# CHAPTER – V

# ACHIEVEMENTS ON HAZARDOUS WASTE MANAGEMENT IN MAHARASHTRA

During the period 2004-2005, MPCB has been intensely involved in the endeavor for environmentally sound management of hazardous waste in the State of Maharashtra. The strong and exemplary actions under taken by the Maharashtra Pollution Control Board to streamline the enforcement of Hazardous Waste Rules, compliance to the directives of the Honorable Supreme Court of India and Supreme Court Monitoring Committee(SCMC) issued from time to time after their visits to Maharashtra have been appreciated by the Supreme Court Monitoring Committee.

## 5.1 Common Hazardous Waste Storage, Treatment and Disposal Facilities (CHWSTDF) :

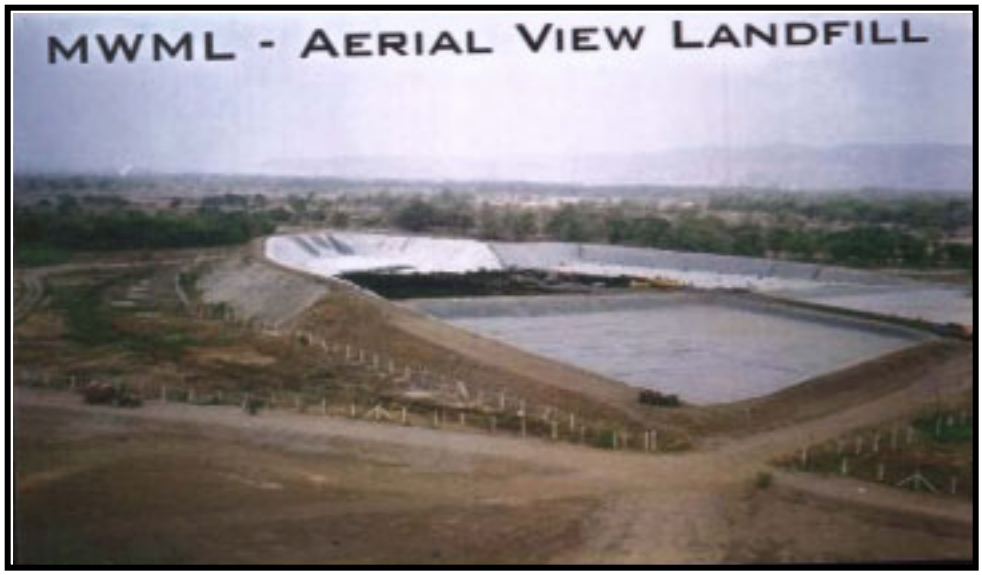
Maharashtra Pollution Control Board was instrumental in setting up a world class CHWTSDF facility Taloja (in District Raigad) and in TTC, Thane Belapur. Details of these facilities are given below :

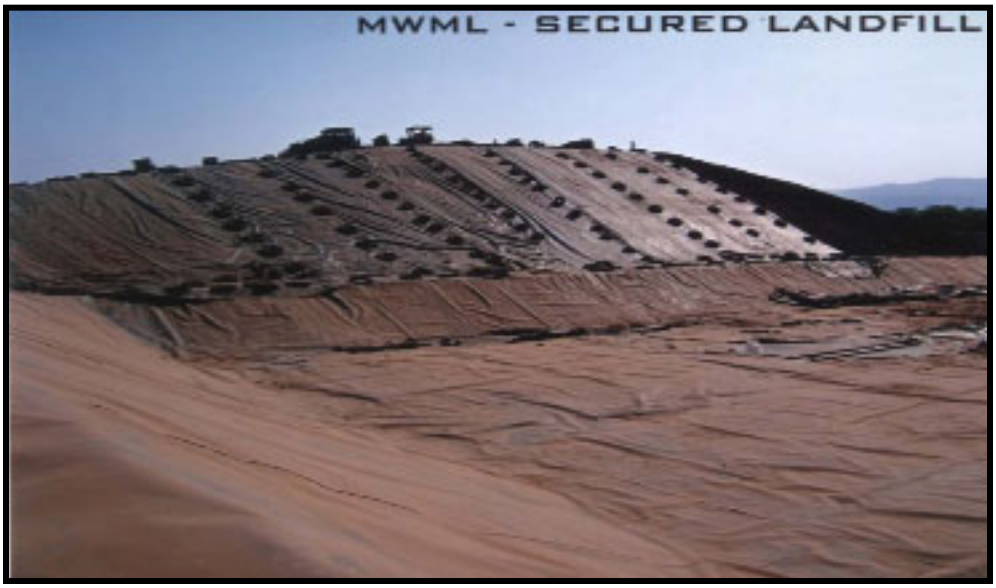
### 5.1.1 Taloja TSDF :

This is a completely integrated TSDF having Secured Landfill (SLF) facility for hazardous waste and separate Incinerators for Biomedical Waste and Hazardous Waste. World class laboratory facilities comprising GC-MS, AAS etc are provided for analysis of the wastes and to decide treatment philosophy as per CPCB criteria.

