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 & Transboundry 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), Honorable 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 edition, gives updated status as on 31st March 2012.

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 :

HWM CELL collected copies of the consents issued during April 2011 to March 2012 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.

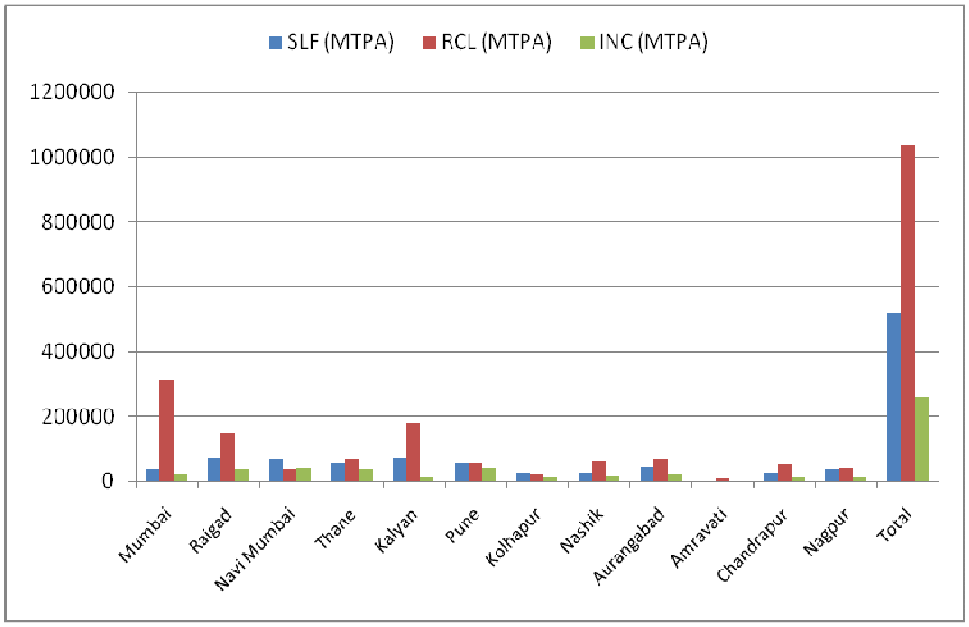
5.0 Findings

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.

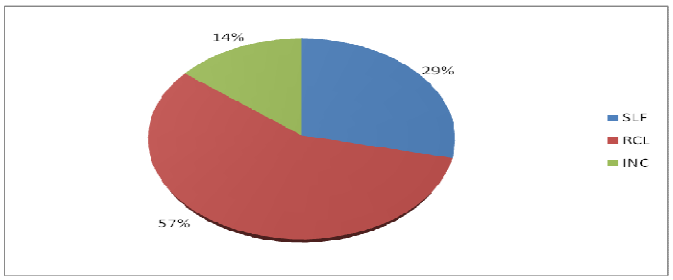
Based on disposal method, salient findings are as below :

Region wise Hazardous Waste generation (SLF, RCL, INC)				
Regions	SLF (MTPA)	RCL (MTPA)	INC (MTPA)	Total
Mumbai	37902.8	309516	18252.3	365671.1
Raigad	70261.1	147546	37324.8	255131.9
Navi Mumbai	66335.3	34785.8	40734.8	141855.9
Thane	56423.3	65449.7	36119.2	157992.2
Kalyan	73038.4	178219	9679.36	260936.76
Pune	55128	54589.1	41382.1	151099.2
Kolhapur	25170.5	22700.6	11539.4	59410.5
Nashik	24658.3	59918.7	16040.1	100617.1
Aurangabad	45042.8	65624.2	21602.6	132269.6
Amravati	679.17	5845.46	423.471	6948.101
Chandrapur	24456.5	50473.2	10315	85244.7
Nagpur	37175.4	39164.4	11775.8	88115.6
Total	**516271.57**	**1033832.16**	**255188.93**	**1805292.66**



5.2 Total Waste Generation :

As per the present inventory, total HW generation for Maharashtra State is **1805292.66** MT/Annum of which about 29% is landfillable, 57% is recyclable and balance 14% is incinerable.



