Industrial Waste Management and Waste Management Law
(Waste Management and Public Cleansing Law) in Japan

Main sources: Materials prepared by MOE, Japan

Incorporated Foundation
Japan Industrial Waste Information Center

<table>
<thead>
<tr>
<th>Year</th>
<th>Law promulgated</th>
<th>Note</th>
</tr>
</thead>
</table>
| 1900 | Clean Feculence Law | 为了改善公共卫生。
| 1954 | Public Cleansing Law | 为了改善公共卫生。
| 1963 | Urgent Measures Law on Capacity Increasing of Waste Management Facilities | 为了改进生活通过更好的废物管理。
| 1968 | Air Pollution Control Law | 为了应对经济成长与公众污染的增加。
| 1970 | Water Pollution Control Law | 为了应对日益增长的工业废物。
| 1970 | Basic Law for Promoting the Creation of a Sound Material-Cycle Society | 为了建立可持续社会。
| 1990 | DXNs Prevention Guideline | 为了减少废物生成，并促进废物的再利用和回收。
| 1992 | Revision of Waste Management Law | 为了创造一个可持续的再循环社会。
| 1993 | Basic Law on the Environment | 为了减少有害物质的影响（例如，DXNs）。
| 1995 | Containers & Packages Recycling Law | 为了改善废物管理能力。
| 1998 | Home Appliance Recycling Law | 为了对公众健康进行适当处理的废物和清洁的居住环境。
| 1999 | DXNs Special Measures Law | 为了处理过去负面遗产。
| 2000 | Basic Law for Promoting the Creation of a Sound Material-Cycle Society | 为了建立可持续社会。
| 2001 | Urgent Measures Law on Capacity Increasing of Waste Management Facilities | 为了改善公共健康。
| 2002 | Soil Pollution Prevention Law | 为了处理过去负面遗产。
| 2003 | Industrial Waste Special Measures Law | 为了应对非法倾倒废物的问题。
Contents List of Waste Management Law (WML)

- Article 1 (Objective)
- Article 2 (Definition of Wastes)
- Article 3 (Responsibilities of Businesses)
- Article 4 (Standards on Management)
- Article 12 Section2 (Standards on Storage)
- Article 12 Section3, 4, 5 (Standards on Commission)
- Article 12-3 (Industrial Waste Control Manifest)
- Article 14 (Permission for Management Businesses)
- Article 14-3 (Suspension of the Business)
- Article 14-3-2 (Revocation of the permission)
- Article 15 (Permission of the Installation of Waste Management Facility)
- Article 25 – Article 33 (Penalties)

Definition and Classification of Waste

Wastes
- Radioactive waste
- Ordinary waste
  - Waste from daily life
  - Waste from business activities
- Municipal solid waste
  - General waste from business activities
  - Industrial waste
    - Specially controlled industrial waste
- Domestic waste
- Night soil/
  Domestic wastewater
- Specially controlled
  general waste
**Definition and Classification of Waste**

- **Municipal solid waste**
  - Garbage
    - Combustible garbage
    - Incombustible garbage
  - Bulky waste

- **Industrial waste**
  - Cinders
  - Sludge
  - Waste oil
  - Waste acid
  - Waste alkali
  - Waste plastics
  - Waste rubber
  - Waste scrap metal
  - Waste glass, concrete and ceramics
  - Waste casting sand and slag
  - Demolition waste
  - Soot and dust
  - Waste paper
  - Waste wood chips
  - Waste textile
  - Animal and plant residues
  - Livestock excreta
  - Solid waste of plants and animals
  - Livestock corps
  - Waste generated by the treatment of above 19 industrial wastes

**Specially Controlled Wastes**

- Specially controlled wastes are wastes that are explosive, toxic, infectious, or otherwise hazardous so that they can cause damage to people’s health or living environment.
- These wastes are to be disposed of in accordance with special disposal standards, control standards, etc.
- Specially controlled wastes are classified into two kinds those are industrial and general wastes.
## Specially Controlled Wastes

