CHAPTER-V

LEGAL REGULATION OF HAZARDOUS WASTE MANAGEMENT IN INDIA
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5.1 Introduction

The Bhopal Gas Tragedy is considered as one of the worst man made disasters. Krishna Iyer, J., captures the agony of victims as follows:

"On the midnight of December 2, 1984 death, disability and distress, unprecedented in the world’s history descended deceptively on Bhopal’s desperate citizens harrowingly huddled together in the cold, dark slums, and yawning suburbs around the Union Carbides Yama Campus; the felonious fumes frighteningly leaked from the delinquent plant, ‘gassassinated’ the hapless innocents in thousands and reduced them to a vegetable existence, countless miserables were left alive, sans eyes, sans limbs, sans lungs, sans everything. This is not a soul fate, but is a grave crime".¹

In the present era of open global market economy, industries using hazardous materials are no doubt playing a vital role in the economic development and the advancement of the well being of the people in the country, but simultaneously they are causing the problems of risk to human life and the environment.² The most dangerous concentrations of wastes come from large

¹ V.R.Krishna Iyer J., Environmental Protection and Legal Defence, Sterling Publishers Private Limited, 1992, p.1. In Union Carbide Corporation v. Union of India, (Bhopal Gas Leak case), about 40 tonnes of highly toxic methyl isocynate (MIC) escaped from Union Carbide’s Chemical Plant in Bhopal in to atmosphere. Supreme Court finally secured a compromise between Union Carbide Corporation (UCC) and the Indian Government under which UCC agreed to pay US $470 million in full and final settlement of all present and future claims arising out of Bhopal disaster. The Court was of the view that there was a need to evolve a national policy to protect national interest from such hazardous pursuit of economic gains.

industries, petroleum refineries, chemical and pesticide manufacturers, mines and makers of synthetics and weapons. Worldwide, some 33 million tonnes of hazardous wastes are produced each year and typically are dumped at sea or burnt in improperly filtered incinerators, which allow toxic fumes and ash to escape.\(^3\)

Hazardous wastes have serious impact both on human life and the environment.\(^4\) So, they have to be regulated extensively with an effective legal system.

5.2 Regulation of Hazardous Wastes

In India, the origin of national policy on chemical and hazardous industries relates to two major incidents of gas leakage, the Bhopal Tragedy in 1994\(^5\) and Oleum Gas Leak case in 1995 at Delhi.\(^6\)

The Decision of Apex Court given in the case of *M.C.Mehta v. Union of India*,\(^7\) can be said to be of historical value as it not only decided controversial issues relating to chemical and hazardous industries but also included several suggestions to enable the Central Government to frame a national policy regarding such industries.

In this case, senior advocate M.C.Mehta filed a writ petition under Article 32 of the Constitution of India with the request that, Sri.Ram Fertilizer Enterprises

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\(^4\) Exposure to toxic waste may cause acute or chronic health effects. Acute effects occurs soon after a high-level exposure and range in severity from temporary rashes to death. Chronic effects frequently result from long-term, low-level exposure and include cancers, birth defects, miscarriages and damage to the lungs, liver, kidneys and nervous system. Hazardous wastes also lead to contamination of ground water, cause air and water pollution and lead to environmental degradation.

\(^5\) See *supra* note 1.

\(^6\) *M.C.Mehta v. UOI*, AIR 1987 SC 965.

\(^7\) *Ibid.*
should be shifted from thickly populated area of Delhi to some other place. One month after filing of this petition, oleum leaked from the Sulphuric Acid plant affecting several people. The leak took place on 4th December 1985, a decade after the first anniversary of the Bhopal gas leak. The issue before the Court was to determine the extent of liability of an enterprise for causing damages when it was engaged in a hazardous or inherently dangerous activity. Till this incident occurred, the principle of "strict liability" was in force in India, which was evolved in *Rylands v. Fletcher.*

Bhagwati, J., gave a remarkable judgment by observing that Indian courts need no longer follow the principles evolved by the British Courts. A new principle was evolved in this case, called the 'no-fault' or 'absolute liability' principle. According to this principle, an enterprise which is engaged in hazardous activities, which pose a potential threat to the health and safety of the person working in the factory, or residents in the surrounding areas, owes an absolute and non-delegable duty to the community to ensure that, no harm results to any one on account of such activity. The enterprise must be held absolutely liable if harm occurs and compensate for such harm and it should be no defence for the enterprise to say that, it had taken all reasonable care and that the harm occurred without any negligence on its part. The hazardous industries were

8 The strict liability principle says that, "a person is strictly liable when he brings or accumulates on his land something likely to cause harm if it escapes, and damage arises as a natural consequence of its escape". Exceptions to the Rule are: (1) an act of God; (2) an act of third party; (3) the plaintiff's own fault; (4) the plaintiff's consent; (5) the natural use of land by the defendant and (6) statuary authority.
asked to shift out of Delhi. The Supreme Court also stressed upon devising a national policy to deal with hazardous substances as well as hazardous wastes.9

Accordingly the first comprehensive Rules to deal with hazardous wastes, were issued by the Central Government, in July 1989, called the Hazardous Waste (Management and Handling) Rules 1989, framed under the enabling provisions of Environment Protection Act 1986. However, the 1989 Rules suffered from certain inherent limitations.

India’s ratification of the Basel Convention on 24 June 1992 gave rise to the need to bring national legislation in line with the commitment made thereunder.10 Ministry of Environment and Forests (MOEF), in 1996 appointed an Expert Committee headed by Dr.R.A.Mashelkar to work on amendments. The terms of reference of the Committee were characterisation of hazardous wastes, prohibition or restriction of hazardous wastes for imports, environmentally sound waste reprocessing technologies and listing and characterisation of wastes containing arsenic, cyanide and mercury on a priority basis.11 Thus, the Hazardous Waste (Management & Handling) Amendment Rules, 2000 came into force on 6 January 2000,12 in addition to the 1989 Rules.

9 Hazardous wastes like hazardous substances pose great threat not only to the environment, but also to the people working in hazardous industries and people living in the vicinity of such industries.
11 MOEF (Hazardous Substances Management Division) order dated 23 August 1996. The text of the order is available at http://envfor.nic.in/cpcb/lpcReport/vol139.htm#annex B-4
12 Vide Notification No.S.O.24(E)dated 6 January 2000 Published in Gazette of India.
On September 18, 1995, a leading environmentalist Vandana Shiva, Director of the Delhi based Research Foundation for Science Technology and Natural Resource Policy filed a Public Interest Litigation against the Government of India and a private company, Bharat Zinc (P) Ltd, Bhopal, for allowing the illegal and highly dangerous import of hazardous waste from industrialised countries into India. The writ petition contends that, an alarming situation has been created by dumping of hazardous waste, and its generation. These activities are causing serious and irreversible damage not only to the human beings but also to the environment, flora and fauna and health of animals. The petition was filed under Article 32 of the Constitution for violating Constitutional provisions under Article 14, 21 and Article 47, and for violating the provisions of Environmental (Protection) Act 1986, and other environmental laws, and the petitioner also relied upon the Basel Convention on the control of Transboundary Movements of Hazardous Wastes and their disposal.

Considering the magnitude of the problem, the Supreme Court constituted a High Powered Committee comprising of 12 members with Prof. M.G.K. Menon as its Chairman in October 1997. The main Terms of Reference were –

1) Whether and to what extent the hazardous wastes listed in the Basel Convention have been banned by the Government and to examine which other

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13 Writ Petition No.657 of 1995 filed in the Supreme Court.

14 Article 14 guarantees ‘equality before law and equal protection of laws’ and Article 21 guarantees ‘Right to Life’ which includes right to healthy environment. Art.48 says “The State shall endeavour to protect and improve the environment and to safeguard forests and wildlife of the country”. See Chapter I, ‘Constitutional Provisions’ for protection of environment’.

15 See Chapter IV, for the provisions of Basel Convention.
hazardous wastes, other than listed in Hazardous Waste (Managements & Handling) Rules, 1989 require banning.

2) To verify the present status of the units handling hazardous wastes imported for recycling or generating/recycling indigenous hazardous wastes on the basis of information provided by States/Union Territories and determine the status of implementation of Hazardous Waste (Management & Handling) Rules, 1989 by various States/Union Territories and in the light of directions issued by the Hon'ble Supreme Court.

3) What safeguards have been put in place to ensure that banned toxic/hazardous waste are not allowed to be imported?

4) What are the changes required in the existing laws to regulate the functioning of units handling hazardous wastes and for protecting the people (including workers in the factory) from environmental hazards?

5) To assess the adequacy of the existing facilities for disposal of hazardous wastes in an environmentally sound manner and to make recommendations about the suitable manner for disposal of hazardous wastes.

6) What is further required to be done to effectively prohibit, monitor and regulate the functioning of units handling hazardous wastes keeping in view the existing body of laws?

