

Report on Actions taken by MPCB on Hazardous waste Management during 2005-2006

Introduction

The industrial revolution in India and subsequent liberalization policies led to spurt in Indian industrial growth in the past 20 years or so. India has witnessed a significant increase in the production of petrochemicals, pesticides, pharmaceuticals, textiles, dyes, fertilizers, leather products, paint, and chlor-alkali during this period. These industries are known to produce the wastes containing heavy metals, cyanides, pesticides, complex aromatic compounds (such as polychlorinated biphenyls), and other toxics from their production processes. The absence of clean technology regime during the formative day of the industrial growth has been responsible for the hazardous waste generation in India. The lack of hazardous waste collection, treatment and disposal facilities in India compounded the problem of the Hazardous waste management in the country.

There are several hazardous waste hot spots in India which have been responsible for environmental problems. It is estimated that industries in India generate about 4.4 million metric tons of hazardous waste every year. This doesn't include small-scale businesses such as backyard smelters. According to the Ministry of Environment and Forests, the five states viz. Maharashtra, Gujarat, Tamil Nadu Karnataka and Andhra Pradesh generate about 80% of the waste in India. Unsound hazardous waste management practices have caused widespread degradation of the environment and adverse health impacts on Indian communities and industrial workers.

Due to alarming situation caused by dumping of hazardous waste, its generation and serious and irreversible damage, as a result thereof, the environment, flora and fauna, health of animals and human beings, in 1995, a New Delhi-based nongovernmental organization known as the Research Foundation for Science, Technology, and Ecology, approached Supreme Court of India under Article 32 complaining of the violation of Article 14 and 21 of the Constitution of India. The petitioners *inter- alia* relied on Basel Convention which was signed by India in March, 1990 and further ratified in June 1992. The Supreme Court of India had sought information on the amount of hazardous waste imported and generated domestically, as well as how it was being disposed of from the relevant agencies. However, the proper data collection on the hazardous waste was non-existent. In absence of the authentic data it was

difficult for the Apex Court to deal with this matter and hence the Court convened a High Powered Committee on Management of Hazardous Wastes (HPC) under the Chairmanship of Prof. M.G.K. Menon to examine all the matters pertaining to Hazardous waste in depth and give a report and recommendations. The HPC submitted its final report to the Apex Court in April, 1998.

The HPC report has highlighted numerous facets of the hazardous waste generation and handling in India and concluded that no concerted or consistent efforts were made by the enforcement authorities to implement the Hazardous waste (Management and Handling) Rules, 1989. The Apex court considered various recommendations contained in the report of the High Power Committee and issued a very comprehensive order on 14.10.2003 directing all the concerned authorities to take follow up actions on those directives, in a time bound manner. Further, the Apex court also directed appointment of a Monitoring Committee, under the Chairmanship of Dr. G. Thyagarajan, Former Director, CSIR, to oversee the compliance of its directives issued vide order dated 14.10.2003. The Supreme Court also directed the Monitoring Committee (SCMC) to submit quarterly action taken report to the Apex court regarding the compliance achieved by the concerned authorities on the management of hazardous wastes, in the respective states.

Maharashtra Pollution Control Board had immediately geared up its machinery to implement the orders of the Supreme Court of India and took several actions, which have been reported in the 11 ATRs that have been filed by MPCB to the SCMC and also in the Supreme Court of India. These ATRs have also been exhibited on the website of MPCB in accordance with the principle laid down by the Supreme Court that the efforts to manage the hazardous waste necessarily have to be of a promotional, educational and co-ordinating nature. SCMC has visited Maharashtra and assessed the compliance of Supreme Court orders. It has produced five reports on their observation regarding HW management in the State and passed various orders to improve the situation. MPCB has implemented the orders of SCMC by taking various actions as reported in the ATRs. The SCMC has appreciated the steps taken by MPCB to implement the orders of the Supreme Court to manage the Hazardous waste in Maharashtra.

Achievements of MPCB

Web site of Maharashtra Pollution Control Board { <http://mpcb.mah.nic.in> }

MPCB has re-launched the website of Board and its updating carried on daily basis. The size of the website which was 5 MB in January, 2004 has consistently grown and today it is more than 200 MB. MPCB is making all out efforts to up load the information on various activities of the Board to make the information available to the people as a part of Right to Information and is encouraging the people to give suggestions to further improve the information availability. Environmental Information Center has been newly created in the Board for public awareness and assistance. The entire information on hazardous waste management in Maharashtra has been put on the website of MPCB including the Quarterly Action Taken Reports on the direction of the Supreme Court of India in W.P.657/1995. The website has received 133315 till the time of preparing this report which in itself is a record.

Inventorization of Hazardous Waste

Supreme Court had directed prepare the inventory of the hazardous wastes for the purpose of dovetailing it to the CPCB exercise of preparing National Toxic Inventory. Since Maharashtra state is known to generate nearly half of the quantities of the Hazardous wastes generated in the country, preparation of the toxic inventory of the HWs in the state was a gigantic task. MPCB adopted a unique approach involving the mass balance studies of the processes adopted by the industries that generate hazardous waste, to study the HW generation patterns and quantities. The entire study was outsourced and continuously monitored during its tenure through out the state. This approach was appreciated by SCMC.

The HW Inventory Report prepared by the Board has been submitted to SCMC on 25.8.2005 and the report has been 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. The HW Inventory Report is available on the website of MPCB, which is interactive and gives information on each HW generating industrial unit in the state. The copy of this inventory report has been sent to all the Pollution Control Boards/ Committees and all Industry Association and CETPs in Maharashtra, on recommendation of SCMC.

Based on the hazardous wastes inventory, steps have been initiated by MPCB to use the freshly available data on hazardous waste for revision of the authorizations granted to the HW generating units in the state. MPCB gave a wide publicity to this inventory and directed the industries to file returns in Form Nos. 4, 12 and 13 to the Board in compliance with the HW Rules. The Board has also issued separate directions to 4571 industries for non-compliance in respect of filing of the annual HW returns. The work on assessing the applications and returns received from the industries is in progress.

Software developed by MPCB for tracking of Hazardous Waste

MPCB has developed software for keeping a track on the hazardous waste generating units in the Maharashtra and for issuing/ amending the online authorization 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, provide various search facilities to the Users based on various search criteria, enable monitoring of Hazardous Waste Disposal through online filing of the annual returns under form 4 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. The software has been further refined on the basis of the feedback received from the SPCBs and the industries.

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 initiated action against those individual incineration facilities provided by the industries since those incinerators were not complying with emission standards published by the CPCB. MPCB has issued directions to 69 such industries, which have set up incinerators, under Section 31(A) of the Air (P&CP) Act, 1981. MPCB is also carrying out an assessment of all those incinerators before a final decision is taken on their continuance. 16 industries have stopped the incineration facilities and MPCB has directed them not to restart the incineration facility without prior permission of MPCB. 2 industries have been permitted to use the incineration facility set up by them for in house use after verifying that they have installed adequate pollution control equipment and are conforming to the CPCB emission norms.

The incineration of 133 containers of the imported waste oil which was lying at JNPT has been completed and reported elsewhere in this report.

Hazardous Waste Transportation

In response to MPCB's sustained drive, 72 hazardous waste transporters had approached MPCB for authorization and they have since been given authorization under the revised HWs transportation guidelines which were formulated by CPCB on directives of the Supreme Court. MPCB is closely monitoring the activities of these transporters.

