Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and Guidelines on Implementing Liabilities & Fines

Bharat K Sharma
Additional Director
HWMD

Central Pollution Control Board

June 17, 2016
Hazardous Waste Generation & Management

43,938 hazardous waste generating units in the country generating about 7.46 million tons.

<table>
<thead>
<tr>
<th>HW Inventory for the year 2009</th>
<th>HW Inventory Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total annual hazardous waste generation = 6.2 MT</td>
<td>Total annual hazardous waste generation = 6.2 MT</td>
</tr>
<tr>
<td>3.1 MT (49%)</td>
<td>3.42 MT (45.8%)</td>
</tr>
<tr>
<td>2.7 MT (44%)</td>
<td>3.35 MT (45%)</td>
</tr>
<tr>
<td>0.4 MT (7%)</td>
<td>0.69 MT (9.2%)</td>
</tr>
</tbody>
</table>

- Landfillable Waste
- Incinerable Waste
- Recyclable Waste

- Landfillable
- Recyclable
- Incinerable
Hazardous Waste Generation in States/UTs

- Gujarat (about 29%), Maharashtra (about 25%) and Andhra Pradesh (about 9%) are the top three HW generating States.

- Chhattisgarh (about 5%), Rajasthan, West Bengal and Tamil Nadu (about 4 %)

These seven States together, are generating about 80 % of country’s total hazardous waste.
Salient Features of Regulations on Hazardous Waste Management

• Definition of Hazardous Wastes (HW)
• Responsibilities of the occupier for handling of HW
• Provisions of requirement of authorization for handling HW.
• Provisions for Packaging, Labeling and Transportation of HW
• Procedure for treatment, storage and disposal facilities of HW
• Records and returns pertaining to HW generation and their disposal
• Procedure for recycling or utilization of HW

Contd…
Salient Features of Regulations on Hazardous Waste Management

- Procedure for import and export of HW and Prohibition of certain wastes for import.
- Liability of occupier, transporter, operator of a facility and importer.
- Responsibilities of various authorities such as MoEF, CPCB, SPCB/PCB, State Government, Port Authority etc.
- Provisions of accident reporting, appeal etc.
Stakeholders

• Occupiers
• Operators of Disposal Facility
• Recyclers / Utilizers
• Transporters (motor vehicle act, accident reporting, carry manifest)
• Importers
• Exporters
• SPCBs/PCCs
• State Government
• Port & Customs Authorities
• DGFT
• CPCB
• Ministry of Environment, Forest & Climate Change
Major Amendments compared to earlier Rules

• Title of the Rules has been amended as Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

• Major Amendments made in following areas
  – Authorization / Renewal of authorization (introduced new forms, compliance verification report, Emergency Response Plans and undertaking for submitting bank guarantee)
  – New Schedule-II for identification of HW
  – Utilization of Hazardous waste includes Schedule IV wastes also.
  – SoPs for recycling/utilization introduced
  – Pass books applicable for all actual users
  – Removal of Registration scheme
  – Responsibilities of State Government
  – Revised Import-Export provisions (Banned items 49 from 30; more clarity)
  – Filing of Annual Reports by SPCBs & CPCB
Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

- **New Definitions added:**
  
  - Captive Treatment, storage and disposal facility
  - Common Treatment, storage and disposal facility
  - Co-processing
  - Critical care medical equipment
  - Pre-processing
  - Utilisation
  - Waste & byproduct
  - Other waste

- More clarity in earlier definitions
Waste management hierarchy

- Prevention
- Minimization
- Reuse
- Recycling
- Recovery, utilisation including co-processing
- Safe disposal
Responsibilities of State Government
(New inclusion)

• Department of Industry in the State or any other government agency - to earmark or allocate industrial space or shed for recycling, pre-processing and other utilisation of hazardous or other waste in the existing and upcoming industrial park, estate and industrial clusters.

