E-Waste Management in Thailand

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Pollution Control Department

4th International E-waste Management Network (IEMN) Workshop, 14-17 July 14, Hanoi, Vietnam
Background

No specific law and regulation regarding e-wastes.


- No 5.2 Category: Chemical Wastes, Type : 3 (must obtain a permit by DIW)
- No.5. 3 Category: Used Electrical and Electronic Appliance, Type :3 (exemption for a permit and a register but importing conditions for used electrical and electronic equipment is required by DIW)
<table>
<thead>
<tr>
<th>No.</th>
<th>Waste Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.9</td>
<td>Ashes from the incineration of insulated copper wire</td>
</tr>
<tr>
<td>2.15</td>
<td>Precious metal ash such as Gold, Silver, Platinum, Palladium, Iridium, Osmium, Rhodium, Ruthenium, etc. from incineration of printed circuit boards</td>
</tr>
<tr>
<td>2.16</td>
<td>Waste lead-acid batteries, whole or crushed</td>
</tr>
<tr>
<td>2.17</td>
<td>Unsorted waste batteries</td>
</tr>
<tr>
<td>2.18</td>
<td>Electrical and electronic assemblies or scrap (not included scrap from electric power generation) containing such as accumulators and other batteries, mercury-switches, glass from cathode-ray tubes and other activated glasses and PCB-capacitors, or contaminated with Cadmium, Mercury, Lead Polychlorinated Biphenyl</td>
</tr>
</tbody>
</table>
**Hazardous Substance Act B.E. 2535**  
**Waste List No. 5.2  category: CW**

<table>
<thead>
<tr>
<th>No.</th>
<th>Waste Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Glass waste from cathode-ray tubes and other activated glasses</td>
</tr>
<tr>
<td>4.18</td>
<td>Wastes, substances and articles containing, consisting of or contaminated with polychlorinated biphenyl (PCB), polychlorinated terphenyl (PCT), polychlorinated naphthalene (PCN) or polybrominated biphenyl (PBB), or any other polybrominated analogues of these compounds, at a concentration level of 50 mg/kg or more</td>
</tr>
</tbody>
</table>
Hazardous Substance Act B.E. 2535
Waste List No. 5.3
category: Used Electrical and Electronic Appliance

- **Used EEA** such as refrigerator, TV, radio, video, cassette player, air-conditioner, washing machine, clothes dryer, rice cooker, kettle, microwave, oven, telephone, facsimile, telegraph, calculator, type writer, copy machine, mobile phone, computer, printer, arcade games and etc. for reuse or modify, repair, improve, remanufacture for originally intended use or sorting for disposal

- **Part** of used electrical and electronic appliance such as refrigerator, television, radio, etc.
Definition


“HW” shall mean waste having hazardous constituents, being contaminated with hazardous substance, or having hazardous characteristics as prescribed in Annex 2 of the Notification such as flammable, corrosive, reactive, toxic substances, or having the specified constituents.
Code of e-wastes under Notification of MoI 2005

- **16 02 (wastes from electrical and electronic equipment)**
- **16 02 09 HA**
  (transformers and capacitors containing PCBs)
- **16 02 10 HA** (discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09)
- **16 02 11 HM** (discarded equipment containing chlorofluorocarbons, HCFC, HFC)
- **16 02 12 HM** (discarded equipment containing free asbestos)
- etc.

HA: Hazardous waste-Absolute entry
HM: Hazardous waste-mirror entry
Who are in charge of e-waste management?

Institutional mechanism:
National E-waste Strategy Approach Committee;
qualified member appointed by NEB as chairman

Main agencies

- **Department of Industrial Works (DIW)**
  Ministry of Industry

- **Department of Health (DoH)**
  Ministry of Public Health

- **Department of Local Administration Office (DLAO)**
  Ministry of Interior

- **Pollution Control Department (PCD)**
  Ministry of Natural Resources and Environment
### Estimation of e-waste generation 2014-2021

<table>
<thead>
<tr>
<th>Product type</th>
<th>Waste generation (1,000 units) in year</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td>2,587</td>
</tr>
<tr>
<td>Digital camera/VDO camcorder</td>
<td>875</td>
</tr>
<tr>
<td>Media player</td>
<td>3,476</td>
</tr>
<tr>
<td>Printer</td>
<td>1,520</td>
</tr>
<tr>
<td>Mobile phone/Land line</td>
<td>9,750</td>
</tr>
<tr>
<td>PC</td>
<td>2,210</td>
</tr>
<tr>
<td>A/C</td>
<td>740</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>922</td>
</tr>
<tr>
<td>Microwave</td>
<td>313</td>
</tr>
<tr>
<td>Washing Machine</td>
<td>467</td>
</tr>
<tr>
<td>Fan</td>
<td>1,916</td>
</tr>
</tbody>
</table>

Ref: PCD, 2012
Current status of E-Waste Management

- Factory Act B.E. 2535
  - Factory type 105 (sorting and/or landfill facility of wastes)
  - Factory type 106 (recycling facility in which unusable industrial products or industrial wastes being utilized in production process to produce raw material or new product)

- 22 permitted factories related to e-waste collecting and dismantling (2010).
- No specific license for recycling e-waste.
- No formal recycling factory of e-waste in Thailand.
- No mechanical large-scale dismantling equipment.
- Only manual dismantling with simple tools is used.
- Most of e-wastes goes to informal sectors, i.e. waste pickers, waste buyers, junk shops, waste-recyclers, and waste re-processors.
Establishment of WEEE Regulation

- **2004-2013** Draft Act on “Fiscal Measures for Environmental Management” (by Fiscal Policy Office/MoF)
  
  - Draft Royal Decree and Ministerial Notification prescribing Rules, Procedures, Conditions and Management of Revenue Generated from Product Fees, B.E.…..
  - Formulated by PCD/MNRE
    
    - pending -

- **2014-** develop draft WEEE management Law (EPR concept will be complied) (PCD) -ongoing-
Other relevant projects

- Conduct a pilot project on take back of e-waste by producers - voluntary basis, 2014
  : Dialogue with relevant stakeholders, esp. manufacturer, retailer, recycler, disposer, LAO to consider funding mechanism and strategy, to formalize informal sectors, to set up collection and recycling target.

- Develop a guideline on good practices for collection of household e-wastes for junk shops environmentally sound manner, 2014-
  : review data/information, field survey, draft guideline, WS

- Conduct a project on “Impact and Solution Study of E-waste separation process for recycling problem in Khok Sa-at Community” June-Dec.2014 (academia, ROMNRE, LAO in Kalasin Province)
Thank you

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