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DENR ADMINISTRATIVE ORDER
No. _____
Series of 20AA

SUBJECT: GUIDELINES ON THE ENVIRONMENTALLY SOUND MANAGEMENT (ESM) OF WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

Pursuant to Republic Act No. 6969, otherwise known as the "Toxic Substances and Hazardous and Nuclear Wastes Act of 1990", and Department of Environment and Natural Resources (DENR) Administrative Order No. 2013-22 or "Revised Procedures and Standards for the Management of Hazardous Wastes (Revising DAO 2004-36)", the Guidelines on the Environmentally Sound Management (ESM) of Waste Electrical and Electronic Equipment (WEEE) are hereby issued.

Section 1.0 Basic Policy

It is the policy of the State to protect the environment and promote the health of its citizens by regulating the importation, manufacture, processing, handling, storage, transportation, sale, distribution, use, and disposal of chemical substances and mixtures that present unreasonable risk and/or injury to health or the environment.

Section 2.0 Objectives

This Administrative Order shall have the following objectives:

a) Provide the framework mechanism for the appropriate management of WEEE;
b) Reduce the amount of electrical and electronic equipment (EEE) type of waste and the hazards brought about by its components;
c) Promote the reuse of EEE and valorization of its waste components;
d) Encourage involvement of all relevant agencies and stakeholders in the life cycle of EEE through design innovation leading to their more efficient dismantling, recycling, and reuse; and
e) Institutionalize the principle of "extended producers responsibility" (EPR) in addressing the financial requirements involved in the implementation of the WEEE guideline.

Section 3.0 Scope and Coverage

All producers, manufacturers, importers, distributors, retailers, consumers, and other stakeholders involved in the life cycle of EEE including scraps as classified under M506 and M507 of DAO 2013-22 shall comply with this Order.

Producers that comprise the Philippine Lighting Industry are also covered by this Order. The Guidelines prescribing detailed requirements and procedures for the ESM of WEEE are hereby appended and shall form an integral part of this Order.

Excluded to this Order are industrial (fixed and stationary) WEEE, military equipment directly used for national security purposes, and radioactive wastes that are covered by other specific regulations.

Section 4.0 Fines and Penalties

Any person, both natural and juridical, found violating or failing to comply with any provision of this Order or that of the Guidelines shall be liable under Section 14 of RA 6969.

Section 5.0 Separability Clause

If any section or provision of this Order or that of the Guidelines is held or declared unconstitutional or invalid by a competent court, the other sections or provisions hereof shall continue to be in force as if the sections or provisions so annulled or voided had never been incorporated herein.

Section 6.0 Repealing Clause

All other orders and issuances, rules and regulations, or parts thereof inconsistent with this Order are hereby amended, modified, or repealed accordingly.

Section 7.0 Amendments

This Order and the Guidelines may be amended and/ or modified from time to time by the DENR.

Section 8.0 Effectivity

This Order shall take effect fifteen (15) days after its publication in a newspaper of general circulation and upon acknowledgement of receipt of a copy hereof by the Office of the National Administrative Register.

RAMON J.P. PAJE
Secretary

Recommending Approval:

ATTY. JONAS R. LEONES
Undersecretary and Concurrent EMB Director
Environmental Management Bureau

Guidelines on the Environmentally Sound Management (ESM) of Waste Electrical and Electronic Equipment (WEEE)







ENVIRONMENTAL MANAGEMENT BUREAU
Department of Environment and Natural Resources

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1 Introduction

The Philippines is a traditional importer and exporter of electrical and electronic equipment (EEE), both new and used, including scraps. With the global rapid advances in technology for commercial, industrial and household products and appliances, there is a corollary increase in Waste Electrical and Electronic Equipment (WEEE) as well as hazardous substances from the source materials involved in their manufacture and use. Recognizing the risks of these materials in part or in whole to human health and the environment, the Department of Environment and Natural Resources (DENR), through the Environmental Management Bureau (EMB), has developed these Guidelines on the ESM of WEEEs (hereafter refer to as the Guideline).

This Guideline provides the compliance framework for producers, manufacturers, consumers, distributors, retailers, treatment facilities, and other stakeholders involved in the life cycle of WEEEs. This Guideline is also in compliance with the country's international commitment as signatory to the Basel Convention which controls the transboundary movement of hazardous wastes and their disposal and which agreement requires the submission of ESM initiatives.

1.1 Background of WEEE

WEEE is one of the fastest streams in the world due to escalating market penetration in developing countries, replacement market in developed countries, and high obsolescence rate.

There is a vital need to address the management of WEEE, particularly in developing countries where the existence of valuable recyclable components attracts the informal and unorganized sector. They pose great risks to health and the environment due to their unsafe and environmentally precarious practices.