• Submit annual report to the Ministry of Environment, Forest and Climate Change on integrated plan for ensuring environmentally Sound Management of Hazardous and other wastes.

• Department of Labour in the State or any other government agency shall ensure the following in respect of workers involved in recycling, pre-processing and other utilisation of HW ;
  a) Recognition and Registration of workers
  b) Imparting industrial skill development activities
  c) Monitoring safety and health of workers.
New Provisions in Grant of authorization

• Occupier shall obtain an authorization / renewal of authorisation from the State Pollution Control Board in Modified Form 1. Applicant shall enclose copies of CTE, valid CTO. A Self certified compliance report shall be enclosed in case of renewal application.

• State Pollution Control Board shall grant authorisation in Modified Form 2 after ensuring technical capabilities and equipment complying with the Standard Operating Procedures or other guidelines specified by CPCB through site inspection.

• The authorisation granted shall be accompanied with copy of field inspection report signed by that Board.

• Handing over of the hazardous and other wastes to the authorised actual user shall be only after making the entry into the passbook of the actual user

• Includes Authorization for recycling of Other wastes listed in Schedule - III
Salient features in Form 1 for Grant of Authorization

For authorization/renewal of authorization, the occupier shall submit;

- copies of ARs (last 03 years)
- compliance report of EC
- quantity handled
- quantity generated
- quantity of products and by-products
- Characteristics (Waste-wise)
- Emergency Response Plan (ERP)
- Undertaking
- Captive disposal/utilisation facilities
- Arrangement details for transportation
- Wastes generated from storage of chemicals
- Quantity received in case of actual users
Utilisation of hazardous and other wastes
(Major Changes)

Rule-9 : provisions of Recycling and Utilization of HW

(1) SPCBs/PCCS may grant authorisation to actual users for utilization or recycling of Hazardous Wastes for which Standard Operating Procedures (SoPs) or guidelines have been provided by CPCB

(2) Where SoPs or guidelines are not available, the applicants shall approach CPCB for grant of approval, which may be given by CPCB on the basis of trial runs.

Upon completion of successful trial run, CPCB shall prepare SoPs for such Utilization and circulate the same to all SPCBs.

(3) No trial runs are required for co-processing once the co-processing standards are notified.
However, till the time the standards are notified, the procedure as specified at (2) above shall be followed.
Import & Export of Hazardous and Other Waste

- MoEF shall be the nodal Ministry for Transboundary movement of hazardous and other wastes.
- No import for disposal shall be permitted.
- Import permitted only for recycling, recovery, reuse and utilisation, including co-processing.
- Export is permitted subject to PIC from importing country.
- No import of Schedule VI item shall be permitted.
- Import of hazardous and other wastes listed under Part A and Part B of Schedule-III shall require permission from MoEF & CC with PIC of the exporting country in respect of only Part A wastes;
- Import of other wastes listed in Part D of Schedule III shall not require MOEF&CC permission. However, the Custom Authorities shall verify the documents given in Schedule VIII (New addition).
- Samples of hazardous and other wastes (1000 gm or 1000 ml) imported for testing of R&D purposes are exempted from taking any permission.
Import & Export of Hazardous and Other Waste (Contd.)

- A person intending to import or transit for trans-boundary movement of hazardous and other wastes specified in Schedule-III shall apply in Form 5 (Amended) and simultaneously, to the SPCB to enable them to send their comments and observations, if any.

- Importer of other wastes listed in Part D shall furnish the information in Form 6 (Amended) to the Custom Authorities alongwith the document listed in Schedule VIII (New).

- Importer need to obtain extended producer responsibility-authorisation as producer under the said E-Waste (Management) Rules, for import of any used electrical and electronic assemblies or spares or part or component or consumables listed in Part B of Schedule III.

