



EXECUTIVE SUMMARY

1.0 Preamble :

The State of Maharashtra pioneered environmental legislation with the introduction of the Maharashtra (Prevention of Water Pollution) Act, 1969. Under this Act, the State Pollution Control Board, which monitors water pollution, was established on 7th September, 1970. Thereafter, the Water (Prevention & Control of Pollution) Act, 1974 was adopted in Maharashtra since 1/6/1981 and the Board was renamed as Maharashtra Pollution Control Board. The Board is also implementing Air (Prevention & Control of Pollution) Act, 1981, which was adopted in Maharashtra on 16/5/1981. Board is also enforcing several other environmental legislations in the state of Maharashtra including Environmental (Protection) Act, 1986 and the rules framed there under like, Biomedical Waste(M & H) Rules 1998, Hazardous Waste (M&H) Rules, 2000, Municipal Solid Waste (M & H) Rules, 2000 etc. MPCB is functioning under the administration control of Environment Department of Government of Maharashtra.

Later Rule 8(7) amended as Hazardous Waste (Management, Handling & Transboundary Movement) Rules 2008.

E-Waste Components of waste electrical & electronics assemblers comprising accumulators and other batteries are included in list A, Mercury switches, Activated glass cullet from cathode- ray tubes and other activated glass tubes, PCB capacitors or components contaminated with material listed in Schedule II are included in Hazardous Waste categories.

2.0 HW Inventory –Background:

In response to a Public Interest Litigation filed by Research Foundation for Science, Technology and Natural Resource Policy (W.P.No. 657 of 1995), Honourable Supreme Court passed an Order dated 14.10.2003, directing each State Pollution Control Board to prepare a fresh inventory of HW generation in their state and submit the same to The Central Pollution Control Board.

Looking at the diverse nature of industries in Maharashtra with presence of large chemical industry and taking into account the provisions of amended HW (MH&TM) Rules, 2008,



MPCB realized that the task of preparation of inventory requires good knowledge of process chemistry and industrial unit operations & processes. Hence, it was decided to appoint Eco Friend & Co Mumbai to update the inventory.

While assessing further work needs to ensure compliance to HW Rules, it was seen that the HW Inventory is dynamic & subject to change as industrial units expand / modernize / change their product mix or as new units get added or old units stop producing.

The Board therefore decided to continue the scientific approach adopted during the Inventory preparation by creating a HW Cell – a unique model of Public-Private Partnership in environmental jurisprudence i.e. using process Chemistry / Technology Experts in conjunction with Board officials to monitor & effectively manage the HW situation in the state.

The HW cell has been entrusted with various task such as updating & maintaining the Inventory, effective Monitoring over the HW generation, transport & disposal.

The updated Inventory report presenting HW generation statistics as of March 2010 was prepared & submitted to CPCB. This Vth edition, gives updated status as on 31st March 2011.

3.0 Need for Updating Inventory :

Need for updating information on HW generation from industrial sources arises due to the following :

1. Waste Generator (industrial/non-industrial) feels that waste information is not correctly reflected in the inventory.
2. Change in manufacturing process due :
 - establishment of new units / plants
 - modernization / expansion / revamping / debottlenecking of existing units
 - change of product
 - change of technology
3. New Sources are identified
4. Amendment or renewal of the consents.

4.0 Methodology/Approach :

The approach adopted to update the Inventory was as under :

HWMCELL collected copies of the consents issued during April 2010 to March 2011 and updated present inventory, also entered new industries which were not included in



previous inventory

Amendment of consents is required to match the Inventory quantities to compare with quantity filed in annual returns. From the findings queries are raised to units about incomplete / improper disposal of HW.