1.2 Legal Framework

It is the policy of the State to protect the environment and to promote the health of its citizens. To this end, Republic Act (RA) 6969 provides for the State regulation of the importation, manufacture, processing, handling, storage, transportation, sale, distribution, use and disposal of chemical substances and mixtures that present unreasonable risks or injury to health or to the environment in accordance with national policies and international commitments.

Certain components or parts of WEEE are toxic and pose risk to the human health and the environment. Thus, DENR Administrative Order (DAO) 2013-22: Revised Procedures and Standards for the Management of Hazardous Wastes classifies WEEE as hazardous wastes with waste number M506 and provides the following criteria:

> "*All waste electrical and electronic equipment that contains hazardous components such as lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBBs), and polybrominated biphenyl ethers (PBDEs) that includes its peripherals i.e., ink -- cartridges, toners, etc* "

Additionally, DAO 2013-22 includes domestic sources of WEEE, classifies it as "Special Wastes" with waste number M507 and provides the following criteria:

> "*Household hazardous wastes such as paints, thinners, household batteries, lead-acid batteries, spray canisters and the like that are consolidated by Material Recovery Facilities (MRFs). These include wastes from residential and commercial sources that comprise of consumer electronics, white goods, (i.e. refrigerators, washing machines, air conditioners, etc.) batteries, oil, and busted lamps."*

1.3 Objectives

The protocols and standards stipulated in this Guideline intend to provide the framework mechanism for the appropriate management of WEEE. Specifically, this Guideline aims to:

- Reduce the amount of EEE type of waste and the hazards brought about by its components;
- Encourage the reuse of equipment and valorization of its waste components;
- Encourage involvement of all relevant agencies and stakeholders in the life cycle of EEE in design innovation leading to their more efficient dismantling, recycling, and reuse; and,
- Institutionalize the principle of "extended producers responsibility" (EPR) in addressing the financial requirements involved in the implementation of this Guideline.

2 Definition of Terms

For purposes of this Guideline, the following terms shall have the following meanings:

a) **"Collection"** refers to all activities related to the gathering of WEEE at "collection points".

b) **"Collection Point"** refers to any entity with which the Producer Responsibility Organization (PRO) has an agreement to accept and temporarily store WEEE from generators until its removal by the transporter for transport to a consolidation center or a Treatment, Storage, and Disposal (TSD) facility.

c) **"Consolidation Center"** refers to a site for temporary storage and consolidation for onward delivery of WEEE from the collection points to a TSD facility.

d) **"Distributor"** refers to any person, natural or juridical, to whom products listed in Section 3 of this Order are delivered to or sold for the purpose of distribution in commerce, except that such term does not include a manufacturer or retailer of such product.

e) **"EEE"** refers to electrical and electronic equipment including appliances.

f) **"Extended Producers Responsibility (EPR)"** refers to an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle.

g) **"Importer"** refers to any person, natural or juridical, that undertakes the importation of EEE products including its wastes into the country that are intended for direct consumption, sale, and distribution or reuse/recycling.

h) **"Local Government Unit"** means a body politic and corporate endowed with powers to be exercised by it in conformity with law. As such, it shall exercise powers as a political subdivision of the national government and as a corporate entity representing the inhabitants of its territory.

i) **"Manufacturer"** refers to any person who manufactures, assembles or processes EEE, except that if the product is manufactured, assembled or processed for another person who attaches his/her own brand name to the EEE, the latter shall be deemed the manufacturer. In case of imported products, the manufacturer's representative shall be deemed the manufacturer.

j) **"Producer Responsibility Organization (PRO)"** refers to a non- profit organization created by producers from a certain market for the purpose of implementing the WEEE Management Plan for the collection, reuse, recycling, and/or disposal of WEEE.

k) **"Recycling"** refers to the treatment of WEEE through processes of making them suitable for beneficial use and for other purposes, and includes any process by which the WEEE are transformed into new products in such a manner that the original products may lose their identity, and which may then be used as raw materials for the production of goods or services.

l) **"Scrap Material"** refers to metallic fragments (MF), non-metallic Fragments (NMF) and other non-classified materials from discarded EEE products.

m) **"Second-Hand EEE"** refers to EEE already discarded/ sold by the original owner but is still considered repairable/ usable.

n) **"Seller"** refers to the person engaged in the business of selling EEE products in wholesale, retail, or directly to consumers.

o) **"Treatment, Storage, and Disposal (TSD) Facility"** refers to a facility where WEEE, including its hazardous components, are transported to, stored, treated, recycled, reprocessed, or disposed of.

p) **"Valorization"** refers to placing a value or price to.

q) **"Waste Electrical and Electronic Equipment (WEEE)"** refers to discarded electrical and electronic devices, including scrap materials intended for reuse, resale, recycling or disposal.

r) **"Waste Generating Activity"** shall mean:

i. Selling EEE products or offering EEE products for sale or for free for the first time in the Philippines, except in the case of a manufacturer selling EEE products to a private label owner.
ii. Selling EEE products or offering EEE products for free in the Philippines under his/her own brand, supplied by other manufacturers (a reseller not being regarded as a Distributor).