#### 5.1.1.1 Secured Landfill Facility at Taloja :

The facility has been created on a 100 acre plot of land by Mumbai Waste Management Ltd. The first cell of the SLF has a capacity of 120,000 Tons and is operational since 2002. The SLF is a double liner facility with leachate management system. It has been designed in accordance with CPCB criteria. Presently, the first cell of the SLF is being capped. The Taloja location was selected because of its proximity to Hazardous Waste generating units in Thane / Raigad and Navi Mumbai Regions.




**Salient Features of SLF for Hazardous Waste at Taloja TSDF :**

- Plot Area 100 Acres
- Secured, Engineered landfill having Double Liner System
- Leachate collection system provided to collect/treat leachate
- First cell of landfill has a design capacity 120,000 MT

- Closed, well ventilated storage area of 5,000 sq.m provided for storing HW
- Own Containers for safe transportation of Hazardous Waste
- Facility exists for complete analysis of waste as also to decide pre-treatment necessary.
- Facility exists for physico-chemical treatment by solidification

#### 5.1.1.2 Hazardous Waste Incineration, Facility at Taloja :

An incinerator capable of destroying the Hazardous Wastes with adequate air pollution control measures has been established at Taloja TSDF site. This facility has become operational since November 2004.

The incinerator is of Rotary Kiln design supplied by GEC, Alsthom. The incinerator has been designed, supplied and erected to meet all CPCB criteria for Common Hazardous Waste Incinerators. The salient features of the incinerator are given below :

**Salient features of incinerator for Hazardous waste at Taloja**

- Capacity : 2.0 TPH
- Type : Rotary Kiln with refractory lining
- Residence Time in Secondary Chamber : 2.2 seconds
- DRE : 99.99% or 99.9999% for halogens
- CE : 99.99%
- APC System : Bag filter followed by two stage Scrubbers
- Design operating Temp ($^{o}$C) : 1200 ± 100 $^{o}$C

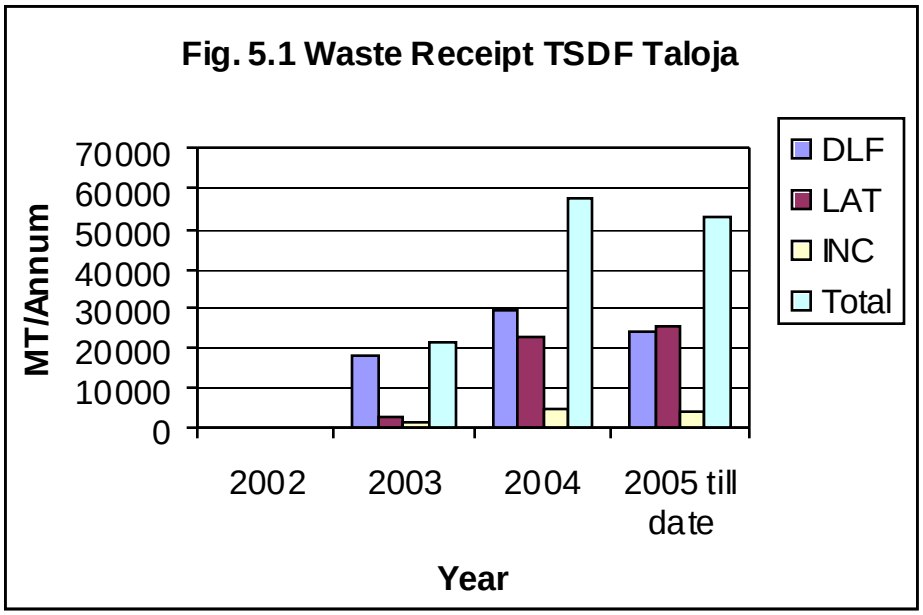
**Table 5.1** below shows the wastes received at Taloja TSDF over the last three years and year wise growth in number of Members of this facility.

**Table 5.1**

**Performance of Taloja TSDF**

**(upto 30th June 2005)**

| Year | No. of Members | Hazardous Waste Received at Taloja TSDF (MT) | | | |
|---|---|---|---|---|---|
| | | Direct Disposal in Landfill (DLF) | Treatment & Disposal in TSDF (LAT) | Incineration (INC) | Total |
| 2002 | - | 49 | - | 81 | 131 |
| 2003 | 62 | 17,824 | 2,443 | 1,081 | 21,348 |
| 2004 | 1,263 | 29,793 | 22,766 | 4,681 | 57,240 |
| 2005 till date | 573 | 23,645 | 25,652 | 3,682 | 52,979 |
| **Total** | **1,898** | **71,311** | **50,861** | **9,525** | **1,31,698** |




As can be seen, the continuous follow-up by MPCB has paid dividends and there has been a rapid increase in waste quantity received and membership at the TSDF site.

### 5.1.2 TSDF of Trans Thane Creek Waste Management Association (TTCWMA) :

Trans Thane Creek (TTC) Industrial area, developed by MIDC in the sixties is one of the largest industrial zone in the country. It has all types of industries including chemical petrochemical, pharmaceutical, sheet metal, engineering, dyeing and printing, breweries, electronic and paper numbering more than 1500 industrial units. Out of these, about 250 industries generate hazardous waste. A Secured Landfill facility for hazardous wastes has been constructed in TTC Industrial Area to facilitate waste disposal from TTC and Mumbai Regions.