- Exporter of hazardous and other waste shall apply in Form 5 alongwith insurance cover and PIC from importing country to MOEF&CC.
Illegal traffic

(1) The export and import of hazardous or other wastes shall be deemed illegal, if,-
   – it is without permission of the Central Government; or
   – the permission has been obtained through falsification, mis-representation or fraud; or
   – it does not conform to the shipping details provided in the movement documents; or
   – it results in deliberate disposal (i.e., dumping) of hazardous or other waste.

(2) In case of illegal import of the hazardous or other waste, the importer shall re-export the waste in question at his cost within a period of 90 days from the date of its arrival into India and its implementation will be ensured by the concerned Port and the Custom authority. In case of disposal of such waste by the Port and Custom authorities, they shall do so in accordance with these rules with the permission of the Pollution Control Board of the State where the Port exists.

(3) In case the importer is not traceable then the waste either can be sold by the Customs authority to any user having authorisation under these rules from the concerned State Pollution Control Board or can be sent to authorised treatment, storage and disposal facility.
Treatment, Storage & Disposal Facilities
(Minor Changes)

• The State Government, occupier, operator of a facility or any association of occupiers shall individually or jointly or severally be responsible for, identification of sites for establishing the facility for treatment, storage and disposal of the hazardous.

• Operator of common or captive TSDF shall obtain approval from the SPCB for design and layout of TSDF.

• SPCB shall monitor the setting up and operation of captive/Common TSDF.

• Operator of common or captive TSDF shall be responsible for safe and environmentally sound operation and its closure and post-closure phase.
Transportation of Hazardous Waste

• The **sender** of the waste shall obtain ‘No Objection Certificate’ from the SPCB of both the States for transportation of waste in case of final disposal to a facility existing in a State other than the State where the hazardous waste is generated.

• In case of transit of waste for recycling, recovery, reuse or utilisation through a State other than the State of origin or destination, the occupier shall intimate the concerned SPCB before he hands over the hazardous wastes to the transporter.

• The authorisation for transportation shall either be obtain by the **sender or the receiver** on whose behalf the transport is being arranged.

• **Gray color Manifest** – shall only be sent to the SPCB of the sender in case sender is in another State.
Amendments in Schedules

- Schedule I- List of processes generating hazardous wastes is revised

- Schedule II revised completely for identification of HW

  - Class A- List of Waste Constituents with Concentration Limits based on Leachable concentration (mg/l) i.e. TCLP and STLC.

  - Class B- List of Waste Constituents with Concentration Limits Based on Total threshold limit concentration in mg/kg

  - Class C- Characteristic i.e. the waste exhibits any of the characteristics due to the presence of any hazardous constituents has been revised based on Flammable, Corrosive, Reactive, Toxic, Spontaneous Combustion, In contact with water emits flammable gases, Oxidizing, Organic Peroxides, Poisons, Infectious substances, liberation of toxic gases, Eco-toxic and Capable
## SCHEDULE II

[See rule 3 (1) (17) (ii)]

List of waste constituents with concentration limits

**Class A:** Based on leachable concentration limits [Toxicity Characteristic Leaching Procedure (TCLP) or Soluble Threshold Limit Concentration (STLC)]

