7.3 Hazardous Waste:

There are 74 industries in Chandrapur district which generate hazardous wastes. The total quantity of the hazardous wastes generated by those industries is 83236.628. TPA, which includes 33221.6 TPA landfillable waste, 1798.728 TPA recyclable waste and 1691.1 TPA of incinerable waste, respectively. About 12 industrial units are closed due to various reasons.

Unscientific Hazardous Waste Disposal Site

Common Hazardous Waste treatment storage disposal facility (CHWTSDF) is not yet operational in Nagpur region. Therefore, these industries are permitted to store the generated waste. The CHWTSDF is being established at MIDC Buti Bori and is expected to be ready by the end of the year 2006 which shall facilitate the disposal of the waste stored by the industries in Chandrapur district.

7.3.1 Use of Hazardous wastes by Cement Industries

M/s Maratha cement works is utilizing chemical Gypsum approximately 14700 TPM procured from the industries in Maharashtra and Gujarat, with prior approval of MPCB. Similarly M/s Manikgarh Cement is utilizing chemical Gypsum from M/s Coromandal Fertilizers, Vishakhapatanam and Phospho-

gypsum from Hindalco industries Ltd, Dahej, Baruch (which is identified and certified by CPCB as a non Hazardous Waste). The monthly consumption of such type of waste is around 5845 MT. M/s ACC Cement is expected to start using 31000MT/M gypsum.

7.3.2 Used oil and waste oil:

In Chandrapur district there are two used oil/waste oil units located in the at MIDC area for recycling. These units have modified their existing processing technology. They have also obtained consent to establish and operate from MPCB. Both these units have also applied for registration from CPCB.

MSEB, Super Thermal Power Station, WCL, State Transport etc. generates large quantity of waste / used oil.

7.4 Bio-medical waste management:

Most of the health care establishments/ facilities are concentrated in urban areas and mainly in Chandrapur city. There are 15 public and charity funded institutions/ hospitals, 19 dispensaries, and 58 primary health centers with a bed strength of 1010. Besides, there are 356 HCE's in this district as per MPCB records and the total bed strength is collectively about 2400. The quantum of BMW generation from the HCEs is estimated to be 6.5 MT/M.

There is an only one bio-medical waste treatment facility in operation in the district. M/s Super Hygienic Ltd., MIDC Chandrapur, caters to the BMW treatment and disposal needs in Chandrapur, Warora, Mul, Bhadarawati and Chimur Talukas. This facility collects about 4.8 t.p.m. of BMW from 215 HCE's of which approx. 4.3MT is incinerated and remaining 0.5MT is autoclaved and disposed off. M/s Christanand Hospital, Brahmapuri, Dist Gadchiroli is the other proposed BMW treatment and disposal facility which shall allow the use of their spare capacity for the HCEs in the fringe areas bordering Chandrapur district.

There is one veterinary hospital, 37 animal dispensaries and 108 animal primary health care centers in the districts. There are also 7 mobile vans which cater to the animal health care needs in the rural areas.

7.5 Slaughter House:

In Chandrapur District, there is no mechanically operated slaughter house however, each Municipal Council has designated an area for slaughtering of the animals. In response to the writ petition (Civil) No. 309/2003, MPCB had held joint meeting with the Chief Officers of Municipal Councils and issued direction to ensure the compliance of the Supreme Court directives. MPCB has received applications from the Municipal Councils to regulate the slaughtering activities in their areas. The waste generation from this activity in Chandrapur district is 150 kg to 1800 kg/month of animal blood and viscera which is generally sold by the animal slaughterers. Apart from this there are sheds used for animal slaughtering in the Municipal Council areas which strictly do not adhere to the prescribed environmental norms for this activity.

7.6 Plastic and recycled plastic management:

There are 2 registered (with MPCB) units engaged in the recycling of the used plastics. There are 6 units manufacturing pouches from HDPE granules. There is no mass burning of the plastics observed/ reported by the Board in the district.

7.7 Lead Acid Batteries management:

In Chandrapur District there is only one industrial unit engaged in the recycling of the used lead acid Batteries. Since this unit was not meeting the requirements of environmentally sound technology (EST) requirements, MPCB has taken action against this industry and it is closed. There are large number of battery re-conditioners at different locations in the city. Although the exact number of the re-conditioners is not known, MPCB has taken action against 5 such erring battery re-conditioners. The MPCB survey shows that the battery collection efficiency in the district is 69%. This needs improvement.

