	i) Land & Building	93.29	0	93.29
	ii) Lab Equipment	227.21	0	227.21
	iii) Vehicle	16.81	0	16.81
	iv) S.I. & O.	129.46	0	129.46
	v) Furniture & Fixture	18.56	0	18.56
	TOTAL	485.33	0	485.33
II.	REVENUE EXPENDITURE			
	A. ADMINISTRATIVE			
	i) Salary	540.96	24.21	565.17
	ii) Contribution to staff Provident Fund	26.48	1.70	28.18
	iii) Office contingencies	282.18	0.01	282.19
	iv) Financial Assistance (CPCB)	43.94	24.51	68.45
	v) Financial Assistance (Cess)	747.67	0	747.67
	v) L.S. & P.C.	0.00	0	0
	TOTAL	1641.23	50.43	1691.66
	B. EXECUTIVE			
	i) Salary	909.56	70.95	980.51
	ii) Contribution to staff Provident Fund	49.80	4.38	54.18
	iii) Office contingencies	209.44	0.05	209.49
	TOTAL	1168.80	75.38	1244.18
	C. Running Expenditure of Laboratory	66.32	0	66.32
	D. Running Expenditure of vehicle	121.81	0	121.81



Figures : Rs. In lacs

Sr. No.	EXPENDITURE	WATER	AIR	TOTAL
E.	Maintenance & Repairs	146.99	0	146.99
	Education Allowance	-2.59	0	-2.59
	Law charges	8.80	0	8.8
	Professional charges	61.17	0	61.17
	Misc. Expenditure	16.90	0	16.9
	Audit Fee	3.69	0	3.69
	HBAR	0.99	0	0.99
	Depreciation	370.83	40.24	411.07
	Magazine Allowance	0.32	0	0.32
	Canteen Allow & Medical Allow	16.40	0	16.4
	Refund Of Lab Fee	0.00	0	0
	TOTAL	3621.66	166.05	3787.71
	TOTAL (I) & (II)	4106.99	166.05	4273.04

The total expenditure of Rs.4106.99 lacs under Water Pollution Control activities is inclusive of Rs. 370.83 lacs on account of Depreciation Charges during the year (2007-08)

The total expenditure of Rs. 4106.99 lacs against the income of Rs. 6266.25 lacs & Rs. 2229.17 lacs of income over exp. transferred to capital expenditure during the year resulted in excess of income over expenditure for Rs. 8123.47 lacs. Out of the total balance of excess of income over expenditure amounting to Rs. 8123.47 lacs, Provision for Pension & Gratuity RS. 30 lacs. is made, keeping the balance of Rs. 8093.47 lacs.

The total expenditure of Rs. 166.06 lacs under Air Pollution Control Activities includes Rs. 40.24 lacs on account of depreciation for air. The total expenditure of Rs. 166.05 lacs against the income of RS. 1328.46 lacs resulted in excess of income over expenditure for Rs. 1162.41 lacs. Summary of the account for 2007-2008 is as under.





WATER POLLUTION CONTROL ACTIVITIES :

Figures : Rs. In lacs

PARTICULARS	CAPITAL	REVENUE	TOTAL
CETP	24.22	0	24.22
GRATUITY		33.36	33.36
Bal. 07-08		6379.63	6379.63
Amt trns.	485.33	(-)485.33	0
* Amt Trns to income	485.33	5894.3	6379.63
CETP	415.42	0	0.00
GRATUITY**		0	0.00
Income	0	5850.83	5850.83
	439.64		439.64
GRATUITY		33.36	33.36
TOTAL Income	485.33	11745.13	12230.46
CETP	240.46		240.46
GRATUITY		28.47	28.47
Expenditure	485.33	3621.66	4106.99
Bal. for 2007-2008 CETP	199.18	0	199.18
GRATUITY	0.00	0.00	0.00
Bal. for 2007-2008	0	8123.47	8123.47
Provision for Pension 2007-2008	0	0.00	0.00
Provision for Gratuity **	0	30.00	30.00
Bal. for 2008-2009	0	8093.47	8093.47
GRATUITY		34.89	