<table>
<thead>
<tr>
<th>Class</th>
<th>Constituents</th>
<th>Concentration in mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Arsenic</td>
<td>5.0</td>
</tr>
<tr>
<td>A2</td>
<td>Barium</td>
<td>100.0</td>
</tr>
<tr>
<td>A3</td>
<td>Cadmium</td>
<td>1.0</td>
</tr>
<tr>
<td>A4</td>
<td>Chromium and/or Chromium (III) compounds</td>
<td>5.0</td>
</tr>
<tr>
<td>A5</td>
<td>Lead</td>
<td>5.0</td>
</tr>
<tr>
<td>A6</td>
<td>Manganese</td>
<td>10.0</td>
</tr>
<tr>
<td>A7</td>
<td>Mercury</td>
<td>0.2</td>
</tr>
<tr>
<td>A8</td>
<td>Selenium</td>
<td>1.0</td>
</tr>
<tr>
<td>A9</td>
<td>Silver</td>
<td>5.0</td>
</tr>
<tr>
<td>A10</td>
<td>Ammonia</td>
<td>50*</td>
</tr>
<tr>
<td>A11</td>
<td>Cyanide</td>
<td>20*</td>
</tr>
<tr>
<td>A12</td>
<td>Nitrate (as nitrate-nitrogen)</td>
<td>1000.0</td>
</tr>
<tr>
<td>A13</td>
<td>Sulphide (as H₂S)</td>
<td>5.0</td>
</tr>
<tr>
<td>A14</td>
<td>1,1-Dichloroethylene</td>
<td>0.7</td>
</tr>
<tr>
<td>A15</td>
<td>1,2-Dichloroethylene</td>
<td>0.5</td>
</tr>
<tr>
<td>A16</td>
<td>1,4-Dichlorobenzene</td>
<td>7.5</td>
</tr>
<tr>
<td>A17</td>
<td>2,4,5-Trichlorophenol</td>
<td>400.0</td>
</tr>
<tr>
<td>A18</td>
<td>2,4,6-Trichlorophenol</td>
<td>2.0</td>
</tr>
<tr>
<td>A19</td>
<td>2,4-Dinitrotoluene</td>
<td>0.13</td>
</tr>
<tr>
<td>A20</td>
<td>Benzene</td>
<td>0.5</td>
</tr>
<tr>
<td>A21</td>
<td>Dicarbonyl fluoride</td>
<td>0.004</td>
</tr>
</tbody>
</table>
Class B: Based on Total Threshold Limit Concentration (TTLC)

<table>
<thead>
<tr>
<th>Class</th>
<th>Constituent</th>
<th>Concentration in mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Asbestos</td>
<td>10000</td>
</tr>
<tr>
<td>B2</td>
<td>Total Petroleum Hydrocarbons (TPH)</td>
<td>5,000</td>
</tr>
<tr>
<td></td>
<td>(C5 - C36)</td>
<td></td>
</tr>
</tbody>
</table>

Note:

1. The testing method for list of constituents at A1 to A61 in Class-A, shall be based on Toxicity Characteristic Leaching Procedure (TCLP) and for extraction of leachable constituents, USEPA Test Method 1311 shall be used.
2. The testing method for list of constituents at A62 to A79 in Class-A, shall be based on Soluble Threshold Limit Concentration (STLC) and Waste Extraction Test (WET) Procedure given in Appendix II of section 66261 of Title 22 of California Code regulation (CCR) shall be used.
3. In case of ammonia (A10), cyanide (A11) and chromium VI (A64), extractions shall be conducted using distilled water in place of the leaching media specified in the TCLP/STLC procedures.
4. A summary of above specified leaching/extraction procedures is included in manual for characterization and analysis of hazardous waste published by Central Pollution Control Board and in case the method is not covered in the said manual, suitable reference method may be adopted for the measurement.
5. In case of asbestos, the specified concentration limits apply only if the substances are in a friable, powdered or finely divided state.
6. The hazardous constituents to be analyzed in the waste shall be relevant to the nature of the industry and the materials used in the process.
7. Wastes which contain any of the constituents listed below shall be considered as hazardous, provided they exhibit the characteristics listed in Class-C of this Schedule:

| 1. Acid Amides |
| 2. Acid anhydrides |
| 3. Amines |
| 4. Anthracene |
Class C1: Flammable- A waste exhibits the characteristic of flammability or ignitability if a representative sample of the waste has any of the following properties, namely:-

(i) flammable liquids, or mixture of liquids, or liquids containing solids in solution or suspension (for example, paints, varnishes, lacquers, etc; but not including substances or wastes otherwise classified on account of their dangerous characteristics), which give off a flammable vapour at temperature less than 60°C. This flash point shall be measured as per ASTM D 93-79 closed-cup test method or as determined by an equivalent test method published by Central Pollution Control Board;
(ii) it is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns vigorously and persistently creating a hazard;
(iii) it is an ignitable compressed gas;
(iv) It is an oxidiser and for the purposes of characterisation is a substance such as a chlorate, permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter.