7) To make recommendations as to what should be the pre-requisites for issue of authorisation/permission under Rule 5 and of the hazardous wastes (Management & Handling) Rules 1989.
8) To identify the criteria for designation of areas for locating units handling hazardous wastes and waste disposal sites.

9) To determine as to whether the authorisations/permissions given by the State Boards for handling hazardous wastes are in accordance with Rule 5(4) and Rule 11 of the Hazardous Waste Rules, 1989 and whether the decision of the State Pollution Control Boards is based on any prescribed procedure or checklist.

10) To recommend a mechanism for publication of inventory at regular intervals giving area-wise information about the level and nature of hazardous wastes.

11) What should be the framework for reducing risks to environment and public health by stronger regulation and by promoting production methods and products, which are ecologically friendly and thus reduce the production of toxics.

12) To consider any other related area as the committee may deem fit.

13) To examine the quantum and nature of hazardous waste stock lying at the docks/ports/ICDS and recommend a mechanism for its safe disposal or re-export to the original exporters.

14) Decontamination of ships before they are exported to India for breaking.\(^\text{16}\)

The 14 Terms of Reference went well beyond the original scope for which the HPC had been constituted. After extensive research on the matters referred, the Report of the High Powered Committee was submitted to the MOEF. On the

\(^{16}\) Report of the High Powered Committee Full text is available in *The Company Law Journal*, vol.1, 2005, serial [101]
basis of this Report, pending the petition under reference, the Hazardous Waste (Management & Handling Rules), 2003 were brought in to force.

5.3 Scope of Hazardous Waste Rules in India

5.3.1 Conceptual Analysis of the term ‘Hazardous Waste’ under Hazardous Waste (Management and Handling) Rules

So far, there is no uniformly accepted international definition of what constitutes hazardous wastes. Different substances are hazardous at different concentrations, at different time scales.

In India, the Hazardous Waste Rules 1989, defined 18 categories of wastes, when handled above a certain quantity, as hazardous. These are listed in the Schedule to the Rules (see the following table).

<table>
<thead>
<tr>
<th>Categories of Hazardous Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Waste Categories</strong></td>
</tr>
<tr>
<td>Wastes Category No.1</td>
</tr>
<tr>
<td>Wastes Category No.2</td>
</tr>
<tr>
<td>Wastes Category No.3</td>
</tr>
<tr>
<td>Wastes Category No.4</td>
</tr>
<tr>
<td>Wastes Category No.5</td>
</tr>
<tr>
<td>Wastes Category No.6</td>
</tr>
</tbody>
</table>

17 Rule 3(i) of HW (M&H) Rules, 1989.
<table>
<thead>
<tr>
<th>Wastes Category No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Wastes from paints, pigments, glue, varnish and printing ink.</td>
<td>250 Kilogrammes per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>calculated as oil emulsions.</td>
</tr>
<tr>
<td>8</td>
<td>Wastes from Dyes &amp; Dye intermediates containing inorganic chemical compounds.</td>
<td>200 Kilogrammes per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>calculated as inorganic Chemicals.</td>
</tr>
<tr>
<td>9</td>
<td>Wastes from Dyes &amp; Dye intermediates containing Organic Chemical compounds.</td>
<td>50 Kilogrammes per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>calculated as Organic Chemicals.</td>
</tr>
<tr>
<td>10</td>
<td>Waste Oil and Oil emulsions</td>
<td>1000 Kilogrammes per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>calculated as oil and Oil emulsions.</td>
</tr>
<tr>
<td>11</td>
<td>Tarry Wastes from refining and tar residues from distillation or pyrolytic treatment</td>
<td>200 Kilogrammes per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>calculated as tar.</td>
</tr>
<tr>
<td>12</td>
<td>Sledges arising from treatment of waste waters containing heavy metals, toxic organics, oil emulsion and spent chemical and incineration ash.</td>
<td>Irrespective of any quantity.</td>
</tr>
<tr>
<td>13</td>
<td>Phenols</td>
<td>5 Kilogrammes per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>calculated as phenols</td>
</tr>
<tr>
<td>14</td>
<td>Asbestos</td>
<td>200 Kilogrammes per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>calculated as asbestos</td>
</tr>
<tr>
<td>15</td>
<td>Waste from manufacturing of pesticides and herbicides and residues from pesticides and herbicides formulation units.</td>
<td>5 Kilogrammes per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>calculated as pesticides and their intermediate products.</td>
</tr>
<tr>
<td>16</td>
<td>Acid/Ackaline/Slurry</td>
<td>200 Kilogrammes per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>calculated as Acids /Alkalines</td>
</tr>
<tr>
<td>17</td>
<td>Off specification and discarded products.</td>
<td>Irrespective of any quantity</td>
</tr>
<tr>
<td>18</td>
<td>Discarded containers and container liners of hazardous and toxic wastes</td>
<td>Irrespective of any quantity</td>
</tr>
</tbody>
</table>

The 1989 Rules however did not make any provision for imports. Thus it was included in the amended Rules of 2000. The Hazardous Waste Rules, as amended in 2000, defines hazardous waste as:
i) Waste substances, which are generated in the processes, indicated in column 2 of Schedule 1 and consist wholly or partially of the waste substances referred to in column 3 of the same Schedule;

ii) Waste substances which consist wholly or partially or substances indicated in column - 2 of Schedule -2, unless the concentration of the substances is less than the limit indicated in the same Schedule; and

iii) Waste substances indicated in Part-A, List –‘A’ and ‘B’ of Schedule – 3 applicable only to Rules 12, 13 and 14 unless they do not possess any of the hazardous characteristics in Part-B of the same Schedule.\(^{18}\)

The Schedule lists 44 processes generating hazardous wastes along with a detailed sub-listing of the potential waste streams (totally 127). Further, Schedule - 2 lists 79 sub-classes of waste substances divided into five classes based on concentration limit of the pollutant (classes a to E having limits of 50, 5000, 20000, 50000 Mg/Kg, and regardless of limit, respectively). In addition to the above Schedules, the term hazardous waste, has also been defined in the context of import and export of waste substances as described in Rules 12, 13 & 14 of the Hazardous Waste (M& H) Amended Rules 2000. Part-A of Schedule-3, lists importable and exportable wastes and Part-B of the Schedule lists the hazardous characteristics.\(^{19}\) After careful consideration, the High Powered Committee defines hazardous wastes as: “Any substance, whether in solid, liquid or gaseous

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\(^{18}\) Rule 3 (i) of HW (M&H) Amendment Rules, 2000. see Appendix, Schedule II & III.

form, which has no foreseeable use and which by reasons of any physical, chemical, reactive, toxic, flammable, explosive, corrosive, radioactive or infectious characteristics causes danger or is likely to cause danger to health or environment, whether alone or when in connection with other wastes or environment, and should be considered as such when generated, handled, stored, transported, treated and disposed off".\(^\text{20}\)

The definition has been inserted by the Hazardous Waste Amendment Rules 2003. Sec.3 (14) of the Hazardous Waste (Management and Handling) Amendment Rules 2003 further says that Hazardous Wastes shall include –

(a) wastes listed in column (3) of Schedule -I

(b) wastes having constituents listed in Schedule-2 if their concentration is equal to or more than the limit indicated in the said Schedule; and

(c) wastes listed in lists ‘A’ and ‘B’ of Schedule-3 (Part-A) applicable only in cases(s) of import or export of hazardous wastes in accordance with Rules 12, 13 and 14 if they possess any of the hazardous characteristics listed in Part-B of Schedule-3.\(^\text{21}\)

The High Powered Committee has thus defined the term ‘hazardous waste’ very comprehensively. The definition, for considering a waste as hazardous waste, has taken into account parameters such as flammability, ignitability, toxicity, corrositity, reactivity, infectiousness, radioactivity etc. As discussed in

\(^{20}\) Supra note 16, Section 3 (14) (a), (b), (c) of HW Amendment Rules 2003.

\(^{21}\) See Appendix, Schedule-I, Schedule-II, and Schedule -III.
Chapter IV (International efforts for the management of wastes), United States Resource Conservation and Recovery Act has also defined the term 'hazardous wastes' based upon the above parameters. The Hazardous Waste Amendment Rules 2003, by defining the term very broadly and comprehensively, has eliminated the problem associated with hazardous waste at the conceptual level.

The Rules however do not apply to following categories of wastes in respect of which, there exist a separate specific regulations.

i) Wastes arising out of the operation from Ships beyond 5 kms. (as they are covered under the provisions of Merchants Shipping Act, and the Rules thereunder).