Local Area Environment Committee

The findings of the SCMC sub committee in MIDC Tarapur about the performance of their effluent treatment facilities and letting out the toxic effluents in the CETP, MPCB took stringent action against 75 industries. The action taken by MPCB was a mile stone achievement which culminated in the appointment of a Local Area Environment Committee for Tarapur to keep a watch on the industries in that region. Similar actions were taken on the industries in Dombivali industrial area and LAEC was set up to monitor the compliance of the directives of SCMC and MPCB. These committees are playing a very important and crucial role in the pollution prevention and control in those industrial areas. The appointment of LAECs in Maharashtra was a guiding star for SCMC to get such committees appointed for other states like Kerala, Andhra Pradesh etc. These LEACs were invited by SCMC for the 52nd meeting of the Chairman/ Chairpersons SPCBs held at Mumbai on 5th & 6th January 2006 to narrate their functioning and to gear up the vigilance and pollution prevention activities.

Management of Bio Medical Wastes

There are in all 10,672 health care establishments (10 beds or more), which can be covered for regulations under the management of Bio Medical Wastes Rules. However, due to intensive enforcement work, it was possible to bring them in the control regime under BMW Rules. MPCB has granted about 7,987 authorizations including 203 cases which are in the process. The show cause notices have been issued/ being issued to 3,933 units.

The Board has also taken proactive measures in facilitating development of about 34 common facilities for management of BMW in different cities in Maharashtra. The Board has issued directions under BMW rules to these common facilities for strictly maintaining the compliance of environmental standards. A bank guarantee of Rs.50,000/- (rupees fifty thousand only) is also taken by the Board from the common BMW management facilities as a proof of

their intent to comply with the environmental standards and up grade the system wherever necessary, in a time-bound manner.

It is first time in the history of any SPCB in the country that MPCB was invited to provide technical guidance and assistance in Bio medical waste management. The Municipal Corporation of Greater Mumbai invited MPCB to render the services for management of Bio-Medical wastes in this metropolitan city with large number of its own HCEs. MPCB acted as a Project Management Consultant to the Mumbai Municipal Corporation and provided them the technical assistance to set up the common biomedical collection, treatment and disposal facilities in Mumbai. The services rendered by MPCB are reported in the ATR.

Management & Recycling of Lead Acid Batteries

About 150,000 tons of batteries are discarded from automobiles, telecom equipment, railways etc. In compliance with the Lead-Acid Batteries (Management and Handling) Rules, 2001, MPCB took a region wise inventorization of the battery waste generation. The compliance achieved by MPCB in implementing the Battery Rules was reported to the Rajya Sabha Committee on Sub ordinate legislation in February 2005.

The step taken by MPCB to enforce the Rules and the level of implementation was appreciated. The compliance achieved by MPCB is one of the highest in the country in terms of collection of batteries from the dealers and also large consumers. The recovery rate in the State has been 65% from dealers as against the target of 90% given in the Rules. 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.

It is observed that there is still a lack of awareness among the lead acid batteries consumers, dealers, bulk consumers, re-conditioners and assemblers, 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 stake holders to ensure that they comply with the Batteries Rules. 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 in this regard.

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. The scheme was started in 1990. First CETP in Maharashtra came up at Tarapur. This was followed by CETPs at TTC, Navi Mumbai, Dombivali, Taloja, Mahad, Lote Parshuram and other industrial areas. However, due to one reason or the other most of the CETPs were not complying with the standards in terms of effluent quality of treated wastewater at the outlet. As a result, there were several complaints of pollution from various people in the area.

A concerted action was initiated by MPCB to ensure compliance by the CETPs and 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 and time-bound action plans were prepared for each CETP. Work of strengthening and up gradation of treatment units at CETPs has been completed.

CETPs at TTC, Navi Mumbai, Mahad, Badlapur and Roha have completed the work. CETP at Taloja and Dombivali with additional capacity expansion was also completed. The actions taken by the Board on the CETPs has started showing results in terms of operations of CETPs and achievement of the standards.

MPCB was presented on line Total Organic Carbon analysis equipment by the Belgian Government which has been installed at TTC CETP and it is functional since last one year. Having gathered experience on the on line TOC monitoring, there are proposals under consideration of the Board to install this equipment at the other CETPs in the state.

Legal Actions Taken by the Board on CETPs

- **Tarapur:** Tarapur CETP had a limited capacity of only 25 MLD. This was primarily responsible for the pollution in the area. SCMC had directed to up grade CETP at Tarapur to treat the additional quantity of the effluent. 75 industries were closed as a result and the industries association was made to contribute funds for CETP up gradation. The additional capacity CETP which can treat 22 MLD effluents has been completed and commissioned.
- **Mahad:** Adequate pressure was built on the Industry association responsible for setting up of common effluent treatment plant (CETP) and a Bank Guarantee of Rs. 25 lakh was taken from the industries to complete the CETP work. CETP is now completed and commissioned. This CETP has employed the latest technology for the treatment of the effluents.
- **Taloja:** Board identified nearly 58 defaulting industries who were not meeting the standards and actions were taken on them. Industries have started the work of up gradation of waste water treatment plant and it was

completed by June, 2005. The river water quality of the Kasadi river has considerably improved as a result of the Board's action.

- **Dombivali:** The Board took serious note of the 287 defaulting industrial units and had resorted to the closure of entire Dombivali industrial estate for 3 days for the non-compliance of the environmental standards by the CETP. Fine of several lakhs of rupees was levied by the Board. This exemplary action of the Board resulted in the rapid improvement at Dombivali MIDC. Up gradation to CETP to comply with effluent standards has been completed.

Levy of Fine

It was observed that large numbers of industries were storing hazardous waste in their premises in spite of MPCB's repeated warnings and public notices in the News papers. Board therefore decided to take recourse to the provision under Rule 16(3) of the Hazardous Waste (M.&H.) Rules, 1989 (as amended 2003) to levy fine on such defaulting industries. These industries were also found to be non compliant as per the orders of the Supreme Court of India dated 14.10.2003. Therefore, MPCB obtained permission from CPCB to levy fine on those industries and in accordance with the Rules initiated actions against those industries. MPCB is the first Board in the Country to use the penal provisions under the HW Rules and levy fine on the industries.

MPCB had directed 42 industries to pay fine as per Rule 16 (3) of the H.W. Rules for unlawful storage of large quantities of HWs in their premises. They were also directed to send the HWs lying in their premises to CHWTSDFs. MPCB also took necessary action to levy the fine on such industries after ascertaining all the facts and depending upon the merit of each case appropriate amount of fine was recovered from them. MPCB also issued directions to the Regional officers of the Board to take a follow up action and recover the fines from the defaulting industries. MPCB has received a total amount Rs. 33,26,500/- as fine from the defaulting industries till 30.04.2006. The process of identifying the industries who are still illegally storing the HWs in their premises is continued.

The sludge drying beds of the ETPs set by industries are important source of the HWs and therefore MPCB directed the Regional Officers of the Board to ensure that all the industries in their jurisdiction take effective steps to remove the wastes accumulated in sludge drying beds and issue notices to these industries for levy of fine. This has considerably minimized the sludge storage by the industries through out the state. The Board is continuously monitoring the situation and compliance in this regard.

Infrastructure Strengthening

MPCB is a focal point to implement various environmental regulations in the State. Board has established 11 regional and 42 sub regional offices to enforce the environmental regulations and have a chain of fully equipped 6 regional laboratories and a Central Laboratory responsible for providing scientific services for various programs on prevention and control of pollution. Supreme Court has in its order dated 14.10.2003 directed that for the effective implementation of the directions and to regulate the hazardous wastes, it is necessary to strengthen the SPCBs by providing them requisite infrastructure and manpower.

MPCB took series of initiatives to strengthen the infrastructure to deal with multifarious issues concerning hazardous waste management in the State. MPCB has set up a full fledged Hazardous Waste Management division with a Regional Officer in charge of this division and supported by a technical staff. MPCB had received a financial assistance of Rs. 45.00 lakhs from MoEF to strengthen these activities. MPCB also contributed from its own revenue to ensure that the HSMD of the Board does not suffer for the want of funds and the technical staff. The efforts of MPCB to strengthen the HW management net work in the state were appreciated by the Chairman SCMC.