Class C2: Corrosive- A waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties, namely:-

(i) it is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5;
(ii) it is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm per year at a test temperature of 55 °C;
(iii) it is not aqueous and, when mixed with an equivalent weight of water, produces a solution having a pH less than or equal to 2 or greater than or equal to 12.5;
(iv) it is not a liquid and, when mixed with an equivalent weight of water, produces a liquid that corrodes steel (SAE1020) at a rate greater than 6.35 mm per year at a test temperature of 55 °C.

Note:
For the purpose of determining the corrosivity, the Bureau of Indian Standard 9040 C method for pH determination, NACE TM 01-69 : Laboratory Corrosion Testing of Metals and . EPA 1110A method for corrosivity towards steel (SAE1020) to establish the corrosivity characteristics shall be adopted.

Class C3: Reactive or explosive- A waste exhibits the characteristic of reactivity if a representative sample of the waste it has any of the following properties, namely:-

(i) it is normally unstable and readily undergoes violent change without detonating;
(ii) it reacts violently with water or forms potentially explosive mixtures with water;
(iii) when mixed with water, it generates toxic gases, vapours or fumes in a quantity sufficient to present a danger to human health or the environment;
(iv) it is a cyanide or sulphide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapours or fumes in a quantity
Guidelines on Implementing Liabilities for Environmental Damages due to Handling & Disposal of Hazardous Waste and Penalty

CPCB
January 2016
Central Pollution Control Board
(Ministry of Environment, Forest & Climate Change, Government of India)
Parivesh Bhawan, East Arjun Nagar,
Shahdara, Delhi - 110032
BACKGROUND

Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008, has been notified under the Environment (Protection) Act, 1986

Rule 25. Liability of occupier, transporter, operator of a facility and importer.-

(1) The occupier, importer, transporter and operator of the facility shall be liable for all damages caused to the environment or third party due to improper handling of the hazardous wastes or disposal of the hazardous wastes.

(2) The occupier and the operator of the facility shall be liable to pay financial penalties as levied for any violation of the provisions under these rules by the State Pollution Control Board with the prior approval of the Central Pollution Control Board.
BACKGROUND

- Several incidences of improper handling of the hazardous wastes or disposal of the hazardous wastes
  
  - Dumping of hazardous waste
  
  - Fire in storage sheds of incinerable hazardous wastes at TSDF Hyderabad and Ankaleshwar (Gujarat)
  
  - Spillage of hazardous waste disposed in secured landfill due to breach in the wall of the landfill at TSDF Vapi (Gujarat)
  
  ... Inadequate/ non-uniformity approaches have been observed in dealing such incidences
Order dated 18/2/2014 of the Hon’ble National Green Tribunal, (Western Zone) Bench, Pune, in the matter of Application No. 87/2013(WZ), Ramubhai Kariyabhai Patel & others versus Union of India & others:

“...Gujarat PCB and CPCB shall immediately undertake efforts for capacity building within their organizations and also, other SPCBs for scientific handling of such accidents, through training and preparation of guidelines and manuals, particularly enforcement of Rule 25 (1) and (2) of HW Rules, 2008. This is utmost essential to develop such capacity in SPCBs and CPCB as they are the scientific and technical organizations having responsibility to handle such environmental hazards and therefore, it is necessary to ensure adoption of suitable scientific tools and techniques to develop suitable response to such accidents...”
ABOUT GUIDELINES

Title: Guidelines on Implementing Liabilities for Environmental Damages due to Handling & Disposal of Hazardous Waste and Penalty

Scope:

• Limited to Spillage/Fire/Illegal Disposal of Hazardous Waste

• Outlining various liabilities to a responsible party for causing direct or indirect environmental damages arising from improper handling/disposal of hazardous waste or occurrence of fire.