### Specially controlled general wastes

<table>
<thead>
<tr>
<th>Type</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parts using PCB</td>
<td>Parts removed from waste air conditioners, TV sets and electric ovens (general wastes) to be disposed of in accordance with the Notification by the Director of the Waste Management Division “On Measures to Manage of Wastes Including PCB” dated March 17, 1976.</td>
</tr>
<tr>
<td>Dust</td>
<td>Dust collected by a dust collecting device installed at a garbage incineration facility with a daily disposal capacity of 5 tons or more where ashes and dust are discharged separately.</td>
</tr>
<tr>
<td>Infectious general waste</td>
<td>General wastes which are infected or likely to be infected with infectious pathogens, such as blood-tainted gauze, discharged by medical institutions.</td>
</tr>
</tbody>
</table>

### Specially controlled industrial wastes

<table>
<thead>
<tr>
<th>Type</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste oil</td>
<td>Volatile oils, kerosene, and gas oil designated as industrial waste.</td>
</tr>
<tr>
<td>Waste acid</td>
<td>Waste acid with pH of 2 or lower.</td>
</tr>
<tr>
<td>Waste alkali</td>
<td>Waste alkali with pH of 12.5 or higher.</td>
</tr>
<tr>
<td>Infectious industrial wastes</td>
<td>Industrial wastes which are infected or likely to be infected with infectious pathogens, such as blood and used injection needles discharged by medical institutions.</td>
</tr>
<tr>
<td>PCB contaminated substances</td>
<td>Virtually the same as waste PCB, PCB-contaminated articles and PCB-treated matters classified by WML prior to the revision.</td>
</tr>
<tr>
<td>Waste asbestos</td>
<td>Airborne asbestos, etc., collected by a device installed at a plant which has a dust generating facility specified by the Air Pollution Control Law in the process of disposing of airborne asbestos and heat insulators including asbestos removed from structures as well as plastic sheets discharged from removal.</td>
</tr>
<tr>
<td>Other toxic substances</td>
<td>Industrial wastes containing the toxic substances specified in the WML, except PCB and asbestos. For example, cinders and dust containing DXNs, slag containing hazardous metal compounds, and other industrial wastes containing toxic chemical substances.</td>
</tr>
</tbody>
</table>
Infectious Waste

- Medical institutions
  - include hospitals, clinics, public health centers, blood centers, health laboratories, nursing-care facilities, birth centers, animal hospitals, and test and research institutes related to medicine, dentistry, pharmacy and veterinary medicine.
- Wastes from medical institution

![Infectious Waste Diagram]

Judging of Infectious Waste

- **Step 1 Form**
  - Blood, serum, plasma and body fluid.
  - Pathological waste (organ and tissue)
  - Things used for the test and research related to pathological waste.
  - Sharps attached blood

- **Step 2 Place**
  - An infectious disease ward, a tuberculosis ward, an operation room, an outpatient facility, an intensive care unit and a test laboratory.

- **Step 3 Kind of infectious disease**
  - Things used for treatments and tests on the classes of , , and , the designated and new infectious diseases.
  - Medical materials and tools used for treatments and tests on the classes of and infectious diseases. For a paper diaper, the specific criteria is set up.

Manual for infectious waste management based on Waste Management Law

Wastes discharged from medical institutions

Judging flow for infectious waste

* A case where it would be difficult to judge based on this flow chart, then you should consult with a medical doctor and follow his or her judge.
Note on the Judging of Infectious Waste

- A case where it is difficult to judge based on the judging flow, leave the judging to a person who has professional expertise such as a medical doctor, a dentist and an animal doctor.
- Since blood products for transfusion can not distinguish apparently from blood, they are requested to be managed as “blood type waste”, even though they are not infectious.
- Sharps are requested to be managed in the same manner as infectious waste, even though they are not infectious.
- An hemodialysis circuit unit and a infusion fluid delivery unit are categorized as “infectious matter”.
- A paper diaper is requested to be managed depending upon the kind of infectious disease.