The SLF at TTC has been developed over a 70,000 sq.m plot allotted by MIDC. The Rapid EIA and Public Hearing was conducted in 2002-03 and the site has become operational since March 2004. The first cell of the SLF has a design capacity of 25,000 Tons.

The facility has a laboratory to perform fingerprint analysis only. For any detailed analysis and for deciding treatment methodology, wastes are sent to MWML facility at Taloja. There is a well ventilated waste storage facility of 300 sq.m. at the site.

The Secured Landfill Facility at TTC is being managed jointly by the TTC Industries Association and MWML.

**Salient Features of SLF for Hazardous Waste at TTC WMA :**

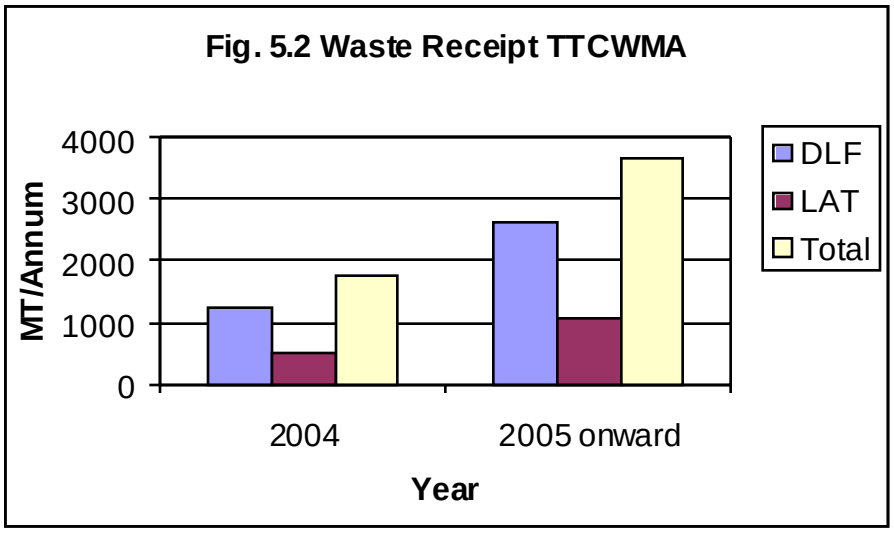
- Plot Area 20 Acre
- Developed in Abandoned stone quarry
- Engineered Landfill having Double liner system
- Leachate collection system provided to collect leachate
- First cell has Design Capacity of 25000 MT/ constructed over 1 Acre area
- Storage space of 300 sq.m to store waste
- Own containers for safe transportation of Hazardous Waste
- Facility exists for physico-chemical treatment by solidification

**Table 5.2** below gives Membership status and details of hazardous waste received at TTC WMA since it became operational.

**Table 5.2**

**Performance of TSDF at TTC WMA (upto 30th June 2005)**

| Year | No. of Members | Hazardous Waste Received at TTC WMA (MT) | | | |
|---|---|---|---|---|---|
| | | Direct Disposal in Landfill (DLF) | Treatment & Disposal in TSDF (LAT) | Incineration (INC) | Total |
| 2003 | 726 | -- | -- | -- | -- |
| 2004 | 184 | 1253 | 524 | NA | 1777 |
| 2005 onward | 7 | 2619 | 1057 | NA | 3676 |
| **Total** | **917** | **3872** | **1581** | **NA** | **5453** |




Here also, the waste quantity for disposal is showing an increase since it became operational. In case of TTC WMA, most of the operating units in TTC became members of the facility even before the facility became operational. Hence, the Membership figure is highest in 2003.

### 5.1.3 New CHWTSDF Facilities Planned and their Status :

Considering the voluminous Hazardous Waste generation in the State of Maharashtra, the two TSDFs are grossly inadequate to cater to the needs of treatment, storage and disposal of the Hazardous Waste from different regions of the state. Therefore, it is necessary to create such infrastructure in other industrial areas. The proposals to set up TSDF at MIDC Buti Bori, Nagpur and Ranjangaon, Pune have been accorded sanctions and the EIAs of these sites have been completed. These facilities are expected to become operational during 2005 and will completely eliminate the needs of storing the Hazardous Waste by the industries in those regions. Two more TSDFs to be established at Mahad and Shendre are in advanced stages of planning. MPCB has been interacting with Goa SPCB for establishing a TSDF either at Lote Parshuram or at a suitable location in South Konkan. This would be possibly a joint venture between Goa and Maharashtra.

**Table 5.3** below presents details of various CHWTSDF facilities planned in the State and their current status.

**Table 5.3**

**Status of and details of New CHWTSDF Planned**

| Sr. No. | Location | Capacity | Status |
|---|---|---|---|
| 1 | Buti Bori (Nagpur) | SLF : 50000 TPY Incinerator : 2.0 TPH | The letter of Award for Buti Bori TSDF was issued in June, 2004. The Rapid EIA for site has been completed. The project proponents are in the process of submitting application for Authorisation and consents from MPCB and for conducting the public hearing. After this process is completed, site notification will be issued by MIDC. MIDC has earmarked 30 Ha. of land for TSDF. The final allotment of land will take place after successful completion of public hearing. |
| 2 | Ranjangaon (Pune) | SLF : 50000 TPY Incinerator : 2.0 TPH | The letter of Award for Ranjangaon TSDF issued in June, 2004. The Rapid EIA for the site has been completed. The project proponents are in the process of submitting application for the authorization and consent from MPCB and for conducting the public hearing. After this process is completed, the site notification will be issued by MIDC. The final allotment of land will take place after successful completion of public hearing. |
| 3 | Shendre (Aurangabad) | SLF : 50000 TPY Incinerator : 3.0 TPH | RFP was invited by MIDC however there was no good response. MIDC proposes to discuss the issue with the Expert committee to take a final decision in the matter. |
| 4 | Mahad | Incinerator : 3.0 TPH | RFP was invited by MIDC however, there was no good response. MIDC proposes to discuss the issue with the Expert committee to take a final decision in the matter. |