• Laying down role of the responsible party and the concerned SPCB/PCC in the event of occurrence of incidences

• Evaluation and implementation of financial penalty for violation of provisions stipulated under the Rules

• Evaluation and implementation of compensation liabilities such as injury, loss of life, effects on flora fauna, loss of livelihood, reduced yield from crops, property loss etc. not covered under these guidelines. These may be dealt by the respective State/UT Government/concerned agency.
# Content of the Guidelines

<table>
<thead>
<tr>
<th>Section</th>
<th>Description of Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Background</td>
<td>1</td>
</tr>
<tr>
<td>2.0</td>
<td>Legal Framework</td>
<td>2</td>
</tr>
<tr>
<td>3.0</td>
<td>Description of Impacts</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>3.1 Impacts on Soil</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>3.2 Impacts on Groundwater</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>3.3 Impacts on Surface water</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>3.4 Impacts on Human Health</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>3.5 Impacts on Flora/Fauna</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>3.6 Impacts on Crops</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>3.7 Impacts on Property</td>
<td>10</td>
</tr>
<tr>
<td>4.0</td>
<td>Environmental Liabilities</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>4.1 Liability for taking up immediate Emergency Response Plan Measures</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>4.2 Liability for assessment of contamination.</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>4.3 Liability for Remediation of Contaminated sites</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>4.4 Compensation Liability</td>
<td>22</td>
</tr>
<tr>
<td>5.0</td>
<td>Approach for valuation of Direct Liability</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>5.1 Indicative Cost of liabilities for Site Assessment and Remediation</td>
<td>25</td>
</tr>
<tr>
<td>6.0</td>
<td>Enforcement of Penalty</td>
<td>27</td>
</tr>
<tr>
<td>7.0</td>
<td>Role of State Pollution Control Board/Pollution Control Committee</td>
<td>28</td>
</tr>
</tbody>
</table>

## List of Tables

| Table 1       | Parameter for assessing Compensation Liability                                        | 23   |
| Table 2       | Indicative cost for Site Assessment and Remediation                                    | 25   |

## List of Annexure

| Annexure I    | Schedule II of Rule, 12 of the Environment (Protection) Rules, 1986                   | 33   |
| Annexure II   | Schedule II of the section 15 & 17 on the National Green Tribunal Act, 2010          | 35   |
| Annexure III  | Format for Accident Reporting (Form 14)                                              | 36   |
| Annexure IV   | Format for Environment Pollution Incident Report                                      | 37   |
| Annexure V    | Factors to be accounted for estimating liability for Remediation of Soil, Groundwater, Surface water and Sediment Contaminate Sites | 40   |
DESCRIPTION OF IMPACTS

The guidelines briefly describes scenarios of following impacts:

• Impacts on Soil
• Impacts on Groundwater
• Impacts on Surface water
• Impacts on Human Health
• Impacts on Flora/Fauna
• Impacts on Crops
• Impacts on Property

Contamination to soil, groundwater and surface water are the main media of contamination covered under this document.
ENVIRONMENTAL LIABILITY

An environmental liability is a legal obligation to make a future expenditure due to the past or on-going manufacture, use, release or threatened release of a particular substance or other activities that adversely affect the environment or human health.

Broad categories of environmental liabilities arising from handling and disposal of hazardous wastes:

- Compliance obligations related to environmental regulations and Act/Rules that apply for generation, handling, storage, transportation, disposal etc. of hazardous wastes;
- Remediation obligations (existing and future) related to soil/groundwater/surface water contamination or air pollution that pose an environmental risk or potential risk to human health;
- Obligations to compensate the third parties for personal injury, property damage, and economic loss;
- Obligations to pay punitive damages for paying fines/penalties for gross negligence and criminal penalty for statutory or regulatory non-compliance; and
- Obligations to pay for natural resource damages.
ENIRONMENTAL LIABILITY

• The principle of strict liability shall be exercised on the responsible party while implementing environment damage liabilities. Strict liability is the imposition of liability on the responsible party without finding a fault (such as negligence or tortious intent).