Legal Responsibilities for Waste Management

<table>
<thead>
<tr>
<th>Responsibility item</th>
<th>General waste</th>
<th>Industrial waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste management</td>
<td>Municipal government</td>
<td>Generator</td>
</tr>
<tr>
<td>Enforcement of the law and regulations. Administrative services</td>
<td>Municipal government</td>
<td>Prefectural government</td>
</tr>
<tr>
<td>Import and export of waste</td>
<td>National government</td>
<td>National government</td>
</tr>
</tbody>
</table>
The management of waste is defined as the sequence of actions from the generation to the final landfilling of waste, namely segregation, storage, collection and transport, recovery and disposal of waste.

The “disposal” involves “intermediate treatment”, where waste is detoxified, inactivated or stabilized by means of physical, chemical or biological methods, and “final disposal” of which virtual action is landfilling.
Industrial Waste Management Facilities

- “Industrial waste management facilities” includes “intermediate treatment facility” and “final disposal facility” prescribed in the enforcement order that may impact on the living environment.
- On the above facilities, any party, that may be the central or a local government, is requested to obtain the construction permit.
- An institutional exception is introduced where a party operating recovery business is able to operate without the permit provided that he has the concerned approval of the Minister of the Environment.

### Industrial Waste Management Facilities

<table>
<thead>
<tr>
<th>Enforcement Order Article</th>
<th>Name of facility</th>
<th>Regulated scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sludge dewatering facility</td>
<td>Capacity &gt; 10 m³/d</td>
</tr>
<tr>
<td>2</td>
<td>a Sludge drying facility</td>
<td>Capacity &gt; 10 m³/d</td>
</tr>
<tr>
<td>2</td>
<td>b Sludge sun-drying facility</td>
<td>Capacity &gt; 100 m³/d</td>
</tr>
<tr>
<td>3</td>
<td>Sludge incineration facility (Not apply to PCB related matters)</td>
<td>Capacity &gt; 5 m³/d or Capacity ≤ 200 kg/h or Grating area ≤ 2 m²</td>
</tr>
<tr>
<td>4</td>
<td>Waste oil water separation facility</td>
<td>Capacity &gt; 10 m³/d</td>
</tr>
<tr>
<td>5</td>
<td>Waste oil incineration facility (Not apply to PCB oil)</td>
<td>Capacity &gt; 1 m³/d or Capacity ≤ 200 kg/h or Grating area ≤ 2 m²</td>
</tr>
<tr>
<td>6</td>
<td>Waste acid or alkali neutralization facilities</td>
<td>Capacity &gt; 50 m³/d</td>
</tr>
<tr>
<td>7</td>
<td>Waste plastics incineration facility</td>
<td>Capacity &gt; 5 t/d</td>
</tr>
</tbody>
</table>
### Industrial Waste Management Facilities § 2-2

<table>
<thead>
<tr>
<th>Enforcement Order Article 7</th>
<th>Name of facility</th>
<th>Regulated scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Waste plastics shredding facility (Not apply to PCB related matters)</td>
<td>Capacity &gt; 100 kg/d or Grating area ≥ 2 m²</td>
</tr>
<tr>
<td>8-2</td>
<td>Wood waste and wreckage crushing facility</td>
<td>Capacity &gt; 5 t/d</td>
</tr>
<tr>
<td>9</td>
<td>Concrete solidification facility of sludge containing metals or DNNs</td>
<td>For all facilities</td>
</tr>
<tr>
<td>10</td>
<td>Baking facility of sludge containing mercury or its compounds</td>
<td>For all facilities</td>
</tr>
<tr>
<td>11</td>
<td>Decomposition facility of cyanogen compounds contained in sludge, waste acid or waste alkali</td>
<td>For all facilities</td>
</tr>
<tr>
<td>12</td>
<td>PCB related matter incineration facility</td>
<td>For all facilities</td>
</tr>
<tr>
<td>12-2</td>
<td>PCB related matter decomposition facility</td>
<td>For all facilities</td>
</tr>
</tbody>
</table>