4.1 Industrial Sources :

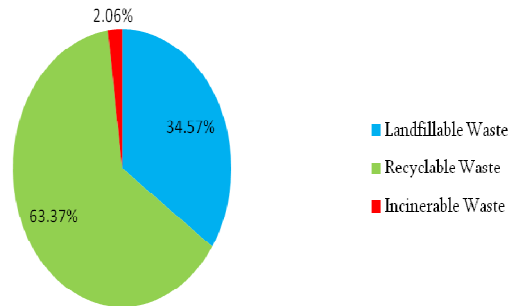
The following aspects are evaluated / documents scrutinized :

- Copies of existing consents / authorization granted by MPCB
- Evaluate other information as available with the Board eg. Annual Returns / manifest / Environmental Statement copies etc

4.2 Non Industrial Sources :

It is observed that several non manufacturing activities also lead to generation of hazardous wastes in substantial quantities. These include transport related activities such as ports, docks, airports, railways, transmission & distribution of power; automobile garages, service stations and Common Effluent Treatment Plants. The hazardous wastes generated by the Non Industrial sources are listed below:

Non-Industrial Sources (Estimates based on information available on record)





Non Industrial Source	Typical Examples	Type of HW
Ports	Mumbai Port Trust, Jawaharlal Nehru Port Trust etc	Waste/Used Oil, Bilge from ships, Waste from Ship breaking, other wastes
Docks	Mazgaon Docks Ltd., Naval Docks etc.	Waste/Used oil, waste paint, metal finishing waste etc Airports
Airports	Air India/Indian Airlines, Jet Airways and other Airliners, Airport Authority of India	Waste/Used oil, Storage batteries, other wastes
Power-Transmission & Distribution	Tata Power, Reliance Energy Maharashtra State Electricity Board, etc	Transformer Oil etc
Service Stations, Workshops, Garages	<ul style="list-style-type: none"> • Bulk generators involved in Municipal Transport like BEST interstate transport like MSRTC etc. • Garages/Workshops on the street side. • Company authorized Service stations. 	Used/Waste oil, Storage batteries etc
CETPs	• Waste generated during effluent treatment	Primary sludge

Sr.No.	Source	Quantity of HW (MT/Annum)			Total
		SLF	RCL	INC	
1	Non-Industrial Sources (Estimates based on information available on record)	28828.43	52856.45	1718.4	83403.28



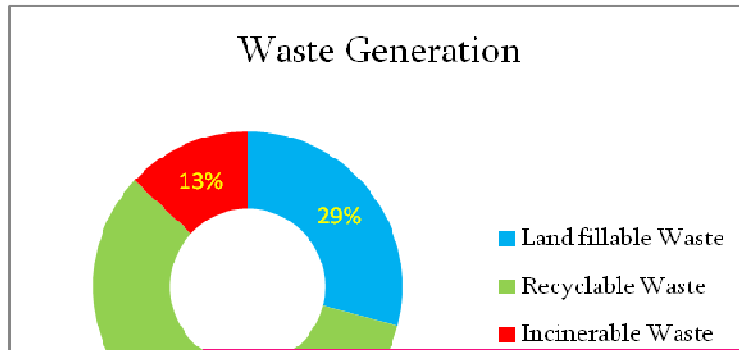
5.0 Findings

5.1 Industrial Statistics

Maharashtra Pollution Control Board has divided the State into 12 Regions, each region being headed by a Regional Officer. The Region wise statistics of consents granted to industrial units classified on the basis of scale of operation and Red/Orange/Green category.

5.2 Total Waste Generation :

As per the present inventory, total HW generation for Maharashtra State is **1805384.77** MTPA of which about 29% is landfillable, 58% is recyclable and balance 13% is incinerable.





Recyclable Waste :

The highest recyclable waste generation was in Mumbai 3,09,524.06 MTPA (29.35%) followed by Kalyan 1,78,983.94 MTPA (16.97%). The lowest recyclable waste generation was observed in Amravati 5837.06 MTPA (0.55%). The quantity of recyclable waste has changed – 10,22,191.95 MTPA in 2010 versus 10,54,363.37 MTPA today.

5.4 Classification of Industries Generating Hazardous Waste :

Authorizations – Region wise (31st March 2011)	
Regions	Total No. of Units
Mumbai	375
Raigad	333
Navi Mumbai	680
Thane	715
Kalyan	822
Pune	965
Kolhapur	326
Nashik	447
Aurangabad	279
Amravati	73
Chandrapur	114
Nagpur	299
Total	5428

A total of 5428 authorizations were granted to Hazardous Waste generating units in Maharashtra State. The Table indicates that the highest number of authorisations granted to HW generating units were in Pune Region – 965 (17.77%) followed closely by Kalyan Region - 822 (15.14%). The lowest number of authorizations granted was seen to be in Amravati Region - 73 (1.34%).

Authorizations – Region wise