AIR POLLUTION CONTROL ACTIVITIES

Figures : Rs. In lacs

PARTICULARS	CAPITAL	REVENUE	TOTAL
Bal 07-08	0	-408.49	-408.49
Income 2006-2007	0	1328.46	1328.46
TOTAL	0	919.97	919.97
Expenditure	0	166.05	166.05
Balance for 2007-2008	0	753.92	753.92



Figures : Rs. In lacs

WATER 2007-08

Excess of income over expenditure	6379.63
Less : Excess of income transferred to for Capital exp. 2007-2008	485.33
	5894.3
Less : Provision for Gratuity	30.00
	5864.30
Add Excess of income over expenditure for 2007-2008	2229.17
Excess of income over expenditure for 2007-2008 C/F	8093.47

Figures : Rs. In lacs

AIR 2007-08

Excess of income over expenditure	- 408.49
TOTAL	- 408.49
Add Excess of income over expenditure for 2007-2008	1162.41
Excess of income over expenditure for 2007-2008 C/F	753.92







The SSA between MPCB and M/s. Ashtech Infotech Pvt, Ltd. was entered on 20th April, 2007. The IMIS project included development of an enterprise solution of the Board's multi-disciplinary functions including Consent Management, Waste Management, Cess collection, Laboratory Management and HR / Accounts functions. The main feature of the project is to integrate Laboratory functions in the regulatory mechanisms and waste management for the effective control of pollution and improve environmental compliance. The Laboratory Information Management System (LIMS), which is a market available product (of the shelf), also needs to be integrated to suit the functions of the Board. Integration of Consent Management and Waste Management will improve the enforcement of the standards and Compliance of norms. This integration is the key element in the proposed enterprise solution. The project includes the roll out of the Solution in all MPCB Regional Offices in a phased manner. The scope of the project also includes hands on operation and maintenance of the System for three years and it also includes training, as well. The digitization of all the technical data is also included in the scope of the project.

The major benefits of IMIS implementation that would accrue to the Board are;

- An estimated reduction of 35% in the time taken to process Consent Application
- Increase in the CESS revenue of the board, due to timely bill generation of the CESS BILL and accurate information on the outstanding CESS Collection
- Proactive planning to handle environmental hazards or disorders, resulting in increased security to residents of various cities/the states.
- Decision Support System on various aspects of the functioning of the board due to in time & correct data availability.
- Accurate & clinical testing of Samples at the Laboratories of the board. A possible area of revenue enhancement for the board
- Timely Compliance with information requests, if received under RTI act.

Project Implementation Preparedness:-

Board has appointed M/s. Microline India Pvt. Ltd. as PMC and a detailed agreement has been signed on 21st May'07 with the firm.

Board has also formed an Expert Committee comprising; D.G. , Science and Technology Park, Pune, T.D., NIC, Delhi, Representative of M/s. BPCL and I.T. Professor from VJTI, Mumbai and PMG comprising Senior Board officials for successful implementation of the project. The process for developing infrastructure for the Data centre at Sion Office has also been initiated.

E-governance training to various technical, Scientific and non-technical staff is also initiated.



Present Status:

The Software Design Document (SDD) is prepared after of discussion of Software Developer's with various MPCB officials and PMG members. The final SDD is approved by the PMG on 15th December 07 and now Software prototype designing and development is started.

- The two modules viz; FTS and Complaint are almost complete and Consent Module is partially completed.'
- LIMS licenses have been to the Central Laboratory on 26th February'08.
- MPLS VPN connectivity tender is ready for float by Mid-March'08.
- Data Formats for digitization of files is finalized, so as to start the digitization work at the earliest.

Way Forward:

It is envisaged and informed in the Expert Committee hold on 11th February, 08 that the Project will be completed in the 4th week of June'08.

13.2 E-Waste Management

In Maharashtra State, major computer and electronic oriented industries are established in Mumbai and Pune. Therefore, considering the huge quantity of electronic waste generated in these cities, the Board had allotted the work of survey and preparation of report in this regard to M/s. IRG Systems Pvt. Ltd.

The above institute has done the survey and submitted a report in which it is mentioned that in Mumbai and Pune city 25,000 MT electronic waste is generated. The study has





been conducted about electronic waste management and handling and it is observed that in such waste, lead, cadmium, mercury etc. are available. Therefore, while disposing such type of waste there is possibility of pollution. To dispose off the electronic waste, installation of common facility is necessary. In this regard Mumbai Waste Management has applied for installation of such facility. The Board has deputed two senior officers to Switzerland to observe few plants of such facility.