7.8 Emissions from Domestic Chullahs / Shegadis:

The coal is easily available in Chandrapur district. It is generally observed that this coal is used as cheap alternative to the other fuel sources. It is maily used in coal mine areas and also in the slum areas for cooking and also for water heating purposes. Previously, coal companies used to offer some quantity

of coal for domestic purposes to their staff. Now this practice has been stopped. It is reported that a household using coal uses approximately 7 to 8 kgs of coal for domestic purposes. Further it is regularly used by hotels and dhabas. This burning of the hard coal is major source of air emissions. The chullahs which are generally kept outside the house contribute SPM, CO, CO2 and SO2 in the vicinity. This forms smog particularly during the thermal inversion periods.

Smoke Blanket in Chandrapur city during evening hours

This is one of the most important reasons for the appearance of a smog-blanket in Chandrapur city and in all the villages where coal is cheaply available. The emissions from this activity contribute significantly to the local air pollution and resultant health problems. However, no data is available on the use of coal in domestic sector and emissions from this source of pollution.

7.9 Diversion of Land for mining activity:

Forests and agricultural lands' diversion for mining in Chandrapur District particularly in Chandrapur and Rajura Tahsils is perceptible.

WCL Open Cast Coal Mining

There is also rapid urbanization occurring due to increased industrialization. It is estimated that nearly 450 ha of productive forest or agricultural land is diverted for the coal mine with a annual production of about 8,00,000 tons of coal. In the mine area itself substantial area is occupied by external over burden dump. The other impacts associated with mining include loss of natural vegetation, native foraging areas and soil erosion.

7.10 Urban areas:

In Chandrapur district there are 7 Municipal Councils. While Chandrapur Municipal Council is classified as "A" Class and Ballarpur Municipal Council as class "B", the remaining Municipal Councils are classified as "C" Class. The total water demand and source of water in the Municipal Council areas in Chandrapur District are given below:

Sr. No.	Name of Local body	Class	Population	Source of water	Quantity of water consumption
1	Chandrapur	A	297612	Erai Dam (New)	8600 CMD
2	Ballarpur	B	89995	Wardha river	6300 CMD
3	Rajura	C	24896	Tube well/intake well at Kopangaon Nalla	1650 CMD
4	Mul	C	18008	Wainganga river	1002 CMD
5	Bramhapuri	C	31200	Borewell	2000 CMD
6	Bhadrawati	C	56679	Wardha river	1170 CMD
7	Warora	C	41996	Wardha river	7135 CMD

1. Chandrapur Municipal Council

   There are two water treatment plants in operation at Ramnagar & Tukum, respectively. Both these plants have conventional water treatment facility which includes collection, neutralization cum alum treatment followed by clariflocculator, sand bed filters and chlorination. The intake water is taken from Erai river/Dam.

2. Ballarpur Municipal Council

   The water treatment plant built and operated by Maharashtra Jivan Pradhikaran (MJP) is based on conventional treatment.

3. Mul Municipal Council
   The water treatment plant has only primary conventional treatment.

4. Warora Municipal Council
   The water treatment plant, which is built and operated by Maharashtra Jivan Pradhikaran (MJP), is based on conventional treatment.

5. Bhadrawati Municipal Council
   The water treatment plant has only primary conventional treatment.

These urban areas do not have adequate domestic sewage collection and conveyance system and therefore only a small part of sewage generated is properly collected.

Open sewage drain of Chandrapur City

Further, there are no sewage treatment facilities at these urban areas to treat this domestic sewage.

7.11 Municipal Solid Wastes:

The data collected by All India Institute of Local Self Government (2003) indicates that the total municipal solid waste generated in Chandrapur district is about 100 tpd which includes even the smaller towns. The municipal councils covered by AIILSG include Ballarpur, Rajura, Mul, Warora and Bhadrawati towns. Chandrapur city generates approximately 120-150 tpd of municipal solid waste. MPCB has granted authorizations to all the Municipal Councils in Chandrapur district as per the MSW (M. & H.)Rules, 2000 and is regularly monitoring the progress on the implementation of the Rules in those municipal areas through its Sub –Regional office at Chandrapur.

Unscientific disposal of Municipal Solid Waste

7.12 Pollution due to agriculture run off:

Chandrapur district receives fairly good rainfall and that supports the large scale paddy cultivation in the district. The farmers also use about 72175 tonnes of chemical fertilizers per annum. The quantity of the pesticides used in this district is currently not known. The extent of pollution of the rivers and the other water bodies due to these chemical is not known and a detailed assessment is necessary to understand the impacts on the environment.