iii. Reselling EEE products in the Philippines (where it has an establishment) upon acquisition from a Producer which has not fulfilled its legal obligations in the Philippines as provided herein.
iv. Buying EEE products in the Philippines for own use as a professional and user from a Producer which has not fulfilled its obligations in the Philippines, as provided herein.
v. Importing EEE and WEEE, including scraps, into the Philippines for own use as a generator from a supplier outside the Philippines.
vi. Importing EEE and WEEE into the Philippines for commercial purposes, without selling or reselling any of these products within the Philippines.

s) **"Waste Management Fee"** refers to the financial contribution from producers to finance the implementation of the WEEE Management Plan.

t) **"Waste Transporter**" means a person who registered to transport hazardous wastes.

3 Scope and Coverage

This Guideline covers the EEE (both brand new and second-hand) including their scraps as listed in Table 1 below.

Table 1 – List of WEEE Covered by the Guideline

Type of WEEE	Description
Lighting products	Includes those listed in JAO 2013-09-001 in addition to the metallic, electronic, and electrical parts of the lighting products and their housing (e.g. luminaires).
Information Technology (IT) Equipment/Devices	Includes, but are not limited to: routers, repeaters, switches, servers, modems, computer hardware (e.g. keyboards, automatic voltage regulators, mice), computer units (desktop, laptop, netbook) including computer screens (CRT, LCD, LED, etc.), central processing units (CPU), external data storage devices such as flash drives and hard disk drives, photocopiers, scanners, printers, etc.
Telecommunication devices	Includes, but are not limited to: telephones, fax machines, wireless telephones, mobile phones, tablets, radios, etc.
Electric appliances	Includes, but are not limited to: • Consumer appliances such as TV Sets (including CRT, plasma, LCD, or LED TV Sets), microwaves, coffee makers, toasters, automatic dispensers, electric fans, vacuum cleaners, cooking ranges/ovens, refrigerators, washing machines, heating/air conditioning

Type of WEEE	Description
	units, etc. • Industrial electronic and electrical appliances except those fixed and stationary industrial fixed electronic and electrical appliances
Entertainment and recreational devices	Includes, but are not limited to: gaming consoles (Playstation, Xbox, Wii, etc.), portable gaming devices (3DS, PSP, etc.), portable music players, etc.
Image producing devices	Includes, but are not limited to: cameras, camcorders, video recorders, DVD, VCD, CD, and other tape readers, etc.
Medical devices	Includes, but are not limited to: ultrasound, urinalysis system, patient monitor, defibrillator, jaundice meter, ventilator, etc.
Laboratory equipment	Includes, but are not limited to: High Performance Liquid Chromatography, Atomic Absorption Spectrometer, UV-VIS Spectrophotometer, etc.

The EMB shall update this list as new information comes along in consultation with the stakeholders.

4 Environmentally Sound Management

Environmentally Sound Management (ESM) is defined as taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner that will protect human health and the environment against adverse effects that may result from such wastes. It includes the identification and management of wastes throughout their entire life cycle with a strong emphasis on reduction, reuse, and recycling.

The following are the criteria to assess ESM:[1]

- There exists a regulatory infrastructure and enforcement that ensures compliance with applicable regulations;
- Sites or facilities are authorized and of an adequate standard of technology and pollution control to deal with hazardous wastes in the way proposed, in particular taking into account the level of technology and pollution control in the exporting country;
- Operators of sites or facilities at which hazardous wastes are managed are required as appropriate to monitor the effects of these activities;
- Appropriate actions are taken in cases monitoring gives indication that the management of hazardous wastes have resulted in unacceptable emissions; and
- Persons involved in the management of hazardous wastes are capable and adequately trained in their capacity.

[1] Guidance Document, Technical Guidelines for ESM, Basel Convention

WEEE recycling requires specialized technologies that would make possible the separation of the following components with the least impact to health and the environment from the WEEE listed in Section 3 of this Order:

- Metallic fragments (MF)
- Non-metallic fragments (NMF) such as plastics and glass; and
- Hazardous chemicals in printed circuit boards

5 Environmental and Health Hazard

The treatment of WEEE should avoid the dispersion of pollutants in the waste stream, including sanitary landfills. Of the substances coming from WEEE, lead is the leading toxic element in terms of quantity and toxicity level. Mercury, cadmium and hexavalent chromium are also toxic substances with leaching properties that can contaminate landfills and water reservoirs. Polychlorinated biphenyls (PCBs) and polychlorinated terphenyls (PCTs) are mostly used in small and large capacitors. Capacitors made prior to 1976 must be assumed to contain PCBs. Brominated flame retardants are also among those that have the potential for adverse impacts to health and the environment.

DAO 2013-22 provides the guideline for the type and threshold limits of hazardous substances and shall be the determinant on whether or not components or substances from WEEE components come within its implementing provisions.