5.3.2 Regulation of 'Hazardous Waste' under the Hazardous Waste (Management and Handling) Rules

5.3.2.1 Duties and responsibilities of the Generator under the Rules –

(i) Firstly, the occupier or the operator\(^{22}\) of the facility\(^{23}\) shall be responsible for proper collection, treatment, storage and disposal of hazardous wastes. The occupier or any other person acting on his behalf who intends to get his hazardous wastes treated by the operator of the facility, shall give to the operator of facility such information as may be specified by the State Pollution Control Board or Committee.\(^{24}\) It shall be their responsibility to ensure that the wastes are properly handled, and disposed off without any adverse effects on the environment. In order to minimise any danger due to accident, all persons working in the site shall be informed, trained and equipped to ensure their safety.\(^{25}\) However in many cases, it is found that the generator does not discharge his duties effectively. For example in *Indian Council for Enviro-Legal Action v. Union of India,*\(^{26}\) serious damage was being caused to the environment by certain industries producing toxic chemicals in Bicchri, a small village in Udaipur District of Rajasthan. The

\(^{22}\) 'Operator' of a facility means a person who owns or operates a facility for collection, reception, treatment, storage and disposal of hazardous wastes.

\(^{23}\) 'Facility' means any location wherein the processes incidental to the wastes generation, collection, reception, treatment, storage and disposal are carried out.


\(^{25}\) Rule 4 –A (inserted by 2000 amendment to the Rules) "4A- Duties of the occupier and operation of a facility: It shall be the duty of the occupier and the operator of a facility to take adequate steps while handling hazardous waste to: (i) contain contaminants and prevent accidents and limit their consequences on human and the environment; (ii) provide person working on site with information, training and equipment necessary to ensure their safety.

4-B Duties of the Authority subject to the provisions of these Rules: the authority shall also perform duties as specified in column 3 of Schedule - 7".

\(^{26}\) AIR 1996 SC (1446).
manufacturing of the toxic chemicals gave rise to enormous quantity of highly toxic waste and the waste was not treated properly. Because of its effect, the water in the wells and streams in Bichhri turned dark and dirty rendering unfit for human consumption. Soil was polluted to such an extent that, it became unfit for any cultivation. It spread disease, death and disaster in the village.

The Court applying the principle of “absolute liability” and “polluter pays principle” held that the company was absolutely liable for the environmental degradation. The Court directed the company to pay for the pollution and undo the environmental damage and wrong caused by its industrial activity.

The Rules do not provide any standards or technologies to be adopted for the proper collection, treatment storage and disposal of wastes, by the generator or the occupier.

(ii) Every occupier generating hazardous wastes, whether having the facility or not for collection, reception, treatment, transportation, storage and disposal of hazardous wastes, shall make an application in the prescribed form along with requisite fee for authorisation to the Member Secretary of the State Pollution Control Board or any officer designated by the Board for grant of authorisation. If the occupier or recycler does not have a waste treatment or disposal facility of his own and one who is operating in an area under the jurisdiction assigned by the State Pollution Control Board or Committee, shall use Common Treatment Storage and Disposal Facility (TSDF) by becoming a member of the facility. The State Pollution Control Board shall not issue an authorisation unless it is satisfied
that, the applicant possesses appropriate facilities, technical capabilities and equipment to handle hazardous wastes safely. If he does not possess appropriate facilities, then the State Pollution Control Board may refuse to grant any authorisation, but the applicant must be given a reasonable opportunity of being heard.\textsuperscript{27} The occupier is also under an obligation to renew the authorisation granted at the appropriate time. Under the 1989 Rules, the authorisation granted was to be in force for the period of five years from the date of issue or from the date of renewal, unless it was suspended or cancelled. However, under the 2003 Amendment no limitation to the validity of authorisation is specified and the same is at the discretion of SPCB’s due to which renewal of authorisation does not take place at regular intervals.

(iii) Under Rule 6 (i), the occupier or operator of a facility shall ensure that, hazardous wastes are packaged, based on the composition in a manner suitable for handling, storage and transport. The labelling and packaging should be easily visible and able to withstand physical conditions and climatic factors. Packaging, labelling and transport of hazardous wastes shall be in accordance with the provisions of the Rules made by the Central Government under Motor Vehicles Act, 1988 and other guidelines issued from time to time.\textsuperscript{28}

\textsuperscript{27} Rule 5, HW (M&H) Rules 1989.
\textsuperscript{28} Rule 6 (i), HW (M&H ) Amendment Rules 2003.
Under the 2003 amendments, it shall be the duty of the occupier to prepare six copies of the 'manifest'\(^{29}\) comprising of the colour code given below and for the purpose mentioned therein.

**Colour Code For Manifest**

<table>
<thead>
<tr>
<th>Copy number with Colour Code</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy 1 (White)</td>
<td>To be forwarded by the occupier to the State Pollution Control Board /Committee</td>
</tr>
<tr>
<td>Copy 2 (Yellow)</td>
<td>To be retained by the occupier after taking signature on it from the transporters and rest of the four copies to be carried by the transporter.</td>
</tr>
<tr>
<td>Copy 3 (Pink)</td>
<td>To be retained by the operator of the facility after signature.</td>
</tr>
<tr>
<td>Copy 4 (Orange)</td>
<td>To be returned to the transporter by the operator of the facility after accepting waste.</td>
</tr>
<tr>
<td>Copy 5 (Green)</td>
<td>To be returned by the operator of the facility to State Pollution Control Board / Committee after treatment and disposal of wastes.</td>
</tr>
<tr>
<td>Copy 6 (Blue)</td>
<td>To be returned by the operator of the facilities to the occupier after treatment and disposal of wastes. (^{30})</td>
</tr>
</tbody>
</table>

(iv) Where the hazardous waste to be treated, stored and disposed is generated in a state other than the state where it is generated, the occupier shall obtain 'No Objection Certificate from the State Pollution Control Board or Committee of the concerned State or Union Territory Administration where the facility is existing.'\(^{31}\)

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\(^{29}\) "Manifest" means transporting documents prepared and signed by the occupier in accordance with Rule-7.


\(^{31}\) Rule 6 (6), HW (M & W) Amendment Rules 2003.
(v) The occupier generating hazardous waste and the operator of a facility for collection, reception, treatment, transport, storage and disposal of hazardous waste shall maintain records of such operation regularly in the form provided for such purpose under the Rules and shall also send the annual returns to the State Pollution Control Board.

(vi) Where an accident occurs at the facility or on a hazardous waste site during transportation of hazardous wastes, the occupier or the operator shall Report immediately to the State Pollution Control Board or Committee about the accident.\textsuperscript{32} However, the Rules are silent about the fact that if any other person other than the occupier or operator Reports the matter of accident to SPCB, will his Report be entertained by the SPCB.

(vii) One of the most important modifications to the old Rules is related to placing the responsibility for identification of disposal sites on the shoulders of the occupier, industrial associations or proponent of common treatment, storage and disposal facility as well as the State Government.\textsuperscript{33} As per the Hazardous Wastes (M & H) Rules 1989, this responsibility was entirely assigned to the State Governments and their delays in finding the facility was a major reason for proper disposal of wastes.

Now under the Rules amended in the year 2000, the occupier, any association or operator of a facility, as the case may be, shall design and set up

\textsuperscript{32} Rule 10, HW (M&H) Rules 1989.
\textsuperscript{33} Rule 8 - HW (M &H ) Amendment Rules, 2000.
disposal facility as per the guidelines issued by the Central Government or the State Government as the case may be. Before setting up of the disposal facility, the designs and layout of the facility shall be approved by the State Pollution Control Board. The occupier or the operator shall be responsible for safe and environmentally sound operation of the facility. For this purpose, once the site is identified, they shall undertake environmental impact assessment of the selected sites(s) and shall submit the EIA Report to the State Pollution Control Board or Committee.

Stepwise Protocol For Notification for Hazardous Waste Disposal Site As per Rule-8.

Candidate sites

Identification of candidates sites by State Government or operator of TSDF or Association of occupiers based on preliminary EIA (Environment Impact Assessment)

Selection of any appropriate site based on detailed EIA

Request to state Government for notification of selected site

Invitation of objection and suggestion within 30 days (action by State Government)

Public hearing as per the 'EIA Notification'

Permission to acquire land before notifying the site (action of State Government)

Notified site for disposal of hazardous waste

34 Ibid.
It is interesting to note that the new amendment Rules categorically state that, not only the set-up and operation details be incorporated in the design exercise, but the closure and post closure activity too should be detailed right at the design site.\(^{37}\) The implementation of the provisions of the Rules is done through the State Pollution Control Boards and Pollution Control Committees in respective states and union territories. The Rules impose certain responsibility on these bodies to ensure the proper implementation of the provisions of the Rules.

5.3.2.2 Responsibility of the State Pollution Control Boards and Pollution Control Committees under the Rules

(i) Grant of Authorisation

One of the most important duties of the State Pollution Control Boards is to grant authorization for activities like collection, treatment, storage and disposal of hazardous wastes. The Board will grant authorisation only when it is satisfied that, operator of the facility or the recycler, as the case may be, possesses appropriate facilities, technical capabilities to handle hazardous waste safely.\(^{38}\) However, in many cases, the State Pollution Control Board has granted authorisation without confirming the fact that, whether the operator has adequate facility for treatment, storage and disposal of hazardous wastes. For example, in \textit{M.C.Mehta v. Union of India},\(^{39}\) (\textit{Ganga Pollution case}), Mr.M.C.Mehta filed a writ petition, alleging that, many industries located on the banks of the river and populated areas of Kanpur.