To do physical separation of electronic waste Board has given the permission to a private industry with certain conditions.

There are no specific Acts prepared for electronic waste. In this regard the Central Environment Department has prepared the draft rules and discussions are being held with the concerned. Under hazardous waste rule 1989 some part of electronic waste is covered. However, specific rules are required for electronic waste and then only it is possible to treat and dispose the electronic waste in a scientific manner. To develop such facilities the Board has prepared a proposal to create a separate authority and submitted to the State Government. The state Government will study the proposal and suitable decision will be taken.





13.3 Chandrapur Action Plan

There are many big industries based on natural resources in Chandrapur District, which includes coal mines, cement, thermal power stations, paper mills, sponge iron plant etc. The pollution caused due to these industries have been discussed at various forums like Parliament, State Legislature and other forums. Considering this problem to derive an integration programme the Board has prepared Chandrapur Action Plan in March, 2006. In this action plan, improvement / up gradation to be carried out by different industries as well as actions to be initiated by various Government Departments, Institutions are included. For effective pollution control and implementation of action plan it is proposed to strengthen and expand the existing local office of the Board. Accordingly, a proposal to open one regional office at Chandrapur and two Sub Regional Offices in Chandrapur District is prepared. The said proposal was placed before the Board in its 146th meeting held on 12/11/2007. It was decided that a detailed proposal about the Chandrapur area will be prepared for appropriate decision of the Chairman of the Board. The actions are being taken in this regard. The Board has reserved 2000 sq.ft. space at Udyog Bhavan, MIDC, Chandrapur for which Rs.25 lakhs have been paid to the MIDC.

The industries like Coal mines, cement, thermal power stations, sponge iron plant established around Chandrapur city is the cause of Air Pollution. Therefore, the Board has started three air quality monitoring stations under NAMP and one station under SAMP and one continuous monitoring station where air quality is regularly monitored. The results obtained in 2006-07 indicate that the concentration of main air pollutant SPM is slightly improved. In the premises of coal mines and at coal depot the coal is available at cheaper rate therefore; it is used as fuel by the local people. This is also a cause of increase in SPM concentration. However, emissions from industries and other sources like transport, use of raw coal for burning are also important for causing air pollution.

Considering the air pollution problem in Chandrapur city the Board has prepared "Chandrapur Action Plan" in which various programmes have been suggested to control the pollution created by industrial and non industrial sources. Under this action plan for necessary implementation of the plan from coal mines, cement, sponge iron plant, coal washery, the Board has conducted review meetings from time to time and necessary directions are issued to the concern industries. The follow up action is already started.



13.4 Action plans for control of air pollution at Pune

In 1995 there was a public interest litigation filed in the Supreme Court regarding pollution in Pune city. To comply with the directives of the Supreme Court Environment Pollution Control Authority has been appointed. Maharashtra Pollution Control Board is appointed as coordinator in this regard. Based on the information received from Maharashtra Pollution Control Board and other Government Departments an Action plan has been prepared under the guidance of Environment Pollution Control Authority.

Task force has been formed under the Chairmanship of Principal Secretary, (Environment). This includes following Departments and organizations.

- 1) Pune Municipal Corporation, Pune
- 2) Managing Director, Maharashtra State Road Transport Corporation.
- 3) Transport Commissioner, Mumbai
- 4) Principal Secretary, Food and Civil Supply, Govt. of Maharashtra.
- 5) Managing Director, Maharashtra State Road Development Corporation.
- 6) Oil Companies Co-ordinate, M/s. Bharat Petroleum Ltd.
- 7) M/s. GAIL.
- 8) M/s. National Highways Authority of India
- 9) Divisional Commissioner, Pune
- 10) District Collector, Pune

To bring down the pollution level below danger, the Environment Pollution Control Authority has directed the concern Government Departments and to implement these directions, specific time period is given. The directions given to these departments are as below.