Safe system of work processes must be implemented by responsible entities to ensure the safety of workers along the collection, processing, recycling, reuse, and disposal chain.

6 Suitability of Wastes for the Operation

Where appropriate, the reuse or recycling of WEEE and its components shall be prioritized. Before reuse or recycling, and taking in consideration the applicability and viability of the same, hazardous substances and components of selectively collected WEEE must be removed prior to processing.

The best option for components is for the same to be dismantled from its system as a whole if it is going to be reused or if the materials removed can be easily recycled. The following is a non-inclusive list of components that may be removed as a whole prior to reuse or recycling:

- Capacitors containing PCBs
- Mercury-containing components
- Asbestos
- Components containing refractory ceramic fibers
- Components containing radioactive substances
- Gas discharge lamps
- Cathode ray tubes

- Electrolyte capacitors containing substances of concern

Lastly, the following non-inclusive items should be safely removed as material from WEEE:

- Plastic containing brominated flame retardants
- Chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs), and BCs
- External electric cables
- Circuit boards
- Liquid Crystal Displays
- Batteries
- Fluorescent coating in cathode ray tubes

For WEEE that can neither be reused as a whole nor recycled, other options may be considered (e.g. shredding, crushing). These options are dependent on the TSD facility's capability.

Pre-treatment in either case shall be guided by the relevant procedures for hazardous substances under DAO 2013-22.

7 Waste Avoidance

Producers of EEE shall adhere to the following:

- The design of EEE shall minimize the presence of hazardous substances within the threshold limits specified in DAO 2013-22. Only EEE that are compliant with this provision shall be allowed for repair and use;
- The design of EEE shall be such that dismantling, reuse, and recycling strategies could be facilitated without sacrificing health and safety; the design shall apply equally to the TSD facilities set up for the purpose;
- Information on dismantling procedures shall be provided by the producers;
- The EEE shall not contain polybrominated diphenyl ethers (PBDEs); and
- Consumers must be informed of the ESM of household EEE and the mechanism for the correct disposal/treatment of the same.

8 Responsibilities of Parties

The overarching principle that governs the responsible parties for the implementation of the national WEEE policy is hazardous waste avoidance through clean production methods wherein the objective is the attainment of longest life of EEE with minimum environmental impact during their production, use and disposal.

8.1 Producers

Producers shall have the following responsibilities:

a) Join a Producer Responsibility Organization (PRO) which shall be set up as a non-profit organization created for the purpose of implementing the collective WEEE Management Plan to be developed by the producers;

b) Register with the PRO and form part of the contracted participant of the EMB-approved WEEE Management Plan;

c) Agree on the financing and communication strategy which should be reflected in the WEEE Management Plan;

d) Inscribe their EEE with markings as prescribed in the WEEE Management Plan;

e) Allow all data (e.g. sales volume, imported volume) to be audited by the PRO to validate whether or not the registered sales and import data are correctly reported. The data shall be confidentially treated and used for the purpose of complying with the EMB-approved WEEE Management Plan;

f) Provide the PRO with the forecast recovery amount and forecast percentages recovery of reuse, recycling, and valorization;

g) Submit an audited annual report to DENR-EMB not later than the first quarter of every year. The annual report shall contain the following audited information, at the minimum:[2]

   i. Category and type of equipment placed on the market

   ii. Origin

   - Manufactured and placed on the market by the same business
   - Manufactured by the same business in the Philippines
   - Imported
   - Exported
   - Country of acquisition

   iii. Quantities, weight in tons, or where this is not possible, number of units

   iv. Uses

   - Households
   - Non-households
   - Both

h) Manage, through the PRO, the collection, transport, and treatment of wastes deriving from their equipment under the principle of EPR, and in the process, finance the cost inherent to such management;

i) Mark products from registered producers under Section 3 of this Order with distinctive identification as may be agreed upon by the producers with the

[2] Spain/3242 Royal decree 208/2005, 25th of February, on electrical and electronic waste and the management of its wastes

approval of EMB. The date the products are put on market must also be part of the marking;

j) Identify appliances meant for households with an appropriate symbol to be agreed upon by the producers with the approval of EMB. If the EEE cannot be marked or labeled due to its size or function, said requirement must be stamped on the packaging with instructions for use together with the appropriate guarantee; and

k) Inform users as to the correct criteria for the ESM of WEEE including, but not limited to, systems of return and free-of-charge status, as appropriate, particularly for households. It is also the responsibility of producers to provide information on the possible effects on the environment and health of hazardous substances that the EEE and appliances might contain.

8.2 Importers

Importers are automatically producers and therefore must comply with the responsibilities of producers as stipulated in this Guideline. Additionally, the TSD facility must be identified as part of the requirement for the issuance of import clearance by EMB.