## 5.2 Removal of Hazardous Wastes from Illegal Dump Sites :

Illegal waste dumping in and outside the industrial areas has been an issue of great concern in Maharashtra. The Honorable Supreme Court has directed that illegal and/or unauthorized dumping of hazardous wastes shall be cleared and the waste shall be sent to secured landfill (TSDF). In this regard, MPCB has adopted a three pronged approach to ensure the compliance of the directives of the Apex Court to scientifically manage the waste disposal

### 5.2.1 Hazardous Waste lying in the Premises of Industries :

The problem of hazardous waste inside the industrial premises has several dimensions enumerated as under :

- MPCB has adopted a distance criteria whereby units at >100 km from the TSDF are allowed to store their waste within their premises
- It was noticed that some inoperative units had accumulated large quantities of waste within their premises or were allowing their premises to be used for storage / dumping of Hazardous Waste.
- Some industries were found to not operate their ETP's effectively i.e. without addition of chemicals in order to save on effluent treatment / disposal cost and on hazardous waste disposal cost. This also resulted in malfunction of the CETP in the area due to overloading.

- In some areas industries had accumulated waste inside their premises over the years and had not disposed off the same even after CHWTSDF at Taloja / TTC became functional.

MPCB initiated following actions concurrently to tackle this issue :

- MPCB issued directions to more than 30 industries as per Rule 16(3) of the Hazardous Waste Rules for levy of fine for illegal storage of large quantity of hazardous waste in their premises and directed such units to send the waste to CHWTSDF immediately. MPCB has received payment of fine from four industries totalling Rs. 24 lakhs. Some industries are seeking additional time and /or requested for review in the matter of payment of fines.
- It has been observed that the issuance of directive to the industries and levy of fines for not taking their waste to TSDF's has had a very positive impact on disposal of the Hazardous Waste. From the figures of wastes received at the TSDFs, it is evident that these industries have started sending Hazardous Waste to the TSDF's **(Table 5.1 / 5.2)**. MPCB is also continuously monitoring the actions being taken by the industries to send the wastes to TSDFs, through its field staff. The Board is taking further necessary actions on the recovery of the fines from the defaulting industries.
- Through continued vigilance sampling during day time and surprise night checks the performance of individuals ETPs and CETPs is being regularly monitored. Defaulting industries (who are not found to treat their effluent effectively) are being issued directions under sections 33(A) of the Water (Prevention and Control Pollution) Act 1974, and the Hazardous Waste (Management and Handling) Rules 1989 (as amended 2003), regarding disposal of ETP sludge to CHWTSDF at Taloja. For continued violators, more stringent actions such as closure of units have been taken. In case of CETPs found to be not meeting the standards and when it was not possible to identify individual units causing such incidents, entire industrial estates have been issued

closure directions. The industries in such cases are allowed to restart only when they submit time bound action plan with Bank Guarantee for completion of modification /up gradation work. For units showing very slow progress/ no progress, the Bank Guarantees have been encashed.

- In case of closed industrial units, pursuant to the SCMC directives, MIDC was asked to trace the owners and/or get permission to lift, transport and dispose of the Hazardous Waste lying in these units to TSDF. Although initially reluctant to lift waste from within the industrial premises, MIDC has now obtained permission from competent authority for lifting, transportation and disposal of Hazardous Waste lying inside two industrial units viz M/s Mahesh Chemicals and M/s Raksha Pharmaceuticals at MIDC, Mahad.
- MPCB has also issued a circular directing all Regional Officers to ensure that all industries in their jurisdiction take effective steps to strengthen the Sludge Drying Beds properly, as also to ensure that the sludge is not stored in the industrial premises for more than 90 days irrespective of sludge quantity. Regional officers have also been asked to take strict action on defaulters and levy fines/penalties for non-compliance.

### 5.2.2 Hazardous Waste lying in MIDC Industrial Areas :

In past, MIDC had earmarked some plots for disposal of non-hazardous solid wastes. However, these plots have now become illegal dump sites for Hazardous Waste over a period of time due to lack of vigilance monitoring by MIDC.

One such prominent dump was at MIDC Tarapur, where approximately 1.5 lakh tons of waste was dumped haphazardly in an unscientific manner. This Hazardous Waste consists of ETP sludge, ash etc accumulated on the vacant plot over last ten years. A SLF with double HDPE liner is being established which will cap this waste effectively. The SCMC has been monitoring this work continuously and is satisfied with the progress. In addition, MPCB has now

formed a Local Area Environment Committee of citizens in the area to ensure that no new illegal dumping takes place in the area.