8. FORMULATION OF ACTION PLAN:

The Environmental Status of the Chandrapur District presented in this report is based on data collected by Maharashtra Pollution Control Board from different sources and also the information collected through the monitoring carried out by the Board. Board is monitoring environmental quality in parts of Chandrapur District particularly around industrial units, carrying out river surveys and gathering environment-related information. Based on the available environmental status, the environmental issues related to air quality, fly ash utilization, urban environmental management, conservation of water resources, we have identified priority areas for action.

The mineral exploitation and associated industrialization has continued in Chandrapur district for a long period. There is an urgent need to develop and implement an Action Plan to mitigate the adverse impacts of these activities on the environment in Chandrapur. There is need for integrated environmental management (IEM) system for Chandrapur district which will be based on time bound action plan involving various stake holders such as regulators, polluters and public in general. Such an approach is being proposed because only IEM can effectively deal with local pollution of air, water, land and the noise levels. IEM also recognizes the importance of the roles played by various implementing agencies and also the community. IEM by individual units (industrial or commercial or human habitations) will assure healthier environmental conditions. IEM approach will lead to conservation of natural resources in Chandrapur district, increase utilization efficiency, reduce wastes and the associated environmental degradation and pollution.

8.1 Environmental priorities: Goals and Targets

Several actions have been identified to control pollution at Chandrapur based on the earlier experience of the Board. The efforts of the Board to control pollution, although continuing, there is need to give further impetus in terms of resources, capacity building, increased enforcement together with the involvement of the industry and local people to achieve the desired goals of the pollution control in Chandrapur. The goals and the targets of the proposed Chandrapur Action Plan are listed below.

a. Improvement of ambient air quality (AAQ):

The Thermal Power plant is the single largest contributor in the air pollution in Chandrapur. The MAHAGENCO, which operates this plant, has taken steps to control air emissions from this coal based power plant and the efficiency of the air pollution control equipment is rated to be good. There is need for improvement. In spite of the air pollution prevention and control measures in place, sporadic complaints of the air emissions are received by the Board. MPCB efforts need to be further augmented to control the emission levels from the STPS. MPCB is also exploring a possibility to train its officers with the help of US-EPA on the VEOs, so as to employ this technique in the air pollution control program. MPCB is aiming to complete the actions to control air pollution due to STPS in next two years.

The sponge iron plants are also a current concern as far as the air pollution is concerned. The control of air emissions from the sponge iron plant is identified as an important and urgent goal. Similarly the air pollution potential of cement mills is also significant. The air pollution caused due to various area sources such as coal mines, coal handling particularly transport activities, coal depots, use of coal for domestic purposes etc. have been identified as a critical concern. The industries viz. Sponge iron plants, coal washeries, paper mills, rice mills contribute their share in the pollution at Chandrapur.

Sponge Iron plant at Tadali MIDC Chandrapur

It is therefore necessary to incorporate air pollution control from all these sources as a priority goal.

b. Strengthening of the air quality monitoring network

MPCB is operating three stations under National Air Monitoring Programe (NAMP) at Chandrapur and nearby industrial area. Automatic Continuous ambient air quality monitoring station is also operational at Chandrapur. Board has initiated steps to set up additional ambient air quality monitoring (AAQM) stations under NAMP and State air monitoring program (SAMP) particularly at the coal mine sites. Dissemination of AAQ data in public domain, source emission monitoring, preparation of emission inventory and other related issues are areas of priority. It is expected to complete these actions in 18 months so that visible improvement in the air quality is seen by the people in Chandrapur.

Chandrapur Super thermal power station stacks

c. Resource Conservation (RC)

The generation of mine discharge, excavation of top soil during the mining activities is a example of degradation of natural resources. It is necessary to initiate serious attempts to conserve these natural resources while the exploitation of minerals on a sustainable basis. Generation of fly ash from the power station is also a similar example. There are incidences of air and water pollution due to improper handling of fly ash. Maximum utilization of the fly ash in brick making, construction and cement industry is considered as priority. The efforts of the Board to generate awareness about the fly ash utilization by various stake holders have yielded positive results. However, there is a more potential to utilise fly ash for the reclamation of the coal mines and also use it as a micronutrient supplement for crops. We need to speed up these efforts with minimum fly ash utilization by 20% in next one year.