8.3 Distributors

Distributors shall have the following responsibilities:

- Provide the relevant data in cases of consignment sales to enable compliance of the producers to this guideline;
- Distribute only products that bear the EEE-prescribed marking on the product/packaging; and
- Provide space for WEEE as may be requested by the relevant entities in the WEEE chain.

8.4 Retailers/Resellers

Sellers of EEE, whether wholesale or retail, shall have the following responsibilities:

- Purchase products only from suppliers/distributors of products that bear the EEE-prescribed markings;
- Provide relevant data in case of consignment sales to the producer allowing the producer to comply with the requirements of the PRO; and
- Provide space for a collection point for the PRO or to the independent producer free of charge.

8.5 Producer Responsibility Organization (PRO)

Each type of WEEE listed in Table 1 of this Guideline shall have a corresponding PRO, which shall:

a) Prepare or cause the preparation of the WEEE Management Plan and seek approval of the EMB Central Office (CO);

b) Provide evidence that the PRO is participated in by a minimum of 51 percent of the Philippine market for specific type of EEE based upon the aggregate sales of all contracted participants during the previous year;

c) Submit a database of producers under the PRO to the EMB CO together with the WEEE Management Plan;

d) Together with the producers, implement the WEEE Management Plan, and review and amend it as necessary subject to the approval of EMB CO;

e) Prescribe a WEEE management fee subject to the approval of the Steering Committee;

f) Collect the WEEE management fee from the producers either based on volume of import or volume of sales or other parameters, whichever is agreed upon by the PRO and the producers concerned and subject to the approval of the Board of Trustees of the PRO; provided, that details on the collection process is described in the WEEE Management Plan;

g) Comply with the permitting and reporting requirements of DAO 2013-22, RA 6969 and/or RA 9003 as applicable regarding the Transport Manifest, Storage, treatment, reuse, recycle, and/or disposal of WEEE;

h) Provide the EMB CO and the Steering Committee with an annual audit report from an independent auditor regarding the activities performed in relation to the WEEE Management Plan and the producers' financial reports. The independent auditor shall be commissioned by the PRO at its own expense, and the audit shall be done in accordance with the technical standard that is approved by the Philippine Institute of Chartered Accountants; and

i) Provide an Information Technology system to guarantee that competitive market data remains confidential.

8.6 Local Government Units (LGUs)

In coordination with the Department of Interior and Local Government, the DENR shall enjoin all LGUs to:

- Establish collection points or consolidation centers by integrating WEEE collection in its Material Recovery Facility (MRF) or creating a new facility as WEEE collection or consolidation points; and
- Formulate and implement pro-forma guidelines in WEEE management requiring sellers of EEE products within their jurisdiction to comply with the requirements as presented in this Section and providing sanctions for non-compliance therewith, such as, but not limited to, the non-issuance or revocation of business permits.

8.7 TSD Facilities

TSD Facilities must comply with the requirements under DAO 2013-22 and the provisions under Section 15 this Guideline.

8.8 Collection Points or Consolidation Centers

The following are the obligations of Collection Points or Consolidation Centers:

a) Accept and allow the temporary storage of containers and WEEE, and provide appropriate storage area(s) in accordance with the requirements of DAO 2013-22 and Section 15 of this Guideline;

b) Comply with the applicable Environmental, Health, and Safety regulations;

c) Provide all requirements to the PRO for application of applicable licenses and permits as may be needed to set up and operate the collection point or the consolidation center;

d) Ensure security of all WEEE and its containers at the storage areas;

e) Ensure proper handling of WEEE;

f) Ensure secure and safe access to the storage areas for the transport contractor(s);

g) Inform the public on the purpose and use the of the collection point(s) or consolidation center;

h) Submit report to the PRO the information required under the WEEE Management Plan and such other information as may be required; and

i) Provide appropriate protection and training for staff to prevent health and safety impacts.

9 Registration of Producers to the PRO

All producers, existing or new, shall register with the appropriate PRO prior to engaging in any waste generating activity. The following are the procedures for the registration:

a) The producer must provide the following information upon registration and pay the corresponding registration fee to the PRO:

- Name and documents of incorporation or registration;
- Registered address of the producer within the Philippines;
- Physical address where the present waste generating activities of the producer is conducted in the Philippines with respect to the WEEE Management Plan; and
- Contact details: name, address, and contact numbers of the legal representative and, in the case of exported WEEE, the place of export, the type and weight/number of units, and consignee name.

b) As proof of registration, the PRO shall issue a registration number to the producer. The producer shall display this registration number on all trading documentation. It should also be displayed in the premises where the waste generating activities are conducted whenever possible.

c) The PRO shall prepare a database of registered producers of the integrated system and submit the same as part of the WEEE Management Plan.

The establishment and operation of the PRO shall be supervised and monitored by a Steering Committee to ensure implementation of the WEEE Management Plan submitted by the PRO.