Similarly, Local Area Environment Committee have also been set-up in Mahad and Dombivali, which have number of small scale chemical manufacturing units.

- In addition, MIDC has been asked to lift the Hazardous Waste from illegal dump sites in MIDC areas and send the same to TSDFs, based on directions received from SCMC. The progress of work is being continuously monitored by MPCB.
- MIDC has now issued a circular to its officers to be more vigilant and protect the vacant areas in MIDCs.

The information on approximate quantities of illegal Hazardous Waste dumps in various MIDC areas (including waste stored in closed industrial units) and wastes lifted by MIDC till April,05 are given below :

**Table 5.4**

**Status of Illegal Waste Dumps in MIDC Areas**

| Sr. No. | MIDC Industrial Area | Estimated Illegal waste dump Quantity (MT) | Waste lifted by MIDC & transported to Taloja (MT) (as on 30th April 05) |
|---|---|---|---|
| 1 | MIDC, TTC (A & EL Block) | 200 | 432.100 |
| 2 | MIDC, TTC(C Block) | 100 | |
| 3 | MIDC, Dombivali | 180 | 1403.515 |
| 4 | MIDC, Dombivali phase II | 30 | |
| 5 | MIDC, Ambernath (Chikholi & Morivali) | 17 | 72.137 |
| 6 | MIDC, Ambernath | 08 | |
| 7 | MIDC, Badlapur | 15 | No HW |
| 8 | MIDC, Tarapur | 40,000[1] | * |
| 9 | MIDC, Patalganga | 200 | No HW |
| 10 | MIDC, Roha | 200 | No HW |
| 11 | MIDC, Taloja | NA[2] | 177.610 |
| | **Total** | **40950** | **2085.595** |

Note : 1) Waste dump to be converted to SLF by capping.
2) No estimate available on Hazardous Waste dumps for MIDC Taloja

### 5.2.3 CETPs :

CETPs are necessary secondary back-up for treatment of industrial effluents before discharge to environment. CETPs are one of the major source of Hazardous Waste in the form of ETP sludge stored in the sumps. The SCMC has also directed MPCB to ensure satisfactory functioning of the CETPs and ensure quality of treated effluent. Through continued follow-up action, MPCB has taken up the issue of improvement of CETP performance and removal of CETP sludge with MIDC and industries associations in the area. Due to such continued followed up action, maximum quantity of CETP sludge from MIDC collection sumps in various industrial areas have been removed to the satisfaction of SCMC.

**Table 5.5**

**Status of sludge lying in CETP sumps in Different Industrial Area**

| Sr. No. | Name of Industrial Area | Estimated Qty of HW (MT) | | Sludge lifted by MIDC (MT) as on 30th June 05 |
|---|---|---|---|---|
| | | (MPCB) | (MIDC) | |
| 1 | Mahad | 1747 | 3500 | 1050 |
| 2 | Roha | 200 | 1600 | -- |
| 3 | Taloja | 200 | -- | -- |
| 4 | Badlapur | 15 | -- | -- |
| 5 | Ambernath | 25 | NIL | -- |
| 6 | Dombivali (I & II) | 210 | -- | -- |
| 7 | TTC, Thane Belapur | 200 | 25 | -- |
| 8 | Patalganga | 200 | -- | -- |
| | **Total** | **2797** | **5125** | **1050** |

Also, performance of CETP's is being closely monitored through strict vigilance monitoring. Non-performing CETPs such as those at Tarapur and Lote Parshuram have been given limited time period for upgradation with strict penalties for non-compliance. Bank Guarantees have also been taken from industrial units connected to these CETPs.

A new 22 MLD CETP has been planned to be established in MIDC, Tarapur. The 1st phase of the CETP has become ready now in record time. Similarly, other CETPs (such as Taloja / Mahad / Roha / Lote Parshuram) have given their undertaking to meet MPCB norms in a time bound manner.

The Local Area Environment Committee set up in Dombivali and Tarapuir area has also been asked to check performance of CETP and check compliance with other directives of SCMC.

### 5.2.4 Hazardous Wastes Lying Outside MIDC Areas :

An innovative effort has been made on the directive of SCMC to detect illegal Hazardous Waste dump sites in Thane district. MPCB has involved NRSA, Hyderabad to identify illegal waste dumps in the area. NRSA study has been financed by MPCB by sanctioning Rs. 4.42 lakhs. The work has already begun and expected to be completed in next four months. Depending on the results, the scope of this study may be extended to other Hazardous Waste generating areas.

The Airport Authority of India, Mumbai, had reported accumulation of large quantities of unclaimed /uncleared hazardous chemical goods in their godown at Cargo complex, Sahar disposal unit CSI Airport, Mumbai. MPCB facilitated the disposal of these unclaimed hazardous goods in TSDF at Taloja, as mentioned in the previous ATR. The MWML on persuasion from MPCB have agreed to take the entire hazardous cargo for treatment and disposal at Taloja.