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\(^{39}\) (1988) 1 SCC 471.
and Calcutta were discharging trade effluents into the river Ganga, which were highly toxic and hazardous in nature, making the water unfit for any further use. The industrialists pleaded that most of them could not install treatment plants since they involved huge investments. The Court ruled that, the financial capacity of the tanneries should be considered as irrelevant while requiring them to establish primary and secondary treatment plants. Just like an industry which cannot pay minimum wages to its workers can not be allowed to exist, a tannery which cannot set up a primary treatment plant cannot be permitted to continue to be in existence, for the adverse effect on public at large which is likely to ensure by discharge of toxic wastes from the tannery to the river Ganga would be immense and it will outweigh any in convenience that may be caused to the management and the labour employed by it on account of its closure. The Court directed the tanneries to install treatment plants within six months and ordered the U.P. Pollution Control Board to enforce the orders of the Court faithfully. Following are some of the incidences where the Pollution Control Boards have granted authorisation even though the industries did not possess proper disposal facilities.

In the Wazirpur Industrial Estate and Shahadara-Maujpur Industrial Estate as well as along the Grand Trunk Road in Delhi, small and tiny scale industries processing non-ferrous metals such as copper, brass, aluminium as well as steel rolling mills and pickling factories are dumping their heavy metal rich effluent and acids into open cess pools and drain. This has led to permeation of effluents into water table and has contaminated ground water, which is used by local residents as
potable water supply. However no action has been taken to close down the industries by the Pollution Control Boards.

Cuddalore's industrial belt is worst affected by the dumping of hazardous wastes without proper collection and treatment. The cuddalore's SIPCOT (State Industries Promotion Corporation of Tamil Nadu) came up in 1982. About 20,000 villagers also live in the area. Within five years, agriculture in the region became impossible and fishing dwindled. Crops have failed to grow and goats straying into toxic dumps often die. People say that they are affected by many diseases caused due to the dumping of toxic wastes by almost all these industries. In July 2004, a major chlorine leakage occurred in chemplast, (an industry involved in hazardous activity) affecting more than 200 people in West Gonnur. People say that till 1996, effluents were discharged into the storm water drain without segregation. Since 2000, most of the chemicals are not treated and are left out in open ground. Residents of semmankupm say, before, the industries came up water was available at 50 – 70 feet. Now water is saline at 70 feet. It is light yellow at 70-250 feet and fully yellow up to 250 to 500 feet. Residents of sangolikuppam village use water from a 1,600 feet deep bore well but complain of skin allergies, utensils changing colour and the water leaving pinholes in their clothes. T.N. Pollution Control Board says the waste is collected into a common effluent disposal system. However, the local people say that effluents in reality end up in rivers. Activists warn of a potential Bhopal-like situation in Mettur and

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Cuddalore. "Chemplat is not the upright company it claims to be. The company officials have been consistently denying the effect of their plants and disposal of water on the health of the people" says Nityanand Jayaram, of Chennai-based, ‘Other Media’ that has been organising community environment monitoring in Cuddalore. 41 Nothing has been done by the Pollution Control Board to cancel the grant of authorization.

When Researchers from the Department of Zoology, Delhi University, visited Chinhat Industrial Area near Lucknow, they found a clear evidence of toxic waste containing residues of hexachlorocyclohexane (HCH) being disposed off by the units through drain and also at a dump some distance away. The researchers found high levels of HCH in various soil and water samples they tested. The Researcher Report states that, "the pesticide industries located in this belt, produce pesticide by adding chlorine to benzene in the presence of ultraviolet light. The reaction produces a mixture of four isomers (which are variants with same chemical constitution but different physical and/or chemical properties) called alpha (α), beta (β), gamma (γ) and delta (§) – HCH in the ratio 70, 12, 10 and 8 percent respectively. Among these, only r – HCH or lindane, has the insecticidal property but its separation from other isonomers requires several steps to be carried out. Thus, for purely economical reasons, two forms of HCH have been extensively used in India; lindane and technical HCH, which is mixture of four isomers. But in 1997, a partial ban on lindane restricted its use to 500 tonnes

annually. After lindane is extracted, the other isomers are treated as waste that, albeit toxic, is dumped in the open. The gradual leaching out of toxic chemicals from disposal sites are proving hazardous for people living in the vicinity.”

All the four HCH isomers are resistant to metabolic and microbial degradation, and so pose a serious problem of environmental contamination. The Report further reveals that, the workers and labourers handling the waste and chemicals seemed unaware of their toxicity. They were not wearing gloves or masks and looked sick and pale. Further, a huge quantity of toxic waste was piled, waiting to be dumped in to the water. Not only this, the waste is also dumped some 20 km away on government land situated at ummari village, which falls in Bara Banki District, along the Devan Road. Shocking evidence revealed that a huge pit was completely filled with white HCH musk. The area around the dump was devoid of vegetation. A further shocking thing was that many families lived near such dump and were facing serious health problems. They have nowhere else to go and must continue living next to the lethal waste, which had polluted the air they inhaled, the soil of their fields and the water they drank and which would ultimately kill them.  

The Report has revealed the following high level HCH residue which is highly dangerous to the human beings. What is shocking is that such gross violation of Rules takes place right in the presence of PCBs.

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42 Down to Earth, vol.13, No.18, Feb 15, 2005, p.36.
Site | HCH residue
--- | ---
Open dump and sealed dump | 6.6 mg/g
Rice field around the dumping site | 0.6 mg/l
Around the factories | 4.1 mg/g
Water sample from the nallah some 20 km away | 7 mg/ml

Following are some of the extracts from press Reports, which reveal the unauthorised dumping of hazardous waste

1) July 29, 2004: Two Metador Trucks carrying cartons of date expired drugs and pesticides were dumped and set ablaze by the officials of Hindustan Antibiotics Ltd in Sankheri Village, near Bhopal. Aftermath villagers residing within 200 meters of the site complained of breathing problems, stomach ache, diarrhea, nausea and vomiting. Four people belonging to the family of a farm labourers living nearby fell unconscious and were hospitalised.

2) July 13, 2004: Bombay High Court appoints retired judge D.R. Dhanuka as a Commissioner to investigate possible toxic exposure among employees working or having worked for Monsanto India Ltd at its Lonavla and Silvassa Plants.

3) July 6, 2004: A fire at Hindustan Insecticide Ltd endosulphan plant in Eloor, Kerala, guts the plant. More than 250 people exposed to toxic fumes from the fire. The company had no onsite or offsite emergency plan, and the fire
hydrant was not working. The company dismissed the fire as a major accident averted. No systematic medical monitoring or aid was offered to the victims.

4) April 17, 2004: Three employees at the Waste Immunization Plant at Tarapur, Maharashtra found exposed to radiation from a small bottle of diluted but highly radioactive wastes.

5) April 6, 2004: One person got killed and 29 got affected following a toxic gas leak at the Jaipur Golden Transport Company’s godown on Rashanara Road, North Delhi. Toxic gas is released after water was used to douse a fire, mixes with aluminium phosphide stored inside the godown. The police find that the firm does not have a valid license to handle toxic chemicals. Three managers arrested.

6) January 5, 2004: Residents of Gawanpada township in Chembur a Mumbai suburb, complain and of breathlessness after a whitish powder is emitted from the Hindustan Petro Chemicals Ltd plant. HPCL’s general manager visits the township and sends sweepers to clean up the powder. A representative from the public relation company hired by HPCL claims the silica powder is harmless.


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43 The ship breaking industries are involved in disposing off old obsolete ships and recovering the constructions materials for recycling. India is one of the leading players in the ship breaking industry. There are several ship breaking sites all along India’s coastline, the largest of which is at Alang on the east coast of Khambhat in Gujarat. Alang ship Breaking yard established in year 1982, now accommodates 183 ports spread over around 10 km. long stretch along the sea cost of
8) December 24, 2003: Three workers at a distillery at the Chittur Co-operative Sugar Mills in Palakkad, Kerala, dies after inhaling carbon dioxide while repairing pipeline. Workers allege absence of safety measures and medical facilities the factory premises. The issue here is how did the State Pollution Control Boards granted the license even though these hazardous industries did not possess appropriate disposal facilities.