d. Improved Enforcement and Compliance

Increasing the levels of enforcement and compliance of various environmental regulations is also identified as a priority area. The current procedures of filing the criminal cases against the defaulters is time consuming process therefore speedy redressal mechanism needs to be evolved. Board has experimented options like issuing the directions under Air and Water Act. Taking bank guarantees from the defaulting industries to ensure time bound improvement in the system and also proper O&M of the systems. USEPA team while visiting the district has recommended the use of visibility standards for speedy compliance of stack emission norms. The present MPCB set up at Chandrapur needs to be upgraded into a Regional Office considering the work load. A capacity building in terms of infrastructure and also man-power is also identified as a priority goal.

Based on these discussions, an Action Plan for Control of Pollution in Chandrapur District has been prepared and placed at **Annexure-I**

ANNEXURE

Annexure-I

PROPOSED CHANDRAPUR ACTION PLAN

Sr. No	Description of Action Point	Implementing agency	Time frame	Remarks
	Chandrapur STPS			
1	Augmentation and Improvement in ESP's at CTPS to achieve the consented emission norms of 150 mg/Nm3	MAHAGENCO	2 years	Consultative process with MAHAGENCO to start immediately.
2	Implementation of Visible Emission Observation (VEOs) techniques for improved enforcement of emission norms.	MPCB	6 months	Subject to technical and financial support by USEPA/MoEF
3	Establish required training infrastructure for VEOs	MPCB	1 year	
4	Augmentation of fly ash conveyance system along with adequate surveillance and monitoring to avoid leakages in the conveyance lines and entry of fly ash slurry in River Irawati.	MAHAGENCO	1 year	Consultative process to start immediately.
	Fly ash			
5	Increasing the fly ash reutilization to minimum 20%	MAHAGENCO	1 year	Subject to compliance of notification
6	Demonstration project for use of fly ash for stoking of underground coal mines	MAHAGENCO and WCL	1 year	Consultative process to start immediately.
7	Demonstration project for use of fly ash for filling the abandoned open cast coal mine	MAHAGENCO And WCL	1 year	Consultative process to start immediately.
8	Public awareness about the use of fly ash for construction materials and agricultural purposes.	MAHAGENCO And Agriculture Department, PWD, MSRDC and Directorate of Information	1 year	Consultative process to start immediately.
9	Compliance of fly ash notification by	Respective	1 year	

	other government agencies particularly PWD, Irrigation, MSRDC, NHAI etc for utilization of fly ash for embankments, roads, construction materials etc.	departments. Co-ordination through the Environment Department		
	Air Quality Monitoring			
10	Setting of new ambient air quality monitoring under NAMP/SAMP stations at Tadali, Ghuggus and Rajura	MPCB	6 months	
11	Making all the air quality monitoring data available in public domain through print and electronic media	MPCB	6 months	
12	Strengthening of source emission monitoring by MPCB	MPCB	3 months	Partial outsourcing
13	Preparation of air pollution emission inventory	MPCB	1 year	
14	Source profile studies for the area sources such as coal yards, mines, coal transportation, use of coal for domestic chullas	MPCB and respective industry	1 year	By out sourcing
15	Capacity building for meteorological data monitoring and its application in air dispersion modeling	MPCB	1 year	Option: availability of funds and technical man power under the strategic action plan or outsource
	Sponge Iron plant			
16	Implementation of CPCB guidelines for sponge irons particularly the emission limits of 100 mg/Nm3	Industry, regulated by MPCB	2 years	
17	Preparation of Industry document on the small capacity (<100 MT/d) for good management practices	MPCB with support of Industry Association	6 months	Outsource
18	Environmentally sound management practices for the storage and handling of Flue dust	Industry association	6 months	Outsource
19	Proposal for feasibility of E-networking of source emission levels of sponge iron plants	MPCB with industry association	6 months	Outsource