There was complaint against M/s. Golden Chemical Pvt. Ltd., Dahisar, Mumbai that the industry was storing huge quantities of hazardous wastes in their premises. The details, regarding the hazardous waste storage by M/s. Golden Chemical Pvt. Ltd., were reported in the 5th ATR to Supreme Court Monitoring Committee. Comprehensive direction under the Environment (Protection) Act,1986 read with the Rules 4,4A,8A,8B and 16 (3) of the Hazardous Waste

(M & H) Rules, 1989 (as amended on 2003) were issued by MPCB to the industry on 4.1.2005 for proper disposal of hazardous contaminated waste. The clean up work is under progress and the company has sent 4068.725 tons of Chrome bearing waste to CHWTSDF Taloja as on 20.04.2005.

Several consignments of hazardous wastes were lying in the premises of Mumbai Port Trust, as these were unclaimed by the importers. SCMC had visited MbPT area and issued comprehensive direction to dispose off such materials to comply with Supreme Court orders. These consignments included used lube oil (4 Consignments). MWML,Taloja has now agreed to lift the oil for incineration without levying additional charges for handling the containers. A confirmation has been received from MbPT in this regard and MbPT is obtaining the approval for the expenditure to be incurred on this account from the Competent Authority. Two lots of Nickel waste /Nickel ash consignments have already been sold to M/s Hydromate and cleared for disposal. However, there are no takers for the Nickel Chrome and ash consignments and hence steps are being taken by MbPT to send this material to MWML Taloja for final disposal in TSDF. Fourteen consignments of Zinc scrap /Zinc ash have been auctioned and delivered to different parties following proper manifest system. Offers were invited by MbPT for clearing the six consignments of Battery scrap as directed by SCMC. The offer made by M/s Tandon Metals was accepted by MbPT and the delivery of the material has already started. One consignment of metal scrap (Lead residue waste) has also been cleared.

**5.3 Clean technology for re-refining /recycling of used oil /waste oil :**

The Honorable Supreme Court had directed that re-refining/recycling of used oil/waste oil shall be done only through application of clean technology. As per Rule 21 of the HW Rules, 1989, and its amendments, it is mandatory for all industries engaged in recycling /re-refining of the waste /used oil to use only clean technology for re-refining and reuse/recycling activities within six month from the date of publication of amendment rules on May 21, 2003 failing which the registration of such units shall cease to be valid. Further, the SPCBs are

required to submit compliance report on this issue within three months to Central Pollution Control Board.

MPCB had issued a Public Notice in the leading news papers for the information of all concerned regarding provisions under the rules and the Apex Court directives in this regard. In addition, MPCB suspended all authorizations of defaulting units. Member Secretary appointed an Expert Committee for verification of compliance in terms of adoption of clean technology in the process of re-refining and recycling. The committee comprises of experts from University Department of Chemical Technology of Mumbai University, Central Pollution Control Board, Industry Association, Maharashtra Pollution Control Board Member and Regional Officer (HQ), MPCB. The Committee has started functioning.

Due to the tough stand taken by MPCB, the Recyclers made hectic moves to shift to Environmentally Sound Technologies as is apparent from **Table 5.6.**

**Table 5.6**

**Status of Oil Recyclers / Reprocessors in Maharashtra**

| Year | Oil Recyclers approved by MoEF | | | |
|---|---|---|---|---|
| | Used oil No. of units | Reprocessing Capacity | Waste Oil No. of units | Reprocessing Capacity |
| 2002-03 | 17(+) | 56,532 | -- | -- |
| 2003-04 | 2 (#) | 6,010 | 1 (#) | 15,000 |
| 2004-05 | 6 (*)(#) | 37,200 | 7 (#) | 1,88,250 |

(+) : having old acid clay process
(#) : having Environmentally Sound Technology
(*) : Includes 3 units having both used / waste oil reprocessing capacities

Both the ports viz. JNPT/ MbPT have been directed to auction/sale the waste oil/used oil and other wastes listed in Schedule 4 only to the actual users /recyclers registered with CPCB. Through the painstaking efforts of MPCB, the disposal of the waste oil /used oil lying unclaimed by the importers at JNPT for several years has started. MPCB was able to fully comply with SC and SCMC directives on this important issue.

The Ministry of Environment and Forest, Govt. of India has further amended the HW Rules,1989 w.e.f. from 19.7.2004 vide notification no.S.O.No.826 (E).An extension of six months has been granted under those revised rules to the recyclers/re-refiners to set up the EST/ESM within 6 months i.e. up to 31.12.2004.MPCB is taking action in accordance with directives of SCMC and the revised HW Rules in this regard and monitoring the progress in the matter.

**5.4 Implementation of Guidelines for Transportation of Hazardous Waste:**

According to the Honorable Supreme Court order, transportation of hazardous wastes is to be done strictly as per Rule 7 of hazardous waste (M & H) Rules 2003 and the guidelines issued by the Central Control Pollution Board in that regard . In compliance with order of the Apex Court, MPCB issued directions to all hazardous waste generators, auctioneers, buyers, sellers, transporters and all other concerned involved in the transportation of hazardous wastes that they must comply with the CPCB guidelines failing which MPCB shall initiate legal action under the Environment (Protection) Act,1986. Further, pending verification of the compliance of the guidelines, MPCB revoked authorizations issued to transporters of hazardous wastes. Public Notices were also issued to this effect by MPCB in leading news papers to create awareness among the stakeholders regarding compliance of the SC directives.