It has been reported by Mr. S. Ramachandranan, Director, Department of Ocean Management, Anna University that, "indiscriminate dumping of industrial and chemicals waste in the sea has affected the entire ecology of the Chennai coastline". He says a nationwide marine pollution monitoring programme conducted for 10 years by the Department of Ocean Development, of the Union Government, whose results came out in 1999, found that the coastal water up to 2 km. off the Tamil Nadu coast was polluted, while in Mumbai, the sea was polluted up to 5 km from the shore. According to him the situation is more alarming in North Chennai, where the industrial dumping goes unchecked. Here the coastal water is turning turbid due to settlement of fly ash from a thermal plant. He says

Alang and sosias, which has a typical location advantage suitable to the ship breaking business. On an average, around 200 ships are broken every year with highest nos of 354 in the year 1996. During the process of ship breaking, pollutants like oil, paint, chips, debris, rubber and plastics insulating materials,themocole, glass wool, asbestos etc find their way to marine/terrestrial ecosystem. Also some time the ships contain unidentified matter and toxic chemical like paints, lead, heavy metals, ply chlorinated by phenyls, asbestos etc. Water pollutants, generated during the ship breaking results in change in water quality and marine ecosystem. The open buring of solid wastes including hazardous wastes, become a potential sources of air pollution. Apart from Alang in Gujarat, ship breaking location are also found in saurashtra in Gujarat, Tadri, in Karnataka, Malpe in Karnataka, Bayapare in Kerala, Cochin, in Kerala, Affichal in Kerala, Vizag in A.P., Valinokan in T.N. and Tuticorin in T.N.

"the condition is more serious in Ennore, a city suburb, where the ash prevents the penetration of light and results in a rise in the temperature of coastal water. Certain aquatic immovable spieces are affected due to the pollution and the coastline has lost its richness. Fish breeding has been badly affected in these areas".\(^{45}\)

The above facts reveal that, despite establishing the Pollution Control Boards, the industries have continued to violate the safety norms with impunity. As discussed earlier, one of the most important duties of the SPCB is to grant authorisation for the activities like collection, treatment storage and disposal of hazardous wastes only when it is satisfied that, the operator has appropriate facilities to handle the hazardous waste safely. However, the forgoing discussion reveals that even though hazardous industries disposed off the waste openly without having proper facilities to collect them, the SPCBs have not taken any action. It clearly shows the lack of will on the part of the SPCBs to impose punitive measures upon the industries.

Further, the Rules do not prescribe standard conditions and therefore conditions imposed for acquiring authorisation for disposal of hazardous wastes may differ from case to case due to which environmentally sound management cannot be accomplished.

(ii) Cancellation of Authorisation granted: The Pollution Control Board has the authority to suspend or cancel the authorisation if it finds that, the authorised

person has failed to comply with any of the conditions of the authorisation or with any provisions of the Act or the Rules. However, before suspension or cancellation, the Board shall give such person an opportunity to show cause and give such authorised person an opportunity to show cause and give reasons for such failure.\textsuperscript{46}

(iii) Power of Renewal: Member-Secretary, State Pollution Control Board or any Officer designated by the Board shall have the power to renew the authorisation only after examining the documents and other details like, submission of annual return by the occupier or operator of facility, steps taken by the applicant for reduction and prevention in the waste generated or for recycling or reuse, fulfilment of conditions prescribed in the authorisation regarding management in an environmentally sound manner of wastes by the applicant etc.\textsuperscript{47} However, no limitation to the validity of the authorisation has been specified in 2003 Amendment\textsuperscript{48} and the same is at the discretion of the SPCB’s due to which renewal of the authorization does not take place at regular intervals. If there is inaction on the part of the authorities in checking whether handling and disposal

\textsuperscript{46} Rules 5 (c) of HW (M&H) Amendment Rules, 2003.
\textsuperscript{47} Rules 5 (d) of HW (M&H) Amendment Rules, 2003
\textsuperscript{48} Rule 5(6) (i) as amended by Rule 5 (c) of the 2003 Amendment authorization granted under this Rule shall, unless suspended or cancelled be in force during the period of its validity as specified by the SPCB or Committee from the date of issue or from the date of renewal as the case may be.
facilities of the hazardous waste are being operated in an environmentally sound manner, the occupier or the operator who violates the law will escape.⁴⁹

In *K.Purusdhotam Reddy v. U.O.I.*⁵⁰ the petitioner sought the issuance of a writ of mandamus to direct the respondent to strictly follow the 1989 Rules while handling and disposing used oil for re-refining or re-processing and disposal of wastes generated during the process. The Court ordered accordingly:

"Having regard to the facts and circumstances of this case and particularly in view of the fact that thousand kilolitres of such waste lubricants are recycled for its reuse, it is necessary that all authorities including the A.P. State Pollution Control Board must strictly comply with the provisions of the said Rules. We further direct that in the event if any person is found to be unauthorisedly handling such hazardous waste products and or if any person authorised therefore violates any of the terms and conditions or directions or any law operating in the field, the State Pollution Control Board should take strict view of the matter and shall take steps for cancellation of their authorisation".

Thus the State Pollution Control Boards must at regular intervals renew the licenses, and if the industry is violating any norm, the license granted must be cancelled.

(iv) Maintenance of Records: The State Pollution Control Board or Committee is vested with a duty to maintain a register containing particulars of the conditions imposed under the Rules for any disposal of hazardous waste, on any land or

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The authorities are to prepare inventories of hazardous wastes and information related to its treatment and disposal based on returns filed by the occupier or the operators. However, lack of funds, technology, infrastructure and awareness all compound the existing difficult situation for inventorisation. India is spending on environmental protection in as low as 0.5 percent of Gross National product compared to 2-3 percent in the developed countries, though it is among the world's largest recipients of bilateral and multilateral funding for environmental programmes.

(v) Identification of sites, public hearing etc: The State Pollution Control Board or the Committee also plays an important role in the identification of the sites for the purposes of disposal of hazardous wastes. When the operator of a facility submits the Report of the Environment Impact Assessment to the State Pollution Control Board or Committee, the Board or Committee, after being satisfied with the EIA Report, cause a public notice for conducting a public hearing as per the procedures provided under Environment Impact Assessment notifications and its amendments. The Report submitted by State Pollution Control Board is very important since the State Government takes a decision in granting or refusing to grant sanction as to use of facility identified for the purpose of waste disposal.

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53 Ravi Raghavan, India Emerges as significant market for environment services and equipment, Chemical Weekly, vol.XLIX, No.12, 11 November 2003, p.97.
5.3.2.3 Responsibility of the State Government under the Rules:

The main responsibility of the State Government under these Rules is to identify the disposal sites for the purpose of disposing the hazardous wastes after ascertaining the suitability of the sites through Environmental Impact Assessment studies. The State Government shall within 30 days of receiving the documents of Environment Impact Assessment as well as public hearing in relation to the sites identified by the operator of the facility, occupier or any association for the purpose of disposing the wastes shall complete the assessment and convey its decision as to approval or refusal of using the sites identified for setting up of the facility for treatment, storage and disposal of hazardous waste. It is also the responsibility of the State Government to compile and publish periodically the inventory of such hazardous wastes disposal sites and facilities. The State Government shall also set up an on-site facility for treatment, storage and disposal of hazardous wastes for captive use and it shall be governed by the authorisation procedure as laid down in Rule 5. 55

Thus the on site facility provided by the State Government under the purview of authorities, whereby an initial impact assessment executed will no longer make it possible to dispose of the wastes in municipal dumps or in any manner that is not environmentally sound. On the other hand, it leaves scope to explore possibilities for recycling, reuse, recovery and treatment for safe storage and disposal on site. Further, the units must be willing to undertake such

55 Rule 7 (6), (7), & (8) of HW (M&H) Rules 2003.
responsibility to minimise risks to environmental resources before the grant of authorisation.56

5.3.3 Waste Trade (Import, Export and Transport of Hazardous Waste) and Illegal Traffic of Hazardous Waste

Developed countries have strict environmental norms that place tighter restrictions and involve high costs on domestic disposal of hazardous wastes in an environmentally sound manner. Consequently, the cost of production could not take into account the cost of waste disposal, which lead the industrial sectors of developed countries to ship such wastes to third world countries at lower costs. For example, in the United States the cost to dispose one barrel of hazardous waste could be as high as $250 but to ship it to a third world country could be as low as $2.50.57 The third world countries neither have the infrastructure nor stringent regulations to deal with such imports. Investigations by environmental groups like Green Peace and Toxic Links reveals that waste traders export huge quantities of hazardous wastes to India due to its low environmental standards and lax of enforcement of laws.58