10 Establishment and General Requirement of the PRO

Producers comprising of at least 51 percent of the particular EEE market (based upon the aggregated sales of the participants in the previous year) shall establish a non-profit, non-stock organization for implementing a WEEE Management Plan subject to the provisions of this Guideline.

The establishment and operations of the PRO shall be supervised and monitored by a Steering Committee to enforce effectively the WEEE Management Plan in accordance with this Guideline.

The PRO shall:

- Be a duly-registered non-stock and non-profit organization with the Securities and Exchange Commission (SEC);
- Be governed by a Board of Trustees composed of producers and representatives; and
- Be operationally independent but subject to the supervision and oversight functions of the Steering Committee.

11 Contents of the WEEE Management Plan

The WEEE Management Plan shall provide the following minimum information:

a) Identification of producer(s) or, as the case may be, the organization on behalf of the producer(s) that develops the WEEE Management Plan and the producer(s) that register as a contracted participant to the WEEE Management Plan;

b) Annual projections to EMB CO which shall contain the following audited information at the minimum:[3]

   i. Category and type of equipment placed on the market

   ii. Origin

   - Manufactured and placed on the market by the same business
   - Manufactured by the same business in the Philippines
   - Imported
   - Exported

[3] Spain/3242 Royal decree 208/2005, 25th of February, on electrical and electronic waste and the management of its wastes

- Country of acquisition

iii. Quantities, weight in tons, or where this is not possible, number of units

iv. Uses

- Households
- Non-households
- Both

c) A 5-year Operational Plan to include, but will not be limited to, a detailed forecast of the items under Section 11 b including additional capabilities and activities and identification of the collection network;

d) A 5-year Business Plan detailing the following:

i. Budget estimation covering the 5-year Operational Plan;

ii. WEEE management fee development that includes incentive scheme, as may be applicable, to encourage domestic waste generators to bring the wastes to the designated collection or consolidation points;

iii. Financing plan for the WEEE Management Plan;

iv. Financing coverage for historical wastes;

v. Development and management of reserve funds;

vi. Detailed procedure on the collection of WEEE management fee including the documentary requirements as basis for the payment of the WEEE management fee;

vii. Enforcement strategy and monitoring and reporting procedures to ensure producer participation and financing of the operation of waste management; including but not limited to working with relevant government agencies in identifying non-registered producers and/or sellers that are selling products from non-registered producers;

viii. Strategy for marking EEE products to signify compliance to the Guideline;

ix. Terms of references that will govern waste collection;

x. Monitoring and reporting procedures to be applied in the collection, transport, recycling/reuse/disposal of WEEE;

xi. Information, Education, and Communication (IEC) plan to raise awareness of generators regarding WEEE management;

xii. Measures that address issues of social responsibilities in the waste management industry;

xiii. Description of job creation potential in the framework of the implementation of the Plan;

xiv. Environmental, Health, and Safety Standards compliance plan; and

xv. Emergency and contingency plan detailing the procedures and protocols in cases hazardous waste-containing components are broken/spilled to ensure that worker, populace, and the environment

are protected from the hazardous substances released during the incident.

12 Submission and Approval Process of the WEEE Management Plan

The PRO shall submit the WEEE Management Plan and initiate the Retrieval and Disposal in accordance to the schedule set forth in Table 2.

Table 2 – Schedule of Submission and Implementation of WEEE Management Plan

Type of WEEE	Description	Submission of WEEE Management Plan
Lighting products	Including those listed in the JAO 2013-09-001	Not later than 30 days upon the effectivity of this Guideline
Information Technology (IT) Equipment/Devices	Includes, but are not limited to: routers, repeaters, switches, servers, modems, computer hardware (e.g. keyboards, automatic voltage regulators, mice), computer units (desktop, laptop, netbook) including computer screens (CRT, LCD, LED, etc.), central processing units (CPU), external data storage devices such as flash drives and hard disk drives, photocopiers, scanners, printers, etc.	One year from the effectivity of this Order
Telecommunication devices	Includes, but are not limited to: telephones, fax machines, wireless telephones, mobile phones, tablets, radios, etc.	One year from the effectivity of this Order
Electric appliances	Includes, but are not limited to: • Consumer appliances such as TV Sets (including CRT, plasma, LCD, or LED TV Sets), microwaves, coffee makers, toasters, automatic dispensers, electric fans, vacuum cleaners, cooking ranges/ovens, refrigerators, washing machines, heating/air conditioning units, etc. • Industrial electronic and electrical appliances except those fixed and stationary industrial fixed electronic and electrical appliances	One year from the effectivity of this Order
Entertainment and recreational devices	Includes, but are not limited to: gaming consoles (Playstation,	Two years from the effectivity of this Order