### Industrial Waste Management Facilities § 2-3

<table>
<thead>
<tr>
<th>Enforcement Order Article 7</th>
<th>Name of facility</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Washing or separation facility of contaminated PCB or PCB decontaminated residue</td>
<td>For all facilities</td>
</tr>
<tr>
<td>13-2</td>
<td>Incineration facilities other than the specified above</td>
<td>Capacity ≥ 200 kg/h Grating area ≥ 2 m²</td>
</tr>
<tr>
<td>14</td>
<td>A Isolated type landfill</td>
<td>For all facilities</td>
</tr>
<tr>
<td></td>
<td>B Stabilized type landfill</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C Controlled type landfill</td>
<td></td>
</tr>
</tbody>
</table>
Isolated Type Landfill

- Indication board
- Have a design to inspect visually.
- Covering with waterproof and corrosion-resistant material
- Outer partition
- Inner partition
- Inspection of groundwater quality
- Covering

Stabilized Type Landfill

- Indication board
- Expansion inspection
- Storm water discharge equipment
- Leachate collection system
- Inspection of groundwater quality
Controlled Type Landfill

Mechanism of the Regulation for Industrial Waste

* If violated, punished.
** If violated, ordered to improve or take measures. If the order is neglected, then punished.
Permit for Waste Management Business

- The capabilities of an applicant are requested to be complied with the permit standards as specified in the WML.
- Conditions to be satisfied:
  A. Facilities to be used satisfy the technological standards specified.
  B. The knowledge and skill concerned satisfy the criteria set by a competing local authority.
  C. Financial feasibility
- Not fall into the disqualifying provision specified.
  For instance: a bankrupted person, a member of a crime syndicate.

Technological Standards
Common Requirements in Design Structure (except landfill site)

- To have sufficient structural strength on a facility.
- To have necessary preventive measures to the corrosion of materials used.
- To have necessary preventive measures to the dispersion or flowing out of waste, or the transpiration of odor.
- To have necessary preventive measures to noise and vibration generated that may impact on the living environment.
- To have a necessary discharge water treatment facility to prevent the living environment from damage in water quality.
Technological Standards

Common Items in Operation and Maintenance (except landfill site)

- To carry out necessary property analysis, or weight measurement of a waste to be received.
- To control the waste feed rate within the capacity of a facility.
- To stop as soon as possible and take necessary preventive measures not to impact on the living environment, when a trouble such as a flow out of waste from a facility happens to occur during operation.
- To carry out checking and functional inspection regularly on a facility.
- To take necessary preventive measures to the dispersion or flow out of waste and the transpiration of odor.
- To keep the inside of a facility clean and sanitary.
- To take necessary preventive measures to noise and vibration generated that may impact on the living environment.
- To carry out the necessary quality control and the regular inspection of discharge water not to impact on the living environment.
- To prepare the checking and inspection records of a facility, and keep them for 3 years.

Procedures for Installing Waste Management Facilities (WMF)

Assessing impacts on the local living environments

Application for approval of installation plan, and maintenance and management plans attached with assessment results

Announcement and public inspection *(Viewpoint of preserving the living environments)*

Submission of resident's opinions *(Viewpoint of preserving the living environments)*

Opinion hearings from competent municipalities *(Viewpoint of preserving the living environments)*

Opinion hearings from learned figures (Waste disposal, air and water pollution, noise, vibrations, foul smell)

Examining conformity to the technical standards laid down by the Central Government and proper considerations to the local living environments.

continued
Procedures for Installing WMF

- Approval
- Inspection prior to start to use
- Operation start of facilities
  - Recording of maintenance and management conditions, and auditing
  - Accumulate maintenance and management funds for designated final disposal facilities
  - Confirmation when the use of final disposal facilities is discontinued

(Note) The above procedures are applied to final disposal facilities and incineration facilities. The steps marked "*" are not required for other facilities.