MPCB has also strengthened infrastructure in its laboratories and increased availability of field monitoring equipment and transportation. This was done with an objective of increasing the environmental surveillance and capacity building was carried out from Board's own resources. These improvements have resulted in the increased efficiency and revenue income of the Board. MPCB is now in position to extend its monitoring network and analyze more samples.

Central laboratory of the Board is one of the premier analytical institutions in the State. Considering the need to strengthen the capabilities of the Central laboratory, Board has built a new building at Mahape, Navi Mumbai, which has been inaugurated on 25th of June 2006 and named as Nirmal Bhavan. The new Central laboratory is equipped with high tech analytical equipment and has facilities required for analysis of various parameters, undertaking R&D activities, treatability studies, demonstration plants for effluent treatment, performance evaluation of pollution control systems, calibrations of the equipment, environmental planning studio, exhibition gallery for informal education and mass awareness, training of scientists and engineers of the Board and industry and EDP centre.

Publications

MPCB is required to play a role to create awareness in the society and other stake holders at large as directed by the Supreme Court. Therefore MPCB took steps to publish the orders of Supreme Court of India and the Hazardous Waste (M. &H.) Rules, 1989, as amended, for distribution to all the stake holders and has put these documents on its web site for ready reference of various users.

MPCB had published Guidelines for operation and maintenance of the Effluent treatment plants in November, 2004, since these plants are major source of hazardous waste generation. These are aimed at securing compliance of the environmental standards. These are being put to use through the Consent mechanism by the Board.

In order to facilitate proper implementation of the Hazardous waste Rules, MPCB felt it necessary to classify the hazardous wastes listed in Schedule-II of the Rules so that the applications received by the Board for the authorization are technically assessed, MPCB has published a Reference Manual for application of Schedule II of Hazardous Wastes (M&H) Rules 1989, (as amended). This reference manual is helpful to classify the hazardous chemicals based on their usage / industrial sector. The publication has been sent to all the State Pollution Control Boards, Members of SCMC, Central Pollution Control Board, MoEF and various Government Institutions as a part of awareness creation program of MPCB.

Waste oil Report prepared by MPCB

The Supreme Court of India has extensively dealt with the safeguards in the import of hazardous waste and changes required to regulate the functioning of the units handling the hazardous waste. One such contentious issue is of the import of the waste oil/ used oil in India and the requirement of EST for the re-refining of the waste oil which has attracted a lot of attention of SCMC. MoEF has amended HW Rules making it mandatory for the re-refiners and recyclers to adopt any one of the ESTs defined under the Rule 21 of the said Rules. In order to arrive at the definite conclusion on the requirement of EST for such industries, SCMC appointed a committee to review and recommend economically viable EST for recycling of the waste oil and suggest appropriate changes to further amend the HW Rules. The committee has submitted its report to SCMC however MPCB has certain technical reservations on the observations made in the report and its recommendations. Therefore, MPCB decided to appoint an independent expert to examine all issues related to requirement of EST for re-refining and recycling of the waste oil. The report prepared by MPCB Expert has been submitted to SCMC, CPCB and MoEF to hammer out the contentious issues on EST.

Specific Achievements

NRSA study on identification of illegal HW dump sites outside MIDC areas:

On directions from SCMC to explore the possibilities of using Remote sensing techniques for the identification of illegal HW dumps, MPCB had outsourced the work on identification and quantification of the illegal H.W. dump sites outside MIDC areas to NRSA, Hyderabad. MPCB had signed MoU with NRSA and sanctioned a grant of Rs. 4.42 lakhs for the study on identification of the illegal HW dump sites by using the satellite imageries in Thane district.

NRSA has completed the study and submitted a report on their findings on employing the Remote sensing techniques for the identification of the HW dumps in the and outside the industrial areas at Tarapur, Dombiwali and Ambernath industrial areas. The salient findings of the study are:

- It is possible to identify the waste dump areas for specific sites by using high resolution (< 1 meter) satellite data. Use of mask to eliminate misclassified areas is essential. Coarse resolution data was not found suitable due to smaller aerial extent of the waste.
- Site specific Spectral Libraries need to be developed. The initial step in waste dumpsite identification involves the development of site specific library or spectral database for that site. As the composition of the hazardous waste varies from one site to other and it becomes necessary to know what is on the ground.
- The review of literature shows not many studies have been carried out in this area and also they are limited and specific to mining areas.
- Hazardous and illegal nature of waste classification can be ascertained only through secondary data and ground observation.
- In this type of application, remote sensing is not a stand-alone method. It requires use of multiple data sets from many other sources.
- Some studies carried out internationally has shown High Resolution Hyper spectral data is another alternative for identifying Hazardous waste dumpsites, which needs to be explored.

This report was discussed at the 13th SCMC meeting on 6th January 2006 at Mumbai. SCMC expressed its satisfaction over the findings in the report and directed other states to explore the use of this technique for finding out illegal hazardous waste dumping.

Interstate Transportation of Hazardous Waste for treatment and disposal

Since the hazardous waste generation is not very high in Goa, 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, jointly.

On request of Goa Government and as per 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, 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.

HWs disposal by Airport Authority of India, Mumbai:

The Airport Authority of India, Mumbai, had reported accumulation of the large quantities of the unclaimed / uncleared hazardous chemical goods in the go-down at Cargo complex, Sahar disposal unit CSI Airport, Mumbai. MPCB came to know about this unclaimed cargo through MoEF. MPCB facilitated the disposal of the above unclaimed hazardous goods in TSDF at Taloja. The MWML have agreed to take the entire hazardous cargo for treatment and disposal at Taloja. The AAI was directed by MPCB to dispose of the entire hazardous cargo at CHWTSDF Taloja. Due to continuous persuasion of MPCB, AAI has handed over 4,108 packages (weighing around 30.5 MT) of various categories of hazardous cargo to M/s MWML, Taloja for treatment and disposal.

MbPT Disposal of various consignments of imported wastes by auction as per the directives of SCMC

Several unclaimed consignments of a variety of hazardous wastes lying in the premises of Mumbai Port Trust which were not lifted by the importers. SCMC had visited MbPT area and issued comprehensive directions to dispose off those materials in compliance with the Supreme Court orders. The MbPT has also reported full compliance of the SCMC directives in respect of the HW consignments lying in their area. MbPT has taken effective steps in compliance of the SCMC directives regarding the disposal of hazardous cargo lying in the port area. The sustained efforts of MPCB have paid up in achieving a full of compliance in respect of HWs that were lying at MbPT.

Disposal of the medicines spoiled due to the heavy rains in Mumbai and surrounding areas:

There are several godowns in and around Mumbai which are storing the medicines. However, the unprecedented rains in Mumbai in July 2005 flooded these godowns which resulted in spoilage of the stored drugs and medicines. The godowns in Bhiwandi area were worst affected. A meeting was held by commissioner Food and Drugs Administration to resolve the issue on the disposal of the spoiled medicines. MPCB was consulted on this issue and the directions were given to send these medicines to TSDF at Talaja for land fill and incineration. Accordingly, 2240 Mts. of medicines and drugs, which had lost their intended use properties, have been disposed of at TSDF, Talaja.

Compliance on SC directives regarding Plastic waste Recycling

Government of Maharashtra had promulgated an Ordinance on 27.2.2006 for making the legislation on “ Maharashtra Non-Bio-degradable Garbage (Control). The Government of Maharashtra in the Department of Environment issued notification on Plastic carry bags on 3.3.2006 under MPCB is designated as a competent authority to oversee enforcement of the provisions related to manufacture and recycling and authorized to grant registrations to the plastic bags manufacturing units in Maharashtra under the **Maharashtra Plastics Carry Bags (M & U) Rules, 2006**. MPCB Officers have been directed to enforce the provisions under these separate and new legal provisions of the state Government and submit compliance report as per those Rules. A separate Plastic Cell has been set up at MPCB Head Office in Mumbai to coordinate the actions to be taken under the new Rules. MPCB has issued Public notice on 14.3. 2006 and have sent individual directions to those units who had not obtained registration from the Board and have further directed them not to manufacture plastic bags of less than 50 microns as per the new Rules.