The following table gives the list of unauthorised imports of hazardous wastes into India from 1992-1995 (thousand tonnes).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Lead Slag</td>
<td>1.98</td>
<td>1.26</td>
<td>2.5</td>
</tr>
<tr>
<td>Lead residue</td>
<td>5.36</td>
<td>5.46</td>
<td>7.56</td>
</tr>
<tr>
<td>Lead Waste and Scrap</td>
<td>6.73</td>
<td>26.45</td>
<td>48.87</td>
</tr>
<tr>
<td>Hard Zinc Spelter</td>
<td>2.60</td>
<td>0.87</td>
<td>2.03</td>
</tr>
<tr>
<td>Zinc Waste &amp; Scrap</td>
<td>0.15</td>
<td>0.81</td>
<td>4.05</td>
</tr>
<tr>
<td>Zinc Ash &amp; Residue</td>
<td>46.87</td>
<td>49.95</td>
<td>64.07</td>
</tr>
<tr>
<td>Copper ash and residue</td>
<td>19.53</td>
<td>17.21</td>
<td>44.07</td>
</tr>
<tr>
<td>Copper Waste and Scrap</td>
<td>13.19</td>
<td>17.61</td>
<td>16.63</td>
</tr>
<tr>
<td>Waste Scrap Copper alloys</td>
<td>51.47</td>
<td>79.24</td>
<td>85.07</td>
</tr>
<tr>
<td>Aluminium Ash and Residue</td>
<td>2.02</td>
<td>2.37</td>
<td>5.66</td>
</tr>
<tr>
<td>Aluminium Waste &amp; Scrap</td>
<td>1.85</td>
<td>21.59</td>
<td>20.4</td>
</tr>
<tr>
<td>Waste, Parings Scrap of Plastics</td>
<td>18.87</td>
<td>37.18</td>
<td>24.24</td>
</tr>
</tbody>
</table>


Import of hazardous wastes into India for disposal or dumping is banned. However, the permission may be granted by the State Pollution Control Board for importing wastes for the purpose of recycling or reuse. Rule 9 of the HW (M&H) 2003 Rules categorically state the following:

1) No person shall import or export hazardous wastes or substances containing or contaminated with such hazardous wastes as is specified in Schedule-8.\(^{59}\)

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\(^{59}\) See Appendix, Schedule-8.
2) The Ministry of Environment and Forests shall be the Nodal Ministry to deal with the transboundary movement of hazardous wastes and to grant permission of transit of hazardous wastes through any part of India.

3) Import and export of hazardous wastes shall be permitted as raw material for recycling or reuse.  

4) The authorities mentioned in column 2 of Schedule 7 shall be responsible for regulation of export and import of hazardous wastes.  

5) Any occupier importing or exporting hazardous wastes shall comply with the articles of the Basel Convention to which the Central Government is a signatory.

6) In case of any dispute as to the grant of permission to import or export of hazardous wastes, the matter shall be referred to the Central Government for a decision.

Rule 10 of HW (M&H) Rules 2003 further states that, “Every occupier seeking to import hazardous wastes shall apply to the State Pollution Control Board or Committee at least 120 days in advance of the intended date of commencement of shipment in form 6”. An occupier importing hazardous wastes listed under an open general license of the Director General of Foreign Trade shall

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60 Recyclers and re-users must register themselves under the Rules as per procedure prescribed.
61 See Appendix, Schedule-7.
register himself with MOEF or any other authority or agency designated by it in accordance with procedure laid down under Rule 19".62

The 2003 Rules also deal with "Illegal Traffic of Hazardous Waste”. In case of illegal movement of the hazardous waste, the provision is made to ship the waste back to the exporter or exporting country within 30 days or the waste shall be disposed of within 30 days from the date of loading in accordance with the procedure laid down by the State Pollution Control Board or Committee in consultation with the Central Pollution Control Board.63

Inspite of the above provisions, India has become the dumping ground for hazardous waste. Thousands of tonnes of toxic waste are illegally shipped to India for recycling or dumping, despite a New Delhi Court order banning import of toxic materials.64 A recent study reveals that, nearly 151 different importing companies have imported nearly 73,000 tonnes of toxic zinc and lead residues from 49 countries. In 1995, Australia exported more than 1,450 tonnes of hazardous waste like scrap lead batteries, zinc and copper ash to India. A Greenpeace analysis of India’s foreign trade data found that at least 1,127 tonnes of zinc ash were imported mainly from the United States since May 1996. Some 569 tonnes of lead battery waste were brought in through the main seaport of Mumbai between October 1996 and January 1997. About 40,000 tonnes of broken lead

batteries were imported during 1996 (lead acid batteries are in the Basel Ban List). Some 150 companies and trading houses are importing toxic waste into India though only seven are licensed to do so.65

The export of hazardous plastic waste to India has lately created an uproar in some European Countries, but the Indian authorities are alarmingly unconcerned.

On May 12, 2005, a UK Court imposed a fine of US $47,000 on Materials Recovery Limited (MRL), a country based waste and recycling company, for illegally exporting 20 containers of hazardous plastic waste to India. MRL, which sent the waste from its depot at Somerset between July 11, 2003, and November 4, 2003, was ordered to pay US $36,487 in fine and US $20,581 in costs. The case was brought by the UK environment agency, which alleged that the exports violated international cross boarder shipment Rules.

The Court held MRL guilty of 12 offences and charged it with shipping waste to India in circumstances considered illegal traffic under European Council Regulation. “All exports of plastic waste, except a type known as PET, is allowed only in time with Red List Controls. This basically means these non-PET exports were illegal. We don’t know what was happening to this plastic once it reached India, but the export of waste for disposal is strictly prohibited outside the UK.

65 N.K.Uberoi, supra note 40, p.283.
This is to prevent U.K. from dumping waste in developing nations. MRL breached UK, European and international legislation” says an Agency note.

In another incident reflecting similar concern, a leading Danish Newspaper *Politiken* Reported that, Denmark exports around 24,000 tonnes of plastic waste annually, of which, 2000 tonnes is PVC plastic, a suspected carcinogen. Its export is easy because the EU doesn’t regard it as hazardous waste. About one fifth of Denmark’s plastic is collected by buyers in the EU and exported to India, China, Hong Kong and other countries in the East.

While the two incidents confirm the arrival of hazardous waste in India, authorities do not know where it goes. It is reported that, once such waste lands on Indian shores, it is difficult to return it. 66

On September 30, 2004 eleven trucks carrying imported metal scarp trudged into Sahibabad-based Bhushan Steels and Stripes Limited (BSSL), a steel smelting and rolling unit. One of them exploded, killing 10 workers, as the scrap the truck was carrying had live ammunition mixed in it.

Then, over the next fortnight, live and used artillery shells, cartridges and spent rockets began to pop up all around the country at a community park in Ghaziabad; inside a container in Kandla Port, Gujarat; in the fields and road sides. Government then launched an investigation.

Following the BSSL explosion, army bomb disposal squads were sent to combing depots, ports, containers and the countryside BSSL’s explosive load had been released by the Inland Containers Depot (ICD) at Tughlakabad, near Delhi; ICD, refused to clear any of the 3000 metal scrap containers lying there. The official investigation sought answers to where the waste had come from, how it could make its way to BSSL. The investigation revealed that, on September 19, 106.5 tonnes of scrap metal reached ICD, Tughlakabad. The bill of entry for the containers showed Iran as the country of origin. Directorate General of Foreign Trade (DGFT) announced that, the scrap originated in Iraq but was sent by road to Iran, from where it was shipped to India. While these facts emerged, the government sublimated into a state of immense perplexity. Was the scrap that had reached BSSL non-hazardous or hazardous? Although steel waste is not technically restricted under the hazardous waste Rules, by the very nature of its flammable and other characteristic it is clearly hazardous. However, MOEF concluded that, consignment could not be termed as hazardous, and further said that, as the explosives were present in it, the matter concerned the Union Ministry of Home Affairs. Finally the Union Minister of Commerce, Kamal Nath, announced that, all metal scrap coming to India would have to carry a pre-shipment inspection certificate. For the first time, a differentiation was made between shredded and unshredded scrap. Unshredded scrap was allowed from 15

67 The DGFT is the agency under the Union Ministry of Commerce and Industry, which issues licenses for all imports including scrap.
68 In Definition of hazardous waste. see supra note 21.
notified ports, while shredded scrap can come through the other 30-40 minor ports also. It has also tightened the importers responsibility by making the pre-shipment inspection certificate mandatory for all metal-scarp import.

Earlier, it was mandatory only for a consignment from a war-torn country. Also, the shipping company, that is carrying loose metal scrap, has to ensure that, every consignment is accompanied by a pre-shipment inspection, certificate before it is loaded.

The Government is treating BSSL as a one off incident. But as a customs official says, "The first such case came to light in 1991, when ICD was located at Pragati Maidan in New Delhi. That time too, a consignment had come from Iraq. But is did not make news because the quantity of explosives in it was minimum. In 1994, there was a blast of ICD due to explosives hidden in waste, which killed five people". The Government shifted ICD to Tughlakabad.

The experiences of metal scrap recyclers also point to a horrendous regulatory record. In 1994, a Delhi based recycler when imported a metal scrap consignment shockingly, the waste was found to contain a pistol.

It has also been found that, there is another facet to this dirty trade. DGFT has separate category for empty or discharged cartridges of all bores and sizes. In other words, it legally allows the import of "dead" ammunition. In 2002-03 alone, India imported 6,751 tonnes of this explosive scrap. Strikingly, India is getting most from Ivory coast- clearly a war zone. India does not have a rigorous system
enough to be able to detect a "live" shell in a consignment of dead ammunition. The following examples illustrate this fact, in the year 2004.