In response to MPCB's sustained drive, 43 hazardous waste transporters approached MPCB for authorization and they have since been given authorization under the revised Hazardous Waste transportation guidelines.

MPCB is periodically organizing campaigns, through its Regional offices, to create awareness among the transporters and also monitoring the compliance of the conditions imposed in the authorizations issued to them.

**5.5 Show cause notice to Auctioneers :**

As per Hazardous Waste Rules, Waste oil/used oil and other wastes listed in Schedule 4 is to be sold or auctioned only to those recyclers registered with CPCB and possessing EST and ESM. In order to regulate the auction of such materials in the State, show cause notices were issued to 17 auctioneers/bulk consumers.

MPCB had issued show cause notices to BEST Undertaking, (MCGM), Mumbai and Maharashtra State Road Transport Corporation, Mumbai and its regional depots in the State, for disposal of the used oil/waste oil in conformity with the directives of the Supreme Court of India. Accordingly, BEST undertaking has applied to MPCB for consent and authorization and the same is under consideration. Since Maharashtra State Road Transport Corporation is observing mandatory criteria applicable for auction of hazardous waste viz. used/waste oil, non-ferrous metal wastes and lead acid batteries, no action was initiated against MSRTC.

**5.6 Awareness program :**

Programs for mass awareness, public participation and information dissemination are taken up. Print and electronic media and NGOs are also involved.

Periodically, notices are being issued in the print media to inform the actions that are necessary for compliance of directives of the Apex Court. A Public Relation Officer has been specially appointed on contract basis for co-ordination

of activities and establishment of rapport with press and electronic media. The web site of MPCB has been re-launched and updated continuously. The details given in Action Taken Reports (ATRs), submitted by MPCB to SCMC, have been already put on the website for the benefit of the public in compliance of the Right of Information Act.

Consequent upon the discovery of the explosives in the imported steel scrap and an explosion at the steel factory in Ghaziabad, Uttar Pradesh, MPCB had alerted its Regional Officers to check the steel factories in Maharashtra using the imported scrap as raw material. Letters were also sent to JNPT and MbPT directing them to inform MPCB about any suspicious or contaminated steel scrap landing in these ports. A Public notice was also issued inviting the attention of the importers and users of such scrap that they should not under any circumstances violate the HW Rules.

MPCB has supported a private initiative to publish a magazine **"Paryavaran Sevak"** dedicated to creation of environmental awareness in local language. Till date, six issues of this magazine have been published.

MPCB has issued public notice in the newspaper throughout the state that illegal dumping of hazardous chemical containing empty containers /drums/ plastic bags shall be treated as an offence and industries, traders, re-users, recyclers have been directed to carry out disposal of such goods in a scientific manner so as to prevent hazard to human health as well as animals in the state of Maharashtra .

**5.7 Display of information regarding authorization :**

Directions are issued to industries for display of information regarding authorization granted. Public Notice to this effect has been issued through leading newspapers in the State directing all concerned to ensure compliance by the Court orders.

The SCMC team had also issued directions that setting up of the display boards by the industries must be ensured by MPCB. So far 2431 industries have reported compliance of this directive. Some of the industries are closed due to various reasons. The efforts were stepped up to ensure the compliance by the remaining industries .SCMC had also directed MIDC to put up display boards at the illegal dumpsites so that industries do not resort to continue dumping of wastes at these places. The directives of SCMC have been complied with as reported by MIDC.

**5.8 Ship-breaking activity :**

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 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. Authorizations have been granted to 27 ship breakers who operate in MbPT area.

The process of issuing authorizations to ship breakers in Maharashtra has been restricted and steps have been taken to monitor the ship breaking activity as per the Apex Court directives. Mumbai Port Trust has been directed to adhere to the directives of the Apex Court while permitting the ship breaking activity.

There are no other ship breaking areas in other coastal districts of Maharashtra.

The directives of the Apex Court in this regard are being strictly adhered to and enforced by MPCB. MbPT is directed to ensure that the ship breaking activity does not commence unless MPCB physically confirms that the ship beached for braking is decontaminated and all documents are carefully verified. MPCB also monitors the ship during the breaking process and the hazardous wastes are sent to the TSDFs.

The MbPT has reported that no permission has been given for breaking the Defence / Warship at MbPT during the period 2001-2005. The number of ships broken at MbPT is given in **Table 5.7** below :

**Table 5.7**

**Ship Breaking in Mumbai Port Area**

| Year | No. of ships broken |
|---|---|
| 2001-2002 | 63 |
| 2002-2003 | 62 |
| 2003-2004 | 57 |
| Nov-04 to Jan-05 | 11 |
| Feb-05 to April-05 | 09 |

## 5.9 Lead Acid Batteries Management :

MPCB is enforcing the Batteries (Management and Handling) Rules, 2001 published in 16.5.2001 which regulates lead acid batteries with specific responsibility assigned to manufactures, importers, re-conditioners, assemblers, dealers, recyclers, auctioneer, customers and bulk consumers of the batteries. In this regard Board had given wide publicity in newspapers in Marathi and English way back in April, 2004 stating that compliance of the Rules shall be achieved by all concerned and compliance reported on/before 30th June and 31st December, every year.