Compliance of SC orders on ship breaking activities in Maharashtra and freezing the activities at the existing level

The ship breaking activity in Maharashtra is limited at Lakri Bunder and Powder Works Bunder at Darukhana in Mumbai Port Trust Area. MbPT has earmarked 19 plots for ship breaking activity in Mumbai. MbPT has assured MPCB that the number of plots for ship breaking in their area shall not be increased in future. Besides, there is no regular allotment of plots to the ship breakers, as is being done in Alang, Gujarat, where the area is under the control of Gujarat Maritime Board. The plots are given to the ship breakers on arrival of the ship for breaking. Generally, smaller ships arrive at Mumbai for breaking. The authorizations have been granted to 27 ship breakers who operate in MbPT area. MPCB is keeping a strict vigil on this activity to ensure that there is no expansion

of this activity at the existing location or on any other coastal stretches of Maharashtra. It has accordingly informed Maharashtra Maritime Board to comply with the direction of the Apex Court in this regard. MPCB has ensured that the ship breaking activities are contained only at the existing location and not expanded in the other coastal areas in the state. This resulted in the compliance of the SC orders on Ship breaking activities.

Illegal HW storage by M/s Golden Chemicals, Dahisar, Mumbai

On receipt of a complaint from Mumbai based NGO, India Centre for Human Rights and Law, regarding illegal storage of huge quantities of hazardous wastes in the their premises and that yellow colored liquid discharge was coming out as leachate from this waste, a detailed survey of the site was carried out by MPCB. Based on the findings, MPCB had issued comprehensive directions under the Environment (Protection) Act, 1986 read with Rules 4, 4A, 8A, 8B and 16 (3) of the Hazardous Waste (M & H) Rules, 1989 (as amended on 2003) to the industry on 4.1.2005 for proper disposal of hazardous waste/contaminated wastes.

Due to efforts of MPCB, the HWs have been removed and disposed of by M/s Golden Chemicals at TSDF Talaja. The company has sent 4069 tons of Chrome bearing waste to CHWTSDF Talaja. The disposal was completed within 5 months. These operations were recorded on video and also photographed during and after the completion of lifting of HWs. as evidence. This case is similar to that of M/s Hema Chemical in Gujarat and Tamilnadu Chromates with a difference that SCMC was not required stepping in and issuing any directions for the removal of the wastes.

Consignments of spoiled Garlic received from China

MPCB had received the request from M/s Wan Hai Lines (India) Pvt. Ltd. Mumbai regarding the disposal of cargo lying uncleared of infected / infested garlic imported from China, which was lying in JNPT premises. Considering the hazardous nature of the cargo (biological hazards involving hazardous micro-organisms). MPCB directed the importers to dispose of the cargo by incineration.

Pivalic acid import case

Ministry of Environment & Forests, Government of India had sought opinion of MPCB to allow import of Pivalic acid in India by a chemical industry in Thane Belapur Industrial area at the behest of National Environment Agency (NEA) of Singapore. The above referred chemical is a by-product of the pharmaceutical industry and was imported for using it as a raw material by the above mentioned industry. However, it was noticed that the industry was actually

trading the imported Pivalic acid and therefore MPCB gave an opinion that the chemical should not be allowed to be brought in the country. The Apex Court directives are clear regarding the import of the wastes and the decision of MPCB was in consonance with those directives. It may be mentioned that SCMC is considering a Zero Waste Import Policy to ban the imports of the wastes in India.

Disposal of unclaimed and spoiled bulk drugs lying at Custom warehouses in Mumbai.

The Indian Customs Authority at Mumbai Port Trust had approached MPCB to permit them to dispose of the unclaimed and spoiled bulk drugs imported in India since those chemicals had lost their intended properties due to storage beyond the expiry date. MPCB coordinated the efforts of the Customs Authority and ensured that these drugs are incinerated at MWML, Talaja.

Sending back the consignments of Garbage received at JNPT

It was brought to the notice of MPCB that consignment of garbage and waste plastics had landed at JNPT, Navi Mumbai in the name of waste papers. MPCB examined those containers with the help of Jawahar Customs and ensured that the containers are sent back to the place of their origin (Amsterdam). MPCB, at the request of MoEF, also examined the subsequent consignments of waste paper received at JNPT and submitted a detailed report to the Ministry for UK Environment Protection Agency. The containers which had already reached at the destination of importers at MIDC Kalmeshwar near Nagpur were also examined and appropriate directions were issued by MPCB to the industry so that the future consignments do not contain the waste plastics.

Proposal to appoint designated officers of the Board at the JNPT and MbPT

Considering the difficulties being faced by the Custom Authorities to identify the hazardous waste consignments and the spate of requests received from them. MPCB has decided to establish the full-fledged offices at JNPT and MbPT to keep continuous vigil on the activities regarding the import of hazardous waste and hazardous chemicals at these ports. The proposal is awaiting the clearance of the Board.

Maharashtra Environmental Infrastructure Development Company- A proposed initiative of MPCB to establish a SPV for development of environmental infrastructure in the State of Maharashtra.

Maharashtra Pollution Control Board has prepared a proposal for the creation of Maharashtra Environmental infrastructure Company (MEIDC) to mobilize the resources, through public/ private partnership to carry out the environmental management works in the State of Maharashtra, as necessitated

by various legislations on the environmental protection. The proposal of creation of MEIDC is under consideration of the State Government. The proposed MEIDC is expected to achieve the ambitious goals of creating world class environmental infrastructure facilities in the State of Maharashtra and further catalyze investment in this sector. This is a unique initiative taken by MPCB and is in fairly advanced stages of being established in the state. The total investment required to implement the environmental infrastructure projects viz. up gradation of the existing CETPs, setting up of new CETPs, MSW management, hazardous waste management projects, Bio-medical waste management project, pollution control in distilleries sector, sewage treatment plants and other common environmental infrastructure projects(CEI) in Maharashtra.

Maharashtra Environment Infrastructure Development Company Limited (MEIDCL) will be established as an entity that has, as its sole mandate and focus, development of projects for establishing CEI in the state of Maharashtra. It is envisioned as an instrument to:

- provide a transparent oversight mechanism for CEI facilities
- enhance implementation capacity of entities operating in this sector
- catalyze a larger flow of resources into the environmental sector through introduction of more efficient and innovative financial instruments
- provide seed capital to set up demonstrative CEI projects
- assist in technology transfer for creation of cost effective CEI
- provide funding channel to Industrial clusters and smaller ULBs for CEI

Role of MEIDCL on Common Environmental Infrastructure is to:

- promote develop and implement CEI in the State of Maharashtra following a prioritization approach keeping in view objectives of compliance, competitiveness and protection/remediation of natural resources
- seek regional long term solutions that will be cost effective and sustainable. Regional approach will facilitate entry of large players and cutting edge technology providers from the private sector, especially from international arena
- mobilize required finance from the State govt., private sector, markets as well as from international investors through competitive structuring
- develop standard documentation and guidance for preparation of quality CEI projects. Finance project preparation through a Project Preparatory Fund (PPF).