Type of WEEE	Description	Submission of WEEE Management Plan
	Xbox, Wii, etc.), portable gaming devices (3DS, PSP, etc.), portable music players, etc.	
Image producing devices	Includes, but are not limited to: cameras, camcorders, video recorders, DVD, VCD, CD, and other tape readers, etc.	Two years from the effectivity of this Order
Medical devices	Includes, but are not limited to: ultrasound, urinalysis system, patient monitor, defibrillator, jaundice meter, ventilator, etc.	Five years from the effectivity of this Order
Laboratory equipment	Includes, but are not limited to: High Performance Liquid Chromatography, Atomic Absorption Spectrometer, UV-VIS Spectrophotometer, etc.	Two years from the effectivity of this Order

The preparation shall be based on the requirements set forth in Section 11 of this Guideline and shall observe the following procedures:

a) The PRO shall submit to EMB CO the following requirements for the approval of the WEEE Management Plan and pay the processing fee as per DENR Memorandum Circular 2000-12 of RA 6969.
   - Notarized WEEE Management Plan;
   - Board Resolution endorsing the WEEE Management Plan; and
   - Notarized Affidavit of Undertaking of each Producer indicating that they will fulfill the assigned obligations under the WEEE Management Plan.

b) Upon receipt of the WEEE Management Plan, the EMB CO shall:
   - Review the WEEE Management Plan and approve in writing; or
   - Require additional information to be furnished within 15 calendar days; or
   - Require amendments to be made to the WEEE Management Plan within 15 calendar days.

c) In case the EMB CO requires additional information or amendments, EMB CO shall act upon the submitted additional information or the amended WEEE Management Plan within 30 calendar days.

d) The approved WEEE Management Plan shall be valid for a period of 5 years or for a period specified by the EMB CO starting on the date of the approval thereof by the EMB CO.

e) Upon approval, the producer shall comply with the WEEE Management Plan immediately and initiate retrieval and disposal no later than the schedule set forth in Table 2 of this Guideline.

f) The approved WEEE Management Plan may be revised by the PRO subject to the approval of the Steering Committee and the EMB CO.

Initial implementation of the approved WEEE Management Plan should not be later than six (6) months from securing approval of the WEEE Management Plan from EMB.

13 Enforcement Requirements

The following are the conditions for the handlers of EEE:

- No producer shall be allowed to manufacture, trade (import/export), or sell EEE products in the Philippines without being included in the database of registered producers of EEE defined under Section 10 of this document;
- Importers shall apply for pre-importation clearance from EMB CO and shall submit the following requirements to initiate clearance processing:
  - Copy of the certification of registration as producer from the PRO;
  - Certificate of compliance with the WEEE Management Plan issued by the PRO; and
  - Liquidation report of the previously issued pre-importation clearances.
- The PRO shall endeavor to identify non-registered producers and/or sellers procuring from non-registered producers, and report to EMB CO and to other relevant agencies for investigation of non-compliance to the Guideline.

This section is without prejudice to the authority of the Bureau of Customs under the Tariff and Customs Code and/or the Department of Trade and Industry under the Consumer Act of the Philippines and related laws.

14 Steering Committee

The Steering Committee shall be instituted by EMB CO and shall be composed of representatives from government, the industry, and relevant consumer non-profit organization(s).

It shall exercise the following functions:

- Ensure the establishment of the PRO;
- Recommend policies on WEEE management, including its implementation by the PRO;
- Review and endorse the fees pertinent to the operations involved in the WEEE management;
- Review and endorse the amount to be allocated as reserve funds from the waste management financial plan; and
- Perform such other functions as may be necessary for the effective implementation of this guideline.

The DENR, through the Steering Committee, may establish memoranda of agreement or any other instruments with relevant agencies for strengthening this Guideline, such as but not limited to product markings and sanctions that may be applied.

15 TSD Facilities

In accordance with DAO 2013-22, no hazardous wastes from the components of WEEE shall be stored, recycled, reprocessed, treated, and disposed of in facilities other than those facilities permitted by DENR.

Facilities must comply with the relevant requirements for TSD Facilities embodied in DAO 2013-22. Additionally, the following precautionary measures must be in place.

15.1 Storage Areas

- Impermeable surfaces for appropriate areas with corresponding appropriate spillage collection facilities, and where appropriate, decanters and degreasers;
- Weatherproof covering for appropriate areas.

15.2 Treatment Areas

- Impermeable surfaces with corresponding spillage collection facilities, and where appropriate, decanters and degreasers;
- Appropriate storage for disassembled spare parts;
- Appropriate containers for storage of batteries, capacitors containing PCBs or PCTs, and other hazardous wastes such as radioactive wastes;
- Equipment for treatment of water including rainwater; and
- Suitable balances for measuring the weight of treated wastes.

15.3 Weatherproof Covering

The TSD facilities must provide weatherproof covering to minimize the contamination of clean surface and to facilitate the reuse of those whole appliances and components intended for reuse. The areas that are likely to require weatherproof covering will therefore include those storing and treating hazardous or fluid containing WEEE or whole appliances or components intended for reuse.