5.3 Region Wise Break-up:

Region-Wise HW Totals (MTPA)

Hazardous Waste Generation Updation of 31st March-2012

Regions	SLF (MTPA)	RCL (MTPA)	INC (MTPA)	Total
Mumbai	37902.8	309516	18252.3	365671.1
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Total	**516271.57**	**1033832.16**	**255188.93**	**1805292.66**

Region wise Hazardous Waste generation (SLF, RCL, INC)

Based on disposal method, salient findings are as below :

Landfillable Waste :

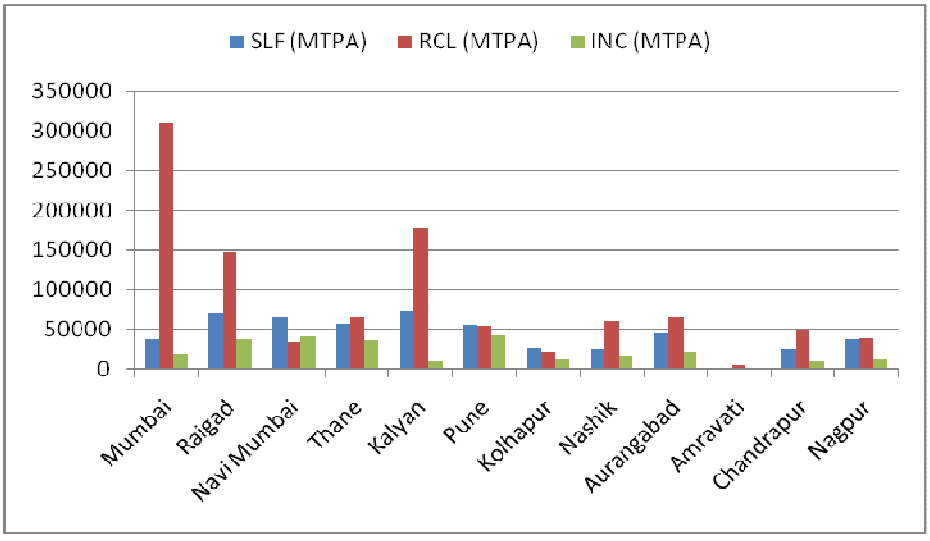
The largest generation of landfillable waste was seen in Raigad 78,439.29 MTPA, followed by Kalyan 68,557.76 MT. The lowest generation was observed in Amaravati 7,212.76 MTPA. The quantity of Landfillable waste has changed – 568,135.7 MTPA in 2008 versus 514,218.76 MTPA today.

Incinerable Waste :

It is observed that the highest incinerable waste generation was in Pune 41382.1 (16.21%) followed by Navi Mumbai 40734.8 MTPA (15.96%). The lowest incinerable waste generation was observed in Amravati 423.478 MTPA (0.16%). The quantity of incinerable waste has changed – 208,766.20 MTPA in 2008 versus **255188.93** MTPA today.

Recyclable Waste :

The highest recyclable waste generation was in Mumbai 309516 (29.9%) followed by Kalyan 178219 MTPA (17.2%). The lowest recyclable waste generation was observed in Amravati 5845.46 (0.56%). The quantity of recyclable waste has changed – 847,440 MTPA in 2008 versus 1033832.16 MTPA today.



5.4 Classification of Industries Generating Hazardous Waste :

Authorizations – Region wise		
Sr. No.	**Region**	**Total no. of units**
1	Navi Mumbai	694
2	Pune	970
3	Thane	721
4	Aurangabad	283
5	Raigad	334
6	Kalyan	863
7	Nashik	451
8	Amravati	73
9	Kolhapur	331
10	Mumbai	377
11	Chandrapur	115
12	Nagpur	299
	Total	**5511**

A total of 5511 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 – 970 (17.6%) followed closely by Kalyan Region – 863 (15.65%). The lowest number of authorizations granted was seen to be in Amravati `Region - 73(1.32%).

Authorizations – Region wise