- enable the State to take advantage of provisions under various Multilateral Environmental Agreements and processes such as Clean Development Mechanism
- include training and capacity building as a part of the development assistance package to ensure effectiveness and sustainability of investments. Create a cadre for operators and managers of CEIs
- build a knowledgebase based on actual implementation and operational experience and make its use in refining and optimizing the CEIs
- act as a regulator for user fees for CEI. Resolve operational disputes
- influence creation of CEI in the future project infrastructure development e.g. at industrial estates, new townships, hill stations, tourism destinations etc
- serve as a catalyst or platform for coordination on CEI related activities across key line departments like environment, energy, water, industries, tourism, urban and rural development to reduce overlaps and bring in synergy
- provide policy level and planning inputs to the State Government on CEI

Money Spent for implementing the SC Orders after 14.10.2003

Activities carried out	Money Spent in Rs. Crore
Establishment of TSDF at Taloja	42.30
Establishment of TSDF at TTC	19.35
Establishment of TSDF at Ranjangaon	18.00
Establishment of TSDF at Butibori	15.00
One time SLF at Tapapur	05.75
Satellite station at Mahad	00.05
Satellite station at Aurangabad	00.05
Expenditure incurred for shifting of the illegal hazardous waste from various industrial areas	00.21
Expenditure of lifting of hazardous waste stored into Mahesh Chemicals and Sludge from Mahad CETP Sump	01.15
Appointing the staff , Purchasing computers and other machinery for HWM cell	00.45
Outsourcing the work of Inventorization	00.126
Outsourcing the work of filing of returns	
Expenditure incurred on developing the software for tracking of the hazardous waste	
Expenditure incurred on publishing the reference manual on schedule II of Hazardous waste (M&H) Rules 2003	
Expenditure incurred on identification of illegal hazardous dumps in Thane district of Maharashtra	00.05
Expenditure incurred on public notices in the news paper regarding management of hazardous waste	00.51
Expenditure incurred by individual industries for displaying the boards on the gate of industry Rs. 5000 per industry (Total industries display the board 3800)	01.90
Expenditure incurred on preparing proposal for institutional capacity building of the MPCB (CRISIL STUDY)	00.30
E-governance/ computerization of the board	00.12
Expenditure incurred on re-launching and maintenance of MPCBs website	00.045
Expenditure incurred by the M/s Golden Chemicals for lifting of the chrome bearing hazardous waste from their premises	00.62
Expenditure incurred on sampling of 209 containers lying in the various CFS at JNPT	00.02
Expenditure incurred on procurement of instruments for strengthening of laboratories	03.52
Expenditure incurred on Construction of the new building of	15.00

the Central Laboratory at Mahape	
Expenditure incurred on waste oil study carried out by MPCB	00.02
Levy of fine collected by MPCB from defaulting industries	00.34
Bank Guarantee forfeited from defaulting industries	00.01
Expenditure incurred on incineration of hazardous waste by individual industry M/s Bayer Crop Sciences Ltd	09.55
Expenditure incurred on incineration of hazardous waste by individual industry M/s Clariant Ltd	00.93
Expenditure incurred on developing the CBMW TSDF in Maharashtra 35 facilities	14.00
Expenditure incurred on temporary storage of hazardous waste	03.50
Expenditure incurred on review of performance of the 10 CETPs in Maharashtra	0.035
Expenditure incurred on preparation of Model Tender Documents for MSW Management by the ULBs	0.10
Expenditure on Review of standards for land disposal of treated effluent for irrigation - Aurangabad	0.30
Expenditure incurred on assessment of status of soil, plant and ground water following land disposal of Industrial waste water at MIDC Butibori, Nagpur	0.05
Expenditure incurred on the publication of the books on Hazardous waste Rules, ETP Guidelines, SC orders, Plastic Rules, Panchganga River Pollution Report, Environment Maharashtra, Financial assistance to publication of Environmental awareness Journal in local language	0.25
Expenditure incurred by the industries for disposal of the hazardous waste generated by them at CHWTSDF, Taloja	71.06
Expenditure incurred by the industries for disposal of the hazardous waste generated by them at CHWTSDF, TTC	00.012
Expenditure incurred by non industrial sources for destruction of hazardous waste (JNPT, MbPT, AAI, Customs, Post, discarded medicines from Warehouses etc)	00.811
Expenditure incurred by MWML Taloja for capping second cell	23.00
Expenditure incurred by MWML Taloja for constructing third cell	
Expenditure incurred by MWML Taloja for establishing second incinerator	
Total	248.489

File of Photographs

Soft copy will be submitted at the time of SCMC meeting.

Hazardous wastes quantities before and after 2003 and their Graphic representation

Difference between inventory of hazardous wastes in 1989 and 2005

A detailed note was submitted to SCMC with 7th ATR in August, 2005 about the difference in the quantities of hazardous wastes assessed in 1996-97 as per HW Rules, 1989 and those reported in the MPCB report on Re – inventorization submitted in August, 2005 as per the amended HW Rules, 2003. The 1996-97 inventories included the wastes viz. **fly ash, biological sludge from sugar & food products industry and slag from iron and steel industry as Hazardous wastes**. However, during the 2005 re-inventorization exercise, these wastes have not been accounted. The findings of MPCB in on Hazardous waste inventory prepared in 1996-97 and in 2005 are respectively given in the tables below.

Table 1
Findings of Hazardous Waste Inventory – 1996-97
(carried out by MPCB Officers)

Number of Districts	33
Districts having Hazardous Waste Generation	33
No. of units generating Hazardous Waste	3,953
Quantity of Hazardous Waste Generated (TPA)	
▪ Recyclable	8,47,436 TPA
▪ Incinerable	5,012 TPA
▪ Landfillable	11,55,398 TPA
Total	20,07,846 TPA

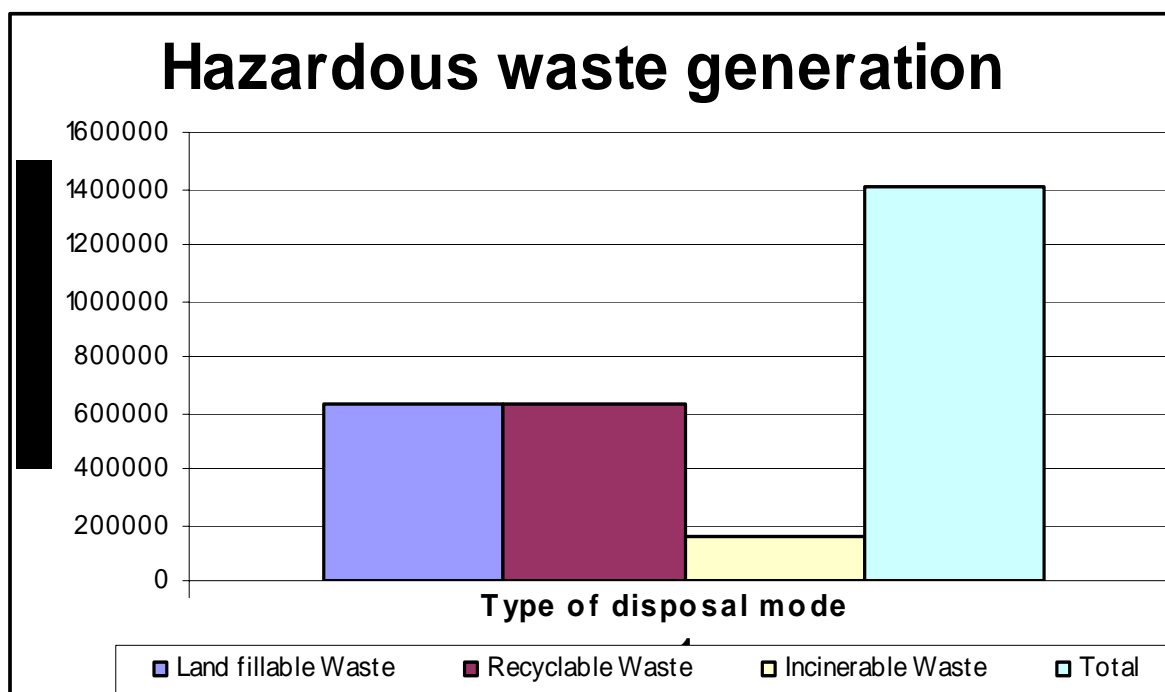
Table 2
Quantity of Waste Generated Category Wise
(as per HW Rules 1989)