October 4 – Eight live shells and four spent rockets found in Bulandshahr, Uttar Pradesh;

October 5 – 14 live shells found in Ghaziabad, UP 27 dead shells and two live ones found in Delhi. 19 live shells found in Aligarh, U.P.;

October 7- 10 shells found in Bhagpat, U.P;

October 9 – 52 shells found in residential areas of Ghaziabad, U.P. 40 shells founds in Kotwdwar, Uttaranachal 50 used shells recovered from iron scrap container at Kandla Port, Gujarat;

October 9 – 15 shells found near a community park in Ghaziabad, U.P.;

October 10 – 600 rocket shells and missiles; and 1000/- cartridges found in U.P. Rajastan, Maharashtra and Gujarat;

October 12- More than 800 explosives, mostly rocket shells, recovered from scrap in three places in Kachch District, Gujarat;

October 13- Explosives found in the scrap weighing around 200 tonnes in Navi Mumbai. 69

The following graph illustrates how India is upcoming as a biggest centre for dirty trade in the world. 70

Waste/scrap (in tonnes)
201
Iron and Steel Scrap
1,000,000

It has grown from 1.64 million tonnes in 1997-1998 to 2.39 million tonnes in 2002-2003, a compounded growth rate of over 45 percent.

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Indian economy has its own problem of dealing with plastic waste, still, India added to it by importing as much as 79,000 tonnes just in 2002-03. It is also galloping growing at a compounded annual rate of 62 percent between 1997 and 2003. Between 1997 and 2003, India brought in 6,847 tonnes of Polyvinyl Chlorides (PVC) scrap. The imports increased by more than 700 percent over this period. No body knows where this waste ended up, as there are no restriction or
regulations on the import of PVC scrap in the country. PVC when burnt release deadly dioxins and so is a constant nuisance.\textsuperscript{71}

Heavy metal scrap (zinc waste, Lead Waste and scrap, Arsenic and Selenium)

\textsuperscript{71} \textit{Ibid.}
Waste / scrap (in tonnes)

Lead waste and scrap

Trendline
Heavy metal scrap falls into different types of regulation. Importers of lead, zinc and nickel scrap need to be registered with CPCB, while tin and cadmium waste is not a part of the restricted list and can be imported with a license from DGFT. Only Chromium waste is on the banned list under the HW (M&H) Rules.\textsuperscript{72}

\textsuperscript{72} Id.
In the above graphs the biggest increase in the CPCB registered items is lead scrap. Increasing from 16,345 tonnes to 31,282 tonnes. But Zinc scrap has come down, from 11,000 tonnes to 31,598 tonnes in the same period. Tin scrap small quantities have gone up from 26 tonnes to 108 tonnes.

**Explosives (cartridge imports (tonnes)**73

<table>
<thead>
<tr>
<th>Country</th>
<th>2002-2003</th>
</tr>
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<tbody>
<tr>
<td>Ivory coast</td>
<td>2,427.5</td>
</tr>
<tr>
<td>Nigeria</td>
<td>891.5</td>
</tr>
<tr>
<td>Tanzania Republic</td>
<td>325.0</td>
</tr>
<tr>
<td>Kuwait</td>
<td>297.0</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>293.8</td>
</tr>
<tr>
<td>Korea Republic</td>
<td>187.0</td>
</tr>
<tr>
<td>Singapore</td>
<td>163.0</td>
</tr>
<tr>
<td>Sudan</td>
<td>162.0</td>
</tr>
<tr>
<td>Sri.Lanka</td>
<td>160.0</td>
</tr>
<tr>
<td>Yemen Republic</td>
<td>124.0</td>
</tr>
<tr>
<td>Others</td>
<td>720.0</td>
</tr>
</tbody>
</table>

73 [http://commerce.nic.in](http://commerce.nic.in) visited on 8.11.2006.
### Mercury Imports into India (in tonnes)

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>Mercury</td>
<td>254</td>
<td>268</td>
<td>116</td>
<td>207</td>
<td>286</td>
<td>260</td>
<td>531</td>
</tr>
<tr>
<td>Organo-Mercury Compounds</td>
<td>0.7</td>
<td>73</td>
<td>193</td>
<td>428</td>
<td>728</td>
<td>843</td>
<td>1,312</td>
</tr>
<tr>
<td>Mercury Oxide</td>
<td>21.4</td>
<td>0.1</td>
<td>0</td>
<td>2.0</td>
<td>0.6</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Mercury or Sodium Vapour Lamps</td>
<td>0.002</td>
<td>0.032</td>
<td>0.033</td>
<td>0.115</td>
<td>0.179</td>
<td>0.221</td>
<td>0.12</td>
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<td>Clinical Thermometer</td>
<td>0.67</td>
<td>0.29</td>
<td>0.43</td>
<td>0.34</td>
<td>0.26</td>
<td>0.97</td>
<td>0.39</td>
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<tr>
<td>Thermostats</td>
<td>1.73</td>
<td>2.35</td>
<td>3.20</td>
<td>3.88</td>
<td>2.50</td>
<td>2.07</td>
<td>2.51</td>
</tr>
<tr>
<td>Blood Pressure Instruments</td>
<td>0.00</td>
<td>0.01</td>
<td>0.02</td>
<td>0.01</td>
<td>0.02</td>
<td>0.04</td>
<td>0.01</td>
</tr>
<tr>
<td>Button Cells</td>
<td>17.11</td>
<td>49.91</td>
<td>80.46</td>
<td>51.39</td>
<td>207.07</td>
<td>87.36</td>
<td>90.53</td>
</tr>
</tbody>
</table>

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The impact of mercury waste and mercury waste compounds as constituents or contaminant is completely banned under hazardous waste Rules. But the problem is that, even though the imports are banned, huge amounts of mercury compounds are imported. Mercury is a horrendous substance. But more importantly it is recyclable. Therefore, it is impossible to say that they are imported, as mercury is recycled waste or a virgin mineral. Mercury is being phased-out across the industrialised world, but not in India.\textsuperscript{75}

\textsuperscript{75} Ibid., p.32.
Import of banned hazardous substances

The biggest issue escaping the notice is that a very large amount of hazardous substances are imported, if not their waste. For example, substances like arsenic, selenium and thallium and unimaginable amounts of mercury are imported. The waste of all these is banned for import or export. The big issue is; how to arrive at a conclusion that only hazardous substance is imported and not waste? Can these hazardous substances, be managed which the rest of the world is rejecting?

Hazardous waste trade is complicated and the management of waste is even more complicated. It involves many different dealers, working surreptitiously behind different loopholes and clauses, exporting under different names and different products. Further, the Customs Department, where the import of waste is checked before the entry into the country, is poorly staffed and ill-equipped to intercept hazardous waste. Then equipment for surveillance does not exit. For instance, most ports have to manually test consignment; such investigations can only guage one-fourth of all the waste that pours in. Moreover customs laboratories do not have gadgets to detect contaminants. For example waste oil under 2003 amendment Rules polychlorinated biphenyls should be “below detection limit”. If the equipment is poor, polychlorinated biphenyls will never be detected. Even when intercepted, port authorities do not know what to do with hazardous waste. The Wadhwan Committee has some shocking data in its 2002 Report: about 23,707 containers and drums of hazardous waste still lie at Indian
ports. No agency knows how to dispose off these containers. The Basel Convention regulates hazardous waste trade by requiring the exporting country to seek permission from the country it wants to send its waste to. But it is only an informed consent convention. The real challenge lies with the importing country, which has to decide, in the interests of its own people, if it has the ability to manage, process and recycle the waste without adding to its environmental damage. This also demands that importing countries must decide what they will allow and revise their own list of hazardous waste it will ban.

The point is that the regulation and management of hazardous substances will cost the Indian economy. It will cost money to regulate the trade. And if not regulated it will cost the health of people. The rest of the world is realising these costs and it is precisely because their cost of management of hazardous waste is increasing that they are finding cheaper options in Indian markets. It is clear that Indian recycling is in the small sector, which is largely unregulated and unchecked for its quality of work and waste.76

Despite the Supreme Court order regarding the ban of hazardous waste imports, there has been illegal traffic in India. In Research Foundation for Science Technology National Resource Policy v. Union of India and ors,77 the Court directed that no authorisation or permission would be given by any authority for the import of hazardous waste items, which have already been banned by the

76 Id, pp 34-36.
Central Government or by any order made by any Court or any other authority, and no import would be made or permitted by any authority or any person of any hazardous waste already banned under the Basel Convention or to be banned thereafter with effect from the dates specified therein. In view of the magnitude of the problems and its impact, the State Governments were directed to show cause as to why an order not be made directing closure of units utilising the hazardous waste, where provision is not already made for requisite safe disposal sites. It was further ordered that cause to be shown as to why immediate order should not be made for closure of all unauthorised hazardous waste handling units.\textsuperscript{78} The Supreme Court has identified two aspects relating to illegal import consignments that have been cleared and have already found their way into the market. In respect of this category of illegal imports the Court directed that, "action against all concerned shall be taken by the concerned authorities in accordance with law". The second aspect relates to the stock of such wastes lying at various ports or Indian Container Depots or Container Freight Stations. This can be again divided into two categories. Firstly those banned under the Hazardous Waste Rules as amended up to date and secondly, those falling under a banned category in terms of the Basel Convention. The Court further observed: such consignments have either to be re-exported, if permissible or destroyed at the risk, costs and

\textsuperscript{78} Ibid., para 62.
consequence of the importer. There cannot be any question of permitting these consignments making their ways into the Indian soil. 79

In conclusion, is a complete ban on the imports of hazardous waste practical? The question raises two important issues:

(i) The need to have serious implementation of the regulations; and

(ii) The need for facilities conducting recycling, reuse and final disposal in an environmentally sound manner.