15.4 Impermeable Surfaces

- Impermeable surfaces to prevent the transmission of liquids beyond the pavement surface. The impermeable surface should be associated with a sealed drainage system and may be needed even where weatherproof covering is used. This means a drainage system with impermeable components which does nor leak and which will ensure that:

- No liquid will run off the pavement other than via the system
- Except where they may be lawfully discharged, all liquids entering the system are collected in a sealed sump

- All treatment activities must take place within an area provided with impermeable surface
- The type of impermeable surface required is likely to depend on a number of factors, including:
  - Type and quantity of WEEE being stored or processed including whether or not the WEEE contains hazardous substances and fluids;
  - Type and volume of other materials dealt with;
  - Type and level of activity undertaken on the surface;
  - Length of time the surface is meant to be in service; and
  - Level of maintenance.

15.5 Spillage Collection Areas

Spillage collection facilities include the impermeable pavement and sealed drainage system as the primary means of containment. However, spill kits to deal with spillages of oils, fuel, and acids should be provided and used as appropriate.

15.6 Equipment for the Treatment of Water

In compliance with health and environmental regulations, operators of treatment facilities should take appropriate actions to minimize the contamination of clean waters.

All liquid runoff from an impermeable pavement used for the storage of WEEE and hazardous components will be considered contaminated, unless it can be shown otherwise and must comply with the requirements of RA9275 or the Clean Water Act of 2004.

15.7 Storage for Disassembled Parts

Establishments must provide storage for disassembled parts from WEEE. Some parts may contain oil and/or other fluids such that these parts must be properly segregated and stored in spill tight containers. These containers must be stored in an area with impermeable surface and a sealed drainage system.

15.8 Storage for other Components and Residues

Other components and residues arising from the treatment of WEEE will need to be contained following their removal for disposal or recovery. Where they contain hazardous substances, they should be stored in an area with impermeable surfaces with weatherproof covering. The containers should clearly be labeled to identify their contents and must be secure so that liquids, including water, cannot penetrate. Components should be segregated with regard to their eventual destinations and the compatibility of the component types.

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729 **15.9 Balances**
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731 TSD facilities should have balances to measure the weight of the treated
732 waste. The objective is to ensure that a record of weights can be maintained of
733 WEEE entering a treatment facility and components and materials leaving each
734 facility together with their destinations.
735
736 **15.10 Repair and Refurbishment**
737
738 Some treatment sites may wish to operate under the exemption for repair
739 and refurbishment of WEEE. Such sites will take in pre-selected WEEE and seek
740 to repair and refurbish as much of that WEEE as possible so that the highest
741 possible volume of EEE is delivered for use in the commercial or social market.
742 The general rules for this exemption apply the treatment requirements mentioned
743 above. Inspection requirements apply to registration of this exemption.
744
745 **15.11 Data Collection**
746
747 Operators of treatment facilities are required to submit data reports to
748 designated authorities.
749
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References

Brooks, et al. "Addressing E-Waste in China: Understanding the Roles of the Chinese Government and Civil Society through Advocacy".

Chung, et al. "A Comparative Study of E-Waste Recycling Systems in Japan, South Korea, and Taiwan from the EPR Perspective: Implications for Developing Countries". Japan.

Czech Republic. "Decree No. 352/2005 – Decree on Handling Electrical and Electronic Equipment and Waste Electrical and Electronic Equipment".

De Jesus, et al. (2014). "Review and Assessment of Theory and International Experience on Lamp Waste Management (LWM) and Recycling Technologies and Safe Disposal of Compact Fluorescent Lamps (CFLs). Vietnam

Department for Environment, Food, and Rural Affairs. "Guidance on Best Available Treatment Recovery and Recycling Techniques and Treatment of Waste Electrical and Electronic Equipment". Accessed October 2014. United Kingdom. (http://www.garantiesystem-altgeraete.de/en/638.aspx).

Environmental Management Bureau. "DAO 2013-22: Revised Procedures and Standards for the Management of Hazardous Wastes (Revising DAO 2004-36). Philippines

France. "Decree No. 2005-829 of July 2005 Relating to the Composition of Electrical and Electronic Equipment and to the Elimination of Waste from this Equipment".

Gaidajis, et al. (2010). "E-Waste: Environmental Problems and Current Management". October 2010. Greece.

Germany. "Electrical and Electronic Equipment Act or ElektroG of March 16, 2005: Act Governing the Sale, Return, and Environmentally Sound Disposal of Electrical and Electronic Equipment".

Ireland. "Statutory Instrument (S.I.) No. 355 of 2011 – European Communities (Waste Electrical and Electronic Equipment) Regulations 2011).

Manomaivibool, et al. (2009). "Advancing the Frontier of Extended Producer Responsibility: The Management of Waste Electrical and Electronic Equipment in Non-OECD Countries". September 2011

Netherlands. "Decree of July 6, 2004, Waste Electrical