Waste Category No.	Waste Category (*)	Quantity (TPA)
1	Cyanide Waste	3,394
2	Metal Finishing Waste	7,156
3	Waste containing water soluble chemical compounds of Lead, Copper, Zinc, chromium, Nickel, Selenium, Barium & Antimony.	11,708
4	Mercury, Arsenic, Thallium and Cadmium bearing wastes.	2,821
5	Non-halogenated hydrocarbons including solvent.	6,930
6	Halogenated hydro-carbon including solvents	2,413
7	Wastes from paints, pigments, glue, varnish and printing ink.	5,672
8	Wastes from Dyes and Dye intermediate containing inorganic chemical compounds.	27,775
9	Wastes from Dyes and Dye intermediate containing organic chemical compounds.	29,595
10	Waste oil and oil emulsions.	14,778
11	Tarry wastes from refining and tar residues from distillation or pyrolytic treatment.	4,900
12	Sludge arising from treatment of waste waters containing heavy metals, toxic organics, oils emulsions and spend chemical and incineration ash.	16,51,972
13	Phenols.	7,768
14	Asbestos.	239
15	Wastes from manufacturing of pesticides and herbicides and residues from pesticides and, herbicides formulation units.	2
16	Acid/Alkaline/Slurry	21,761
17	Off-specification and discarded products.	1,52,540
18	Discarded containers and Containers liners of hazardous and toxic wastes.	56,422
	Total	20,07,846

The region wise estimated quantities of the HWs of all Regions in Maharashtra as per 2005 inventorization study are given below in the table.

Sr.No.	Region	Quantity of HW (MT/Annum)			Total
		SLF	RCL	INC	
1	Navi Mumbai	47,047.2	13,958.0	50,991.0	1,11,996.2
2	Pune	43,944.9	19,178.6	14,802.6	77,926.1
3	Nagpur	74,693.8	45,674.4	11,358.4	1,31,726.6
4	Thane	92,873.3	31,698.5	7,261.5	1,31,833.3
5	Aurangabad	7,753.0	17,513.0	3,370.4	28,636.4
6	Raigad	1,03,450.1	59,027.0	22,078.0	1,84,555.1
7	Kalyan	58,363.0	1,81,092.0	7,019.8	2,46,474.8
8	Nashik	23,899.1	29,179.0	8,107.0	61,185.1
9	Amravati	9,782.8	2,684.0	454.0	12,920.8
10	Kolhapur	19,326.4	16,150.0	12,814.0	48,290.4
11	Mumbai	1,15,857.9	1,54,711.3	14,023.4	2,84,592.5
12	Non-Industrial Sources	28,958.8	56,665.7	1,718.4	87,342.9
	TOTAL	6,25,950.3	6,27,531.5	1,53,998.4	14,07,480.2

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



Status of CHWTSDFs in the State of Maharashtra

Sr. No	Location	Capacity	Status
1	Taloja, Raigad	SLF: 120000 TPY Incinerator: 2.0TPH	SLF is in operation since (2002) Incinerator is in operation since November 2004. The first cell of TSDF is capped. Post closure monitoring is being carried out by the facility operator. The Second cell of TSDF is under use currently capped due to the monsoon. MPC has given consent to construct the 3 rd and 4 th cell at Taloja and the construction of third cell is under progress.
2	TTC, New Mumbai	SLF: 10000 TPY	SLF is in operation since (2004) The cell being used currently for the disposal shall be closed before the monsoon. The disposal operation shall resume after the monsoon withdraws.
3	Buti Bori (Nagpur)	SLF:50000 TPY Incinerator: 2.0 TPH	MIDC has reported that plot for TSDF is allotted and TSDF is being established on BOO basis by M/s S.M.S Ltd. Nagpur. EIA of TSDF is completed. MPCB has given consent to establish for this TSDF. It is proposed to employ Plasma Technology for the HW treatment and therefore revised financial approval and technical appraisal of the project is under process. The site has been notified and the site notification is issued by the MIDC.
4	Ranjangaon (Pune)	SLF: 50000 TPY Incinerator: 2.0 TPH	MIDC has allotted a plot for the development of the TSDF. The site is being developed by M/s S.M.S Ltd. on BOOT basis. The site has been notified and the site notification is issued by the MIDC.
5	Shendre (Aurangabad)	SLF: 50000 TPY Incinerator: 3.0 TPH	MIDC has reported that the proposal to develop satellite transfer station at Shendre (Aurangabad) is approved by CEO, MIDC. The plot admeasuring 10 acres is handed over to M/s S.M.S Ltd.
6	Mahad	Incinerator: 3.0 TPH	MIDC has reported that the proposal to develop satellite transfer station at Mahad is approved by CEO, MIDC. The plot admeasuring 10 acres is handed over to M/s MWML.

Illegal Dumps of Hazardous Waste

Sr. No.	MIDC area	Illegal dump (Approx. Qty., MT)
1.	MIDC, TTC (A & EL Block)	200
2.	MIDC, TTC (C Block)	100
3.	MIDC, Dombivali	180
4.	MIDC, Dombivali Phase-II	30
5.	MIDC, Ambernath (Chikhloli & Morivali)	17
6.	MIDC, Ambernath	08
7.	MIDC, Badlapur	15
8.	MIDC, Tarapur	40,000
9.	MIDC, Patalganga	200
10.	MIDC, Roha	200
	Total	40950

The sustained efforts of MPCB resulted in complete removal of the illegal toxic dumps in the MIDC industrial estates and the disposal at CHWTSDF, Taloja. The detailed figures of the quantity of the wastes shifted from various industrial areas are given in following table. The costs incurred on this account are separately given in this report.

Shifting of Illegal hazardous Waste from MIDC Industrial Areas

Sr.No	MIDC Industrial Area	Qty. of H.W shifted to TSDF Taloja (MT)
1	MIDC Dombivali	1403.515
2	MIDC Ambernath	72.137
3	MIDC TTC	432.100
4	MIDC Taloja	177.610
5	MIDC Roha	No HW
6	MIDC Patalganga	No HW
7	MIDC Badlapur	No HW
	Total	2085.595

CETP Sludge

CETPs in the MIDC areas are the major sources of H.W. generation in the form of ETP sludge stored in the sumps. The estimated quantities of the HWs. lying in MIDC, CETP sumps in different industrial areas was as follows

Sr. No.	Name of Industrial Area	Qty. of H.W. (M.T.) Approx.
1	Mahad	1747
2	Roha	200
4	Taloja	200
5	Badlapur	15
6	Ambernath	25
7	Dombivali (I & II)	210
8	TTC, Thane Belapur	200
9	Patalganga	200
	Total	2797

MIDC has completed the operations to remove and dispose of the waste lying in the CETP sumps at CHWTSDF Taloja.

Rehabilitation of illegal HW dump sites

SCMC during its visit to MIDC Tarapur in June 2004 observed an illegal dump of mixed toxic waste on the open plot in the MIDC industrial estate. SCMC had also directed MPCB to create a SLF for this toxic waste at the same site. Accordingly, MIDC was directed to contain approx. 1.5 lakhs MT of HW. This consisted mostly ETP sludge; ash etc. accumulated over a period of last 10 years or so. The work on establishing the SLF at Tarapur with the technical assistance from NEERI has been completed and all hazardous waste (i.e 1.5 lakh MT) dumped in MIDC and out side of MIDC area in Tarapur has been completely disposed of in the SLF. MPCB monitored the progress through out its completion and the same was periodically reported to SCMC. The post closure monitoring for next 5 years is being done by the operator of the SLF. MPCB is keeping a strict vigil in MIDC areas to stop illegal dumping of the HWs. LAEC Tarapur is also assisting MPCB in its efforts to curb illegal toxic waste dumping.