If these issues are addressed, waste trade industries can become a source of revenue for importing countries. 80

5.3.4 Procedure for registration and renewal of registration of recyclers and re-refiners

Another important amendment that has been made under the 2003 amendment Rules is the inclusion of procedure for registration and renewal of registration of recyclers and re-refiners of non-ferrous metal wastes. Rule 14 deals with the procedure which is as under;

1) Every person desirous of recycling or re-refining non-ferrous metal wastes as specified in Schedule 4 or used oil /waste oil, shall register himself with the Central Pollution Control Board: Provided that no owner or occupier of an industrial unit have captive recycling of non-ferrous metals or recycling of

79 Ibid., para 63.
waste oil or re-refining of used oil facility shall be required to register under these Rules. Provided further that no person who has registered with the Ministry of Environment and Forests before the commencement of the Hazardous Wastes (Management and Handling) Amendment Rules 2003 shall unless such registration is cancelled or ceases to operate under sub-Rule (3) of Rule 21, be required to register under this sub-Rule as given in the certificate of registration.

2) Every application for registration under this Rule shall be made in Form 11 along with a copy of each of the following documents to the Central Pollution Control Board for the grant of such registration or renewal;

a) letter of consent granted under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981.

b) authorisation granted under Rule 5 of these Rules.

c) certificate of registration with District Industries Centre.

d) proof of installed capacity of plant and machinery issued by either State Pollution Control Board or Committee or the District Industries Centre, and

e) report from State Pollution Control Board or Committee regarding proof of compliance of effluent and emission standards and treatment
and disposal of hazardous wastes as stipulated by the Board or Committee.

3) If the Central Pollution Control Board is satisfied that the recyclers or re-refiners possess requisite facilities, technical capabilities, and equipment to recycle or re-refine the wastes and dispose of the hazardous wastes generated, it shall grant a certificate of registration to such recycler or re-refiner, as the case may be.

4) The Central Pollution Control Board shall dispose off the application for registration within 120 days of receipt of such application with complete details.

5) The certificate of registration granted under sub-Rule (3) shall be valid for a period of two years from the date of its issue unless suspended or cancelled earlier.

6) Every application for renewal of registration of a certificate of registration granted under sub-Rule (3) shall be made in form 11 along with the documents mentioned in sub-Rule(2) at least two months before the expiry of the period of validity of such certificate. The Central Pollution Control Board shall renew the registration of the recycler or re-refiner granted under sub-Rule (3) after examining each case on merit.
7) The Central Pollution Control Board may, after giving reasonable opportunity to the applicant of being heard, by order, refuse to grant certificate of registration of renewal.

8) The Central Pollution Control Board may cancel or suspend a registration or renewal granted under these Rules, if in its opinion the registered recycler has failed to comply with any of the conditions of registration, or with any provisions of the Act or Rules made thereunder after giving him an opportunity of being heard and after recording the reasons therefor;

9) An appeal against any order of suspension or cancellation or refusal of registration or renewal passed by Central Pollution Control Board shall lie with the Secretary, Ministry of Environment and Forests (hereafter referred to as the appellate authority).

10) The memorandum of appeal under sub-Rule (9) shall be in writing and shall be accompanied with a copy of the order appealed against and shall be presented within 90 days of passing of the order:

Provided that the appellate authority may allow a memorandum of appeal to be filed after the expiry of the said period of thirty days but in no case later than 45 days if the appellate authority is satisfied that there exists sufficing cause of not refraining tyre appeal in time.

11) On receipt of a memorandum of appeal under sub-Rule (9) the appellate authority shall within ninety days from the date of receipt of such
memorandum of appeal and after giving the appellant an opportunity of being heard pass such order as he may deem fit.

12) In case of units registered with the Ministry of Environment and Forests or the Central Pollution Control Board for items placed under “free category” in Notification nos.22(RE-99) 1997-2002 dated 30th July, 1999; 26 (RE-99) 1997-2000 and 6 (RE 2001) dated 31st March, 2001 issued by the Directorate General of Foreign Trade and other similar notifications issued based on the advice of Ministry of Environment and Forests, prior import permission from that Ministry shall not be required.

13) Recyclers and re-refiners registered with the Government of India in the Ministry of Environment and Forests or the Central Pollution Control Board shall maintain a record of wastes purchased, processed and sold and shall file an annual return in Form-12 to the respective State Pollution Control Board or Committee, as the case may be latest by 31st January of every year.

(a) Responsibility of waste generator:

1) No owner or occupier generating non-ferrous metal waste specified in Schedule 4 of generating used oil or waste oil of ten tonnes of more per annum shall sell or auction such non-ferrous metal wastes, used oil or waste oil except to a registered re-refiner or recycler, as the case may be, who undertakes to re-refine or recycle the waste within the period of validity of his certificate of registration.
2) Any waste oil which does not meet the specifications laid down in Schedule 6 shall not be auctioned or sold but shall be disposed off in hazardous wastes incinerator installed with air pollution control devices and meeting emission standards.

3) The person generating waste or auctioners shall ensure that at the time of auction or sale, the period of validity of the certificate of registration of the registered re-refiner or recycler is sufficient to reprocess the quantity of wastes being sold or auctioned to him.

4) The waste generators and auctioneers shall ensure that the wastes are not allowed to be stored for more than ninety days and shall maintain a record of auctions and sale of such wastes and make these records available to the State Pollution Control Board or Committee for Inspections.

5) The waste generators and auctioneers shall file annual returns of auction and sale in Form-13 latest by 31st day of January of every year to the respective state Pollution Control Board or Committee.

(b) Technology and standards for re-refining or recycling:

1) Re-refiners and recyclers shall use only environmentally sound technologies while recycling and re-refining non-ferrous metal wastes or used oil or waste oil. In case of used oil, re-refiners using acid clay process or modified acid clay process shall switch over within six months from the date of
commencement of the Hazardous Wastes (Management and Handling) Amendment Rules 2003 to other environmentally sound technologies as under:

a) Vacuum distillation with clay treatment;

b) Vacuum distillation with hydrotreating;

c) Thin film evaporation process; or

d) Any other technology approved by the Ministry of Environment and Forests.

2) The re-refiners and recyclers registered with the Ministry of Environment and Forests or the Central Pollution Control Board in accordance with the procedure laid down in Rule 19 shall file a compliance Report of having adopted one of the technologies mentioned in sub-Rule (1) within six months from the date of commencement of the Hazardous Wastes (Management and Handling) Amendment Rules, 2003.

3) Notwithstanding anything contained in a certificate of registration granted to a recycler or re-refiner, such registration with the Ministry of Environment and Forests shall cease to be valid if he fails to comply with sub-Rule (1).

4) The State Pollution Control Board or Committee shall inspect the re-refining and recycling units within three months of the expiry of the six months period referred to in sub-Rule (1) and submit a compliance Report to the Central Pollution Control Board which shall compile such information and furnish the same to the Ministry of Environment and Forests on a regular basis.
5) The Ministry of Environment and Forests shall notify from time to time specifications and standards to be followed by recyclers and re-refiners.

5.4 Conclusion

National and International laws governing hazardous waste primarily focus on the disposal of such wastes instead of prevention of its generation. In order to avoid generation of such wastes, clean production schemes should be followed by industries. To this effect, national and international legislations should adopt policies towards monitoring inputs of production. Establishment of such policies requires a scientific approach, which the PCBs cannot single-handedly formulate without technical assistance and financial aid. This necessitates the constitution of separate hazardous wastes body. Although the Rules have been amended, there has been no significant change in the degree of degradation of the environment. The core of the problem lies more in the need for effective implementation of existing laws than in the execution of more stringent laws. Technical assistance would act as an aid to carry on tasks such as preparing inventories of disposal sites, conduct of environmental audits, identification of new industrial sites and relocation of old industries and setting up common treatment storage and disposal facility with environmentally sound technologies.