It is noticed that there are re-conditioners and assemblers of Lead Acid Batteries whose scale of operations differ widely. MPCB had issued directions to 29 such industries that are identified as defaulters.

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

The Rajya Sabha Committee on Sub-ordinate Legislation visited Maharashtra to review the implementation of the Batteries Rules on 7.2.2005 and a detailed presentation was made before this committee. The information collected by MPCB from the Battery Dealers from different regions of Maharashtra is given in **Table 5.8** below :

**Table 5.8**
**Information on purchase / Returns of Lead Acid Batteries – Industrial Users**

| Sr. No. | Name of the Region | Total No. of lead acid batteries purchase | | | Total No. of lead acid batteries for return/sale | | |
|---|---|---|---|---|---|---|---|
| | | 2001 2002 | 2002 2003 | 2003 2004 | 2001 2002 | 2002 2003 | 2003 2004 |
| 1 | Mumbai | 8799 | 9019 | 9003 | 962 | 941 | 1937 |
| 2 | Navi-Mumbai | 1283 | 1347 | 2265 | 1087 | 1053 | 1778 |
| 3 | Thane | - | 285 | 2495 | - | - | 90 |
| 4 | Kalyan | 400 | 500 | 570 | 215 | 288 | 348 |
| 5 | Raigad | 2355 | 2450 | 2631 | 4304 | 4249 | 4242 |
| 6 | Nasik | 4218 | 6571 | 7539 | 2910 | 4805 | 5641 |
| 7 | Pune | 6003 | 11900 | 26501 | 2531 | 4450 | 17716 |
| 8 | Kolhapur | 1323 | 803 | 840 | 502 | 372 | 392 |
| 9 | Nagpur | 8121 | 11901 | 13842 | 1186 | 1764 | 2562 |
| 10 | Aurangabad | 2959 | 1085 | 1670 | 871 | 838 | 1117 |
| 11 | Amravati | 8556 | 9864 | 11124 | 2493 | 2866 | 3507 |

Apart from the major battery manufactures, there are new lead acid battery importers who have obtained registration from Ministry of Environment and Forest under the Rule 4 of the HW Rules for the sale of lead acid batteries in India. There are 15 such importers of new lead acid batteries in State of Maharashtra. Out of this importers,14 importers have failed to submit undertaking and half yearly returns to the Board. Hence MPCB has issued show cause notices to these importers on 20.1.2005 and 22.02.2005, respectively, directing them to comply with the mandatory requirements under the Battery (M&H) Rules, 2001. The

response from these units is awaited. MPCB shall take necessary action on the defaulters based on merits of each case.

In the State of Maharashtra, the major bulk consumers of lead acid batteries are Maharashtra State Road Transport Corporation (MSRTC), Maharashtra State Electricity Board (MSEB) and Airport Authority of India, Military establishments in and around Mumbai, Municipal Transport (BEST) and Railways. From the information gathered by the Board, it is seen that these bulk consumers generally auction their used lead acid batteries as per the Hazardous Wastes (Management & Handling) Amendment Rules, 2003 only to the authorized recyclers /refiners having EST technology along with valid registration from CPCB. The information collected by MPCB from the Bulk Battery Consumers is given in **Table 5.9** below.

**Table 5.9**

**Information on Purchase / Returns of Lead Acid Batteries by Bulk Consumers**

| Sr. No. | Name o the Region | Total No. of lead acid batteries purchased | | | Total No. of lead acid batteries for return /sale | | |
|---|---|---|---|---|---|---|---|
| | | 2001 2002 | 2002 2003 | 2003 2004 | 2001 2002 | 2002 2003 | 2003 2004 |
| 1 | Mumbai | 13581 | 12648 | 9007 | 23292 | 16133 | 10001 |
| 2 | Navi-Mumbai | 125 | 100 | 171 | - | 466 | 120 |
| 3 | Thane | 1129 | 1134 | 1222 | 1450 | 908 | 1327 |
| 4 | Kalyan | 72 | 114 | 118 | 72 | 114 | 118 |
| 5 | Raigad | 511 | 325 | 432 | 754 | 467 | 594 |
| 6 | Nasik | 50 | 165 | 320 | 35 | 130 | 162 |
| 7 | Pune | 2425 | 1936 | 2069 | 690 | 2049 | 2192 |
| 8 | Kolhapur | 3162 | 1368 | 1376 | 1047 | 1315 | 7745 |
| 9 | Nagpur | 819 | 1220 | 1174 | 687 | 1757 | 944 |
| 10 | Aurangabad | 682 | 471 | 660 | 641 | 389 | 279 |
| 11 | Amravati | 1942 | 1034 | 1911 | 1761 | 911 | 1059 |

There are 8 Lead acid Battery recycling units having valid registration from CPCB. Three units have submitted half yearly returns on recycling of used batteries. The information from remaining units is awaited.

It has been observed that there is general lack of awareness among the consumers, re-conditioners and assemblers of the batteries, importers and recyclers about the compliance of Battery (M & H.) Rules, 2001. Vigorous efforts are being made by MPCB to create awareness among the people to ensure the compliance of these Rules.

MPCB has also issued directions to Regional Officers regarding compliance of the Battery Rules. The above statistics is being updated to get realistic figures.