Incineration / Disposal of 133 and 213 containers at JNPT

Status of 133 Waste oil Containers lying at JNPT

The Supreme Court orders dated 14.10.2003 extensively deals with the goods illegally imported by the importers and lying at various ports and ICD and CFS. The Supreme Court of India Subsequently passed several orders with regard to the imported waste oil that was lying at various CFSs in JNPT area. As per the Supreme Court of India direction the entire consignments of 133 containers containing illegally imported waste oil have been sent to CHWTSDF at Taloja for incineration. This operation was completed by 31.12.2005 under the supervision of the Maharashtra Pollution Control Board and assisted by the Jawahar Customs. Mumbai Waste Management Ltd. began the incineration of waste oil and has completed about 45% of the waste oil incineration. The remaining waste oil drums are stored at MWML CHWTSDF and the incineration is in progress. In compliance with the directives of Supreme Court of India. MPCB has also directed to JNPT to dispose off the contaminated soil from the imported waste oil drum storage area in the JNPT premises. A proposal for remediation of this contaminated site, after removal and disposal of the oil contaminated soil, is under consideration of the JNPT and MWML.

MPCB is monitoring the progress in this regard on continued basis and has posted a Sub Regional Officer at MWML Taloja to exclusively oversee the incineration operations. The progress in this regard has been communicated in the ATRs submitted to SCMC.

Status of 209 Waste oil Containers

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

28-nos of Composite Samples (24-nos of Samples from 137- loaded containers, 4-nos from 57-destuffed Containers, Total-190) were collected in presence of CFS representatives and Customs Appraisal officers. These collected samples were sent to CBCB Laboratory, New Delhi for analysis as per Schedule-5 & 6 of Hazardous Waste (M&H) Rules, 1989. It is informed by CPCB that they do not have the facilities to analyse the required parameters. CPCB has been requested that the samples may be sent by them to appropriate laboratory and got analyzed and report submitted to MPCB for onward transmission to SCMC and Supreme Court of India.

Impediments

High Court Stays Appellate authorities

1. A case of HW disposal at Raksha Pharma, Mahad

SCMC during its visit to MIDC Mahad had noticed illegal dumping of hazardous waste brought from the other state in the premises of a closed unit of M/s Raksha Pharmaceuticals Ltd. In spite of the best efforts by MPCB and MIDC to get this waste removed and disposed of at CHWTSDF, the matter has not progressed well. The industrial unit is closed and is in possession of Saraswat Bank on account of the loans taken by the company. The industry was reportedly bringing wastes from Karnataka for disposal in their premises. MPCB traced that the waste was coming from M/s Strides Research and Speciality chemical Ltd. Plot No.-120 A & B, Industrial Area Baikampady, New Mangalore, Karnataka. The issue of illegal transportation of HW from Karnataka to Maharashtra for disposal without valid permission from MPCB was taken up with KSPCB by MIDC. SCMC and KSPCB have verified the facts of trans-boundary movement of HW from Karnataka to Maharashtra on 6 and 7th September 2005 and confirmed that M/S Strides Archo Labs Mangalore had sent the HWs to Raksha Pharma for disposal by labeling the material as a byproduct.

MIDC reported that M/s Raksha Pharmaceuticals also did not deposit an advance Rs 2.50 lakhs with MIDC as per directions of SCMC to lift the illegally disposed of HW in their industrial plot. Due to the current legal position MIDC was not able to comply with the directions of SCMC to remove the waste. This is a fit case on which orders of Supreme Court to the financial institutions may be sought so that industries do not take cover of the loans taken from the Banks to bypass the compliance of SC orders on hazardous waste management.

2. Lifting of Waste oil from Maharashtra by M/s Bharat Oil Company Ltd., Ghaziabad

M/s. Bharat Oil Co.(India), Ghaziabad, Uttar Pradesh, was found to be lifting used/waste oil from BEST, Mumbai, MSEB STPS, Chandrapur and Western Coal Field, Chandrapur without valid authorization from MPCB. MPCB ordered stoppage of this illegal activity of the above company. M/s. Bharat Oil Co.(India) therefore moved the Mumbai High Court against the orders of MPCB. However, High Court of Judicature at Mumbai Bench upheld the actions taken by MPCB on the company and ordered the petitioner not to carry out the lifting of the used/ waste oil without valid authorization from

MPCB and disposed of the petition. This is a landmark judgment in favor of the actions taken by MPCB.

Subsequently, M/s Bharat Oil Co.(India) Ltd. did apply for authorization however, several deficiencies were noticed in their application and the compliance by the company was not found satisfactory. Therefore, MPCB had refused the Authorization for reception, collection and transportation of the used oil to this company. The company preferred an appeal against the authorization refusal order of the Board before the Appellate Authority appointed by Govt. of Maharashtra under HW (M&H) Rules, 2003. The Appellate Authority is yet to give its decision on the appeal filed by the company.

3. Requirement of EST for the Waste oil re-refining and recycling

Ministry of Environment and Forests have amended the Hazardous waste (M.&H.)Rules, 1989 in 2003 making it mandatory to use the environmentally sound technologies while recycling and re-refining the used oil and waste oil. The amended rules also prescribed the technologies to be used for this purpose and further directed the re-refiners and recyclers to comply with those rules.

Considering the complex nature of the issues involved in this activity, Supreme Court Monitoring Committee (SCMC) in its 9th meeting held on 28th March, 2005 at Central Pollution Control Board, Delhi, decided to constitute a Sub-Committee to consider the issues relating to waste oil and used oil. Accordingly, the Ministry of Environment & Forests constituted a Sub-Committee of the SCMC on 29th March, 2005(Shivaram Committee).The terms of reference of this committee were as follows:

- i) To estimate availability of waste oil and used oil in the country.
- ii) To review and recommend economically viable Environmentally Sound Technology (EST) for recycling of waste oil.
- iii) To review the present capacity of recycling in the country and recommend appropriate EST plant capacities for waste oil and used oil.
- iv) To review the registration process since the notification of Hazardous Waste (Management & Handling) Amendment Rules, 2003.
- v) To suggest appropriate amendments to the Hazardous Waste Rules.

Sivaram committee has submitted its report to SCMC which was discussed in the SCMC meetings. The recommendations made in the

Sivaram committee and proposed changes to be effected in HW Rules are not acceptable to MPCB on the technical grounds, which have been communicated to Chairman SCMC.

MPCB is of the view that waste oils derived from bunker fuels generally discharged by ships at Indian ports, as per the obligations of the MARPOL Convention, are different from distillate fuels and contain several determinate and indeterminate components. Therefore, these oils cannot be directly used for any application unless these are re-refined or recycled by employing the EST since simple physical separation is not sufficient to bring waste oil in to use as a fuel. It is also commonly observed that the recycled products are, more often than not, put to uses other than those permitted by the regulations. Additionally, it appears that no care is taken to ensure that these products comply with original product specifications. In countries abroad, it is a general practice that the recycled products are permitted for heat generation if the hazardous components are within regulation limits; else they are incinerated. Present practice in India and the requirement of EST for the re-refining or recycling of those oils is therefore seen to be at considerable variance from international norms and therefore needs special attention including some additional regulations or monitoring or control. There is also considerable apprehension that the recycled products either go for adulteration or are sold directly for use as non-specification products to unwary or even uncaring customers. This is a serious concern and it is a considered opinion of MPCB that those issues need to be addressed in detail in order to protect the interests of the environment and public health which may be affected due to contact with waste oil or any of the products that may arise out of the recycling of waste oils as carried out in the country's recycling units.