• In cases where two or more persons are liable in respect of same liability, the principle of “joint and several liability” shall be imposed. Under joint and several liability, a claimant may pursue an obligation against any one party as if they were jointly liable and it becomes responsibility of the defendants to sort out their respective proportions of liability and payment.
ENVIRONMENTAL LIABILITY

The liabilities for damages caused to the environment or third party arising due to improper handling, storage, transportation, disposal etc. of hazardous wastes as per the provisions under Rule 25(1) of the HWM Rules, 2008 have broadly been suggested as below:

• Liability for taking up immediate measures
• Liability for assessment of contamination
• Liability for remediation of contaminated sites
• Liability to pay for natural resource damages and compensation to the third parties for personal injury, property damage, and economic loss (i.e. compensation liability).
**Objective:**

- Take immediate emergency measures at incident site to contain/control further spillage or release of hazardous waste or release of fumes/gases.

**Steps:**

- The responsible party shall develop their own Emergency Response Plan (ERP).
- Undertake initial sampling
- Provide assistance for off-site mitigatory action.
- Submit report upon completion of immediate response
- Submit details in Form 14 to the concerned SPCB/PCC.
**Liability - Assessment of Contamination**

**Objective**
- Assessment of environmental damages at incident to determine need for remedial actions / setting of clean-up criteria / penalties etc.

**Steps**
- **SPCBs/PCCs to specify the need for assessment**
- undertake Phase-I environmental site assessment within 2 weeks.
- Upon exceedance of Tier-1 screening, undertake Phase-II environmental site assessment for the approved sampling plan.
- Assess the quantitative health risk to humans and environment to derive Site Specific Target Levels (SSTLs)
- Finalise remediation objectives and plan, if required, in consultation with SPCBs/PCCs
**Liability for Remediation of Contaminated Sites**

Objective

• The Responsible Party is liable to undertake remediation activity so as to achieve site-specific target levels (SSTL) based on risk assessment

Steps

• SPCBs/PCCs, to set remediation objectives and approve SSTL
• Submit Bank guarantee for remediation liability as imposed by SPCB/PCCs
• undertake site remediation works and establish remediation as per the approved plan and clean-up criteria.
• Upon validation of remediation works, SPCBs/PCCS may free the Responsible party from its liability.
Approach for valuation of liabilities

- Immediate response liability of not less than INR 10,00,000 – towards immediate response and phase-I environmental assessment.
- In case the immediate response is initiated by SPCBs / PCCs, the responsible party has a liability to pay two times the immediate response liability as decided by SPCB.
- Minimum assessment liability of INR 20, 00,000 (in addition to the immediate response liability) which may be increase up to a maximum of INR 4, 50, 00,000.
- Remediation liability based on incident scenario and indicative costs thereof; which may vary between 1 crore up to 25 crores
- Compensation liability as decided by District Magistrate or appropriate local authority
- In case Assessment and Remediation work is undertaken by SPCBs / PCCs, the responsible party has a liability to pay 2 – 3 times the cost of such Assessment and Remediation work.
# Indicative cost for Site Assessment and Remediation