	Coal Washeries			
20	Implementation of CPCB guidelines	Industry regulated by MPCB	6 months	
21	Development of roads near the washeries	Industry PWD	1 year	
22	Air quality monitoring in the washeries premises	Industry and MPCB	6 months	
23	Ban on overloading of the coal trucks: Step up enforcement	RTO	Immediate	
	Planning and development			
24	Integrated Road Development for Chandrapur District	PWD and MSRDC	One year	
25	Planning of considerations for priorities like sewage treatment plants, municipal solid waste management, urban planning etc.	District administration Local Body	One year	
	Vehicular Emissions			
26	Special campaign to implement the revised PUC norms	RTO	6 months	
27	Checking adulteration of the fuels	District Supply Officer	3 months	
28	Availability of cleaner fuels	Oil companies	* as per the existing policy for the region	To be considered
	Transport			
29	Feasibility study for bypass roads so that coal transportation is not routed through residential areas	MSRDC/PWD	6 months	Outsource
	Paper mills			
30	Adequacy of the effluent treatment plants: Sustainable performance	Industry and MPCB	1 year	
31	Assessment and prevention of smell nuisance	Industry	1 year	
32	Increased reuse of treated effluent for irrigation and for dust suppression in coal mines	Industry, WCL and Agricultural	1 year	

		department		
33	Lime sludge burning	Industry	2 year	
34	Public awareness campaigns	Industry	Continuing	
	Coal mines			
35	Comprehensive study on health related impacts of coal mines operations including transport	WCL and Health department	1 year	
36	Comprehensive study on Ground water depletion due to coal mining activities	WCL, and GSDA	1 year	
37	Air quality monitoring at mines and also important coal handling locations like railway stations (the stations and frequency to be decided in consultation with MPCB)	WCL	Continuing activity	
38	Study on Assessment of air pollution due to spontaneous fires occurring at the mines	WCL	1 year	
39	Ban on overloading of coal carrying trucks: Step up enforcement.	RTO and WCL	Immediate	
40	Allotment of cooking gas in lieu of free coal to employees	WCL/oil companies	Immediate	
41	Gas based community kitchens	WCL/oil companies	1 year	
42	Formulation and implementation of an Integrated mine area development program	WCL/district administration	1 year	
43	Study on impact of blasting carried out in mines with particular reference to damage to property and noise pollution	WCL	1 year	
	Mining (other than coal)			
44	Control of Dust emissions from ore transportation	Mining Industry	1 year	
45	Formulation and implementation of an Integrated mine area development program	Mining industry and district	1 year	

		administration		
	Rice mills			
46	Identification of rice mills located in residential areas	District Administration and MPCB	6 months	
47	Assessment of air pollution problems due to collection storage and disposal of rice husk and identification of remedial measures	Industry and MPCB	12 months	Outsource
48	Implementation of the findings of the study	Industry	1 year	
	Water Quality monitoring			
49	Augmentation of surface water surveillance and monitoring	MPCB	6 months	
50	Ground water monitoring for fluorides and other contaminants	GSDA and MPCB	12 months	
	Cement plants			
51	Assessment of impacts on agriculture due to cement industry	Industry/ MPCB	1 year	Outsource
52	Increased use of fly ash	Industry/ MAHAGENCO	2 year	
53	Formulation and implementation of an Integrated area development program	Industry	2 year	
	MIDC Industrial Area			
54	Capacity building for industrial pollution control and implementation of the CREP in MIDC industrial areas	MPCB	1 year	
55	Hazardous waste management including storage and handling of the waste oil, Lead acid batteries and Recycled Plastics	MPCB	1 year	
56	Feasibility of CETP for the small industries in MIDC areas	MPCB/MIDC/industry association	1 year	
	Urban issues			
57	Municipal Solid Wastes (MSW):	District	1 year	

	Identification of sites for land filing and setting up of waste disposal facility	administration and local bodies		
58	Bio-Medical Wastes (BMW) Surveillance and monitoring	Local bodies and MPCB and medical associations	6 months	
59	Provision of adequate Sewage treatment facilities in urban areas. Phase I: Chandrapur city	Local bodies	2 years	
60	Provision of pollution control arrangements for Slaughter houses	Local bodies	6 months	
61	Identify slum areas having severe air pollution problems due to coal burning and action for mitigation	Local bodies and MPCB	1 year	
62	Developing a public transport system for Chandrapur city.	Local bodies and MSRTC	1 year	
63	**Project on quantification of agriculture run off for the inorganic fertilizers and pesticides residues and related pollution issues**	MPCB	1 year	Outsource
	Institutional capacity Building of MPCB:			
64	Upgrading the present SRO Chandrapur office to Regional office (Chandrapur, Yavatmal and Gadchiroli Districts) and opening a SRO office at Yavatmal	MPCB	3 months	
65	Setting up of regional laboratory at Chandrapur (Shift from Thane)	MPCB	6 months	

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