To address those issues, MPCB independently commissioned a study on "Recycling of waste oil-Prevalent Practices and Technology requirements" While conducting this study the recommendations in the final report of the Supreme Court Monitoring Committee's sub-committee on waste oil under the Chairmanship of Dr. S. Sivaram was also considered. The report, while addressing a plethora of technical issues on this subject, clearly underlines the need to adopt EST for the re-refining and recycling of the waste oil sludges from ships at Ports under MARPOL Convention.

The dichotomy of the views on the need of EST for the recycling of the waste oils and grant of registrations by CPCB under the existing legislation to those who do not conform to the EST requirement for the waste oil is going to be serious impediment in implementation of the HW Rules. Therefore, SCMC may have to address these issues carefully on the technical grounds considering the grounds realities. It is also worth that no institute in the country has the facilities for testing all the parameters specified in Schedule 6 of the Hazardous Wastes (M.&H. Rules, 1989) (as amended,

2003). In absence of the monitoring and testing facilities, it is difficult to properly ensure the compliance the HW Rules.

Unless removed, these will continue to be the serious impediments in implementation of the HW Rules in the letter and spirit.

Strengthening of the MPC Board

Institutional Capacity Building of Maharashtra Pollution Control Board A Report prepared by CRISIL Infrastructure Advisory

One of the directions issued by the Hon'ble Supreme Court is regarding strengthening of the State Pollution Control Boards by properly equipping and staffing them. The Apex Court has recognized that the strengthening of the State Pollution Control Boards is a pre-requisite to achieve the goals environment management and pollution control.

Armed with the orders from the Apex Court, Maharashtra Pollution Control Board had engaged the services of CRISIL Infrastructure Advisory to work out a detailed plan required for the institutional capacity building of the MPCB. The CRISIL carried out an in depth study of the existing infrastructure at MPCB in consultation with the technical experts and technical and non technical employees of the Board and prepared a plan. They also reviewed the functioning of the other Pollution Control Boards in the country and regulatory agencies abroad to suggest practical ways and means to strengthen the capacity of the Board to face the challenges arising out of implementation of various environmental legislations. The stakeholders from industries and NGOs also contributed in developing this plan further by giving their constructive criticism and comments. The study also considered the reports and recommendations made in the past for the strengthening of the State Pollution Control Boards. The present report therefore not only addresses organizational issues but also gives recommendations regarding the changes required in the style of the functioning of the MPCB in future to meet the regulatory needs.

The CRISIL report on Institutional Capacity Building of MPCB has been submitted to Hon'ble Supreme Court of India, Central Pollution Control Board (CPCB), Ministry of Environment & Forests, Govt. of India and Dept. of Environment, Govt. of Maharashtra for their consideration. The State Government is yet to take a decision on the recommendations made in this report in compliance with the orders of Supreme Court of India.

**Workshops, Seminars and Conferences
organized by various agencies for Training of the
Staff of companies on hazardous waste**

07.02.2004	Organized seminar on Hazardous waste Management at Pune University, Pune for creating awareness.
15.03.2004	National Workshop on e- waste organized by CPCB at New Delhi. Member Secretary presented a paper on Policy issues & Indian Scenario on the subject.
17.03.2004	Member Secretary, MPCB participated in the workshop organized by C.I.I. on Environmentally sound technologies for the used oil/ waste oil Re-refining/recycling industry at New Delhi and presented in the workshop the scenario on this industry in Maharashtra.
18.03.2004	Work shop was organized at Small Industries Service Institution, Mumbai in which the directives of the Apex court were informed to the participants and they were told to comply with the directives.
13.04.2004	A presentation was made on the Bio-Medical Waste Management in Maharashtra to the officers of Greater Mumbai Municipal Corporation and they were informed about the directives of Apex court regarding B.M.W. and the compliance desired by the Apex court.
23.04.2004	A training program was organized on the Hazardous Waste Management in Mumbai.
27.04.2004	An interactive session was organized in collaboration with ICMA. Various Chambers of Commerce and the Industries Associations participated in this program which inter-alia covered the compliance desired by the Apex court on the directives in WP 657/1995 on the Management of Hazardous Waste.
15.5.2004 & 16.5.2004	Seminar organized by Lions Club Pune on Sustainable Development. MPCB collaborated with the organizers to create awareness in the public on hazardous wastes, Supreme Court directives and their implementation in the state.

2.6.2004	Participation in the Expert Group meeting organized by The Energy Resource Institute, Delhi to discuss the National policy on e-waste management in India.
7.6.2004	MPCB sponsored a National seminar on Sustainable Development and Emerging Technologies organized by Riverhine Institute of Environmental Management, Pune as apart of awareness creation on hazardous waste management among the industries, educational and research institutes, universities, industries and the local people.
14.6.2004	MPCB participated in the seminar organized by Tata Memorial Hospital, Mumbai on Bio-Medical Waste management and addressed various issues on the practices, policies and implementation of the BMW Rules and the roles of the regulators and the generators of the BMWs in fulfilling the obligations under those rules.
15.6.2004	As a part of awareness generation program, MPCB participated in the meeting of the battery dealers from Navi-Mumbai region organized by battery manufacturers M/s SF. The issues pertaining to the implementation of the Used Batteries (M. &H.) Rules and prevention of backyard smelting of lead were discussed.
20.7.2004	MPCB participated in the workshop on Sound environmental management of the used oil/ waste oil at Navi Mumbai organized by Confederation of Indian Industries.
27.7.2004	MPCB participated in a workshop cum meeting organized by All India Institute of Local Self Government and state Urban Development Department on Waste to Energy projects. Presented MPCB view on utilization of industrial wastes for energy generation and the directives of the Hon'ble Supreme Court of India.
28.7.2004	Meeting with Association of Medical Consultants regarding the management of Bio-medical wastes.
27.8.2004	Attended meeting of the Working Group appointed by CPCB on e-waste management at Delhi
4.9.2004	AILSG organized meeting with MPCB and NGOs for the discussion on environmentally friendly technologies for the treatment of BMW and implementation of BMW Rules and processing options.
26.10.2004	Medical Education and Drugs Department Govt of Maharashtra and Director Medical Education and Research organized workshop on Bio-medical waste management held at Tata Memorial Hospital in view of

	the directions given by MPCB to the hospitals and medical care institutions.
3.11.2004	Participation as a Member of the Expert group in the workshop on E-Waste Management at CPCB Delhi
26.11.2004	Training workshop on Bio medical waste management at Tata Memorial Hospital Mumbai The participation included the medical professionals, and health department officials
6.12.2004	ICMA Chemical Emergencies workshop at Mumbai which covered the emergency situations during transportation and disposal of the HWs
9.12.2004	Secured Landfills and Environment management Conference held at Indian Institute of Technology, Mumbai
10.3.2005	Delivered Key note address on hazardous waste management and environmental pollution in Maharashtra at a conference organized by SIES College, Nerul, Navi Mumbai,
22.3.2005	Workshop on the Status of management of BMW organized by "Bombay First" at Mumbai
05.01.2006	52 nd Conference of the Chairman and Member Secretaries of the all pollution Control Board and Pollution Control Committees in the Country at Hotel Retreat, Malad, Mumbai to discuss strategic issues regarding pollution control and functioning of regulatory authorities.
9.2.06	National Conference on Environment Technology organized by Dept .of Life Science, University of Mumbai. Lecture on Hazardous waste management
22.03.06	Workshop on Chemical Waste management at Mumbai
24.03.06	Conference on Health& Environment at Indian Habitat Centre, Delhi- deliberations on HW management in Maharashtra
12.04.06	Workshop on HWM at Goa
20.04.06	Workshop on Green Technologies for hazardous waste treatment held at Goa Engineering College
08.06.2006	National conference on hazardous waste management organized by Vidharbha Productivity council with collaboration of Maharashtra Pollution Control Board and Gujrat Pollution Control Board

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