- 1) In order to improve the Public Transport, Municipal Corporation should make a firm policy. Also for transport management new, rental buses should be procured. The pick up points for private buses should be reduced.
- 2) The existing stations of Maharashtra State Road Transport Corporation located at Swargate, Shivajinagar and Pune station should be shifted to outside the city. In order to shift the stations, Municipal Corporations has to submit report on public transport pick up points, parking plan for vehicles, vehicles management in future housing projects, Vehicle free zone and fly over bridge etc.
- 3) The highways passing through the city should be diverted outside the city.



- 4) There are 60 industries generating air pollution. To install air pollution control system by the air polluting industries, the Board has to take action under section 31 A of Air (Prevention and Control of Pollution) Act, 1981.
- 5) In Pune city, there are 9085 rickshaws before 1991 to which directions have been given to install gas kit before 31st December, 2006. Out of these 4000 rickshaws are instructed to install the gas kit up to 31st June, 2006.
- 6) To supply L.P.G. to the rickshaws having gaskit the oil companies are required to establish the gas filling stations.
- 7) To check air quality of the vehicles modern system has to be installed in P.U.C. centre and monitor it regularly.
- 8) To use 2T oil in petrol driven vehicle.
- 9) For public transport management M/s. GAIL has to provide C. N. G. Gas till March, 2007 and to establish centre for distribution with the help of Municipal Corporation till March, 2007 by M/s.MNGL.
- 10) The air quality in Pune city is being monitored by Maharashtra Pollution Control Board at five locations. To create awareness the air quality in Pune city is made available on website as well as on Doordarshan. To monitor air quality in Pune city action has to be taken to install modern Automatic Ambient Air Quality Station.

Shri. Bhurelal, the Chairman of Environment Pollution Control Authority had visited Pune city on 08/01/2005 and 10/12/2005 to observe the implementation of action plan and conducted a meeting with concerned Government Departments. On 13/05/06. A meeting was also conducted in Mumbai under the Chairmanship of Shri. Bhurelal. The review is being taken regularly in respect of implementation action plan.

A meeting in this regard is also conducted under the Chairmanship of Chief Secretary, Govt. of Maharashtra on 04/04/2007. For immediate implementation of action plan, the concerned Departments have been instructed in this meeting.





13.5 Software developed by MPCB for tracking of Hazardous Waste

MPCB has developed software for keeping track on the hazardous waste generating units in the Maharashtra and for issuing/ amending authorizations to the industries.

- The Hazardous Waste Management and Monitoring System is a web based database application with three objectives viz. updating of the inventory of HWs, provide online access to the inventory, and provide various search facilities to the Users based on various search criteria.
- Monitoring of Hazardous Waste Disposal through online filing of the annual returns under form 4, 12 and 13 as specified in the Hazardous Waste Rules, 2003. The new software was demonstrated to the members of SCMC and the Officers of State Pollution Control Boards at the 52nd meeting of the Chairpersons and Members Secretaries of the State Pollution Control Boards held in Mumbai in January, 2006. It is a user friendly application with help links available for the Users.
- MPCB has issued a public notice in the leading news papers on 11.01.2008 for on-line filing of the Annual Returns in Form 4, 12 and 13 of Hazardous Waste (M&H) Rules 1989 as amended in 2003 by using the software developed by the Board.

13.6 Implementation of RTI Act 2005

Right to Information is a fundamental Right of citizens and Right to Information Act has codified this. In implementation of this Act to bring in good governance by giving the individual citizens the primacy he deserves, the Board has placed maximum information on the website and is being updated regularly. The Board has also prepared the documents as provided under section 4 (1) b of the RTI Act 2005 and placed on the website of the Board. It is the constant endeavor of the Board to provide as much information sue motto through website, electronic media, News paper etc. to the public. The Government of Maharashtra has published the rules under this Act. During the year the Board has received 270 applications under this Act and the information is provided to 207 applicants as on March 2008. The fees collected for providing information was Rs. 2689/- and 12 appeals were filed u/s 19(1) of the Act before the first Appellate Officer. There were 5 appeals preferred before the State Information Commissioner and all have been disposed off successfully during the year. The Board has conducted one workshop in this regard to educate and make aware the PIOs and Appellate officers of the Board about the provisions of the Act. While implementing this Act it is observed that about 90% applications were related to Consents/ Clearance issued by the Board/ MoEF.

severn

ENVIRONMENT

2007-2008



ANNEXURE