<table>
<thead>
<tr>
<th>Scenario (onsite and offsite)</th>
<th>Site Assessment/Risk Assessment Cost (in Rs)</th>
<th>Remediation Cost (in Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill breach and release of hazardous waste into environment</td>
<td>20,00,000 to 15,000,000</td>
<td>100,00,000 to 250,000,000 and higher</td>
</tr>
<tr>
<td>Spillage of liquid hazardous waste due to transportation incident, including pipeline failures, spillage from drums, tanks etc also included</td>
<td>20,00,000 to 22,500,000</td>
<td>100,00,000 to 200,000,000 and higher</td>
</tr>
<tr>
<td>Dumping of hazardous waste on open grounds without secondary containment</td>
<td>20,00,000 to 35,000,000</td>
<td>100,00,000 to 250,000,000 and above. Costs less than 10,000,000 may be applicable to small volumes of less than 1 ton and immediate lifting and transportation to TSDF and not residual waste further contaminating the subsurface</td>
</tr>
<tr>
<td>Improper handling and storage of hazardous waste</td>
<td>10,00,000 to 10,000,000</td>
<td>50,00,000 to 75,000,000 and higher</td>
</tr>
<tr>
<td>Fire incident leading to spillage of hazardous waste/ contaminated runoff water</td>
<td>20,00,000 to 10,000,000</td>
<td>100,00,000 to 75,000,000 and higher</td>
</tr>
</tbody>
</table>
Roles of SPCBs/PCCs

- SPCB/PCC shall constitute an in-house team “Hazardous Waste Incident Response Team”
- Ensure that Emergency Response Plan is annexed to Authorization
- Implement immediate response, assessment and remediation in case the polluter is non-responsive or not traceable.
- Verify the immediate response measures taken by the responsible party.
- Examine and approve environmental sampling and assessment plan submitted by Responsible Party.
- Finalise Remediation Objectives and set SSTL based on Phase-II ESA report submitted by Responsible Party.
- In case responsible party not traceable, file case under IPC for necessary investigation and for identifying the responsible party and recovery of liabilities
- In case responsible party is non responsive, file case in NGT for recovery of liabilities
ENFORCEMENT OF PENALTY

The Rule 25(2) of the HWM stipulates that “The occupier and the operator of the facility shall be liable to pay financial penalties as levied for any violation of the provisions under these rules by the State Pollution Control Board with the prior approval of the Central pollution Control Board.”

Section 15 of the Environment (Protection) Act, 1986

15. PENALTY FOR CONTRAVENTION OF THE PROVISIONS OF THE ACT AND THE RULES, ORDERS AND DIRECTIONS

(1) Whoever fails to comply with or contravenes any of the provisions of this Act, or the rules made or orders or directions issued thereunder, shall, in respect of each such failure or contravention, be punishable with imprisonment for a term which may extend to five years with fine which may extend to one lakh rupees, or with both, and in case the failure or contravention continues, with additional fine which may extend to five thousand rupees for every day during which such failure or contravention continues after the conviction for the first such failure or contravention.

(2) If the failure or contravention referred to in sub-section (1) continues beyond a period of one year after the date of conviction, the offender shall be punishable with imprisonment for a term which may extend to seven years.
ENFORCEMENT OF PENALTY

• Financial penalty be levied by the concerned SPCB/PCC for any violation may be limited to maximum of one lakh rupees per provision violated

• Non-compliance may attract violation of one or several provisions of the said Rules and thus the total financial penalty amount may be arrived by adding up number of provisions violated

• Further additional fine up to Rupees five thousand rupees for every day may also be imposed in case of failure continues by the responsible party beyond period by which remedial/corrective measures would have been implemented as suggested by the SPCB/PCC.
ENFORCEMENT OF PENALTY

• SPCBs/PCCs to send proposals of imposing financial penalty to be levied on defaulting party, as above, to CPCB for their approval. Such proposals shall include background and details of each and every violation of various provisions laid down under the HWM Rules, 2008, and financial penalty for each of such violations including the additional fine for continuing failures, wherever applicable.

• SPCB/PCC shall also ensure that case is filed in the court for invoking criminal case as stipulated under section 15 of the Environment (Protection) Act, 1986, especially in cases of gross violations of the provisions of the said Act/Rules.
THANK YOU