Responsibilities of a Generator on the Commission of Waste Management

- A generator is responsible for managing his waste on a cradle-to-grave base.
- Three key responsibilities:
  1. required to comply with the commission standards.
  2. required to confirm the proper treatments of his waste by a control manifest.
  3. required to perform his necessary cares to ensure the proper treatments of his commissioned waste.
Standard on Commission [1]

- Required to commission to a business having an appropriate license.
- Required to notify information such as type, mass, properties, and precautions in a written form, when a specially controlled waste is commissioned.
- Required to prepare a written contract.
  - Items to be specified in a contract:
    a) Type and mass of waste
    b) Destination of transport
    c) Location, method, facility of disposal or recovery
    d) Location, method, facility of intermediate treatment
    e) Others
      1. Effective term of a contract
      2. Fare
      3. Type of license
      4. Location, and type and limit mass of waste in transshipment or storage for transport.
      5. Yes or No for mixing other wastes, if waste is subjected to a disposal for stabilized landfill.

Standard on Commission [2]

- Information necessary for proper management
  a. Properties and packaging of waste
  b. Property changes such as decomposition, volatilization, etc.
  c. Hazardous nature of waste, when mixed with other wastes
  d. Indication of the Mark displaying the content of a chemical substance in the designated wastes below as specified in JIS C 0950
     - End of life personal computer, unit type air-conditioner, TV-receiver, microwave oven, cloth dryer, refrigerator and cloth washer
  e. Indication of including a waste containing asbestos
  f. Other necessary information while handling.
- Way of informing changes in the items above
- Reporting by a assignee to a assignor, when commissioned work is completed.
- Way of managing a waste, when a contract is cancelled.
- Required to retain contract related documents for five years.
Manifest System

- When a business (including contractors of intermediate treatment) generating industrial waste as a result of his activities are to commission treatment agents to transport or dispose of his waste (including industrial waste of intermediate treatment), he shall issue the treatment agent an “Industrial Waste Control Manifest” (hereafter referred to as Manifest) at time of delivering his waste.
- Manifest shall be transferred to the commissioned treatment agents one after another at the completion of each treatment of the waste and shall return a copy of Manifest to the issuer within a period prescribed in the Law.
- When the issuer receives a copy of Manifest, he/she must confirm each completion of the treatments and keeps the copies of Manifest for a period specified in the Law.
- Annual reporting of the record of issued Manifests to a competent governor is required as of April 2, 2008.

Basic Flow of a Manifest

- Generator
- Collection and transportation agent
- Disposal agent

Waste flow → Information flow

Reporting and confirmation of the completion of disposal
A business can use the Electronic Manifest System to report the completion of the treatments by the commissioned agents instead of issuing a paper type Manifest.

The Electronic Manifest System (JWNET) is managed and operated by the Information Processing Center under the designation by the Minister of the Environment.

The Information Processing Center is placed in Japan Industrial Waste Technology Center.

Annual reporting of the record of issued Manifests by a generator is not required when Electronic Manifest is used (the Information Processing Center manages it on behalf of a generator).
Transboundary Movement of Hazardous Waste

• When wastes to be imported or exported are specified hazardous wastes under the Law Concerning Control of Import, Export, etc. of Specified hazardous Waste, etc., such imports or exports require the approval of the Central Government (the Ministry of International Trade and Industry, and the Ministry of the Environment).
**Difference Between the Domestic Law Corresponding to “Basel Convention” and the Waste Management**

- The domestic Law corresponding to “Basel Convention” (substances controlled by the Basel Convention)
- Export/Import approval under the Foreign Trade Control Law
- Substances controlled by the Waste Management Law
- Export/Import permit

**Evaluation Scheme for the Integrity of a Industrial Waste Management Business (IWMB)**

- **Objectives**
  - Open the existence of IWMBs satisfying a specified quality level to the public widely.
  - Provide referential information to a generator, when he/she selects a IWMB.
  - Indicate the target for a IWMB who makes efforts to enhance his/her integrity.
  - Minimize the disparity in criterion that local governments determine.

- **Key Evaluation Points**
  1. Compliance
  2. Disclosure
  3. Efforts to the Environment Protection
Asakusa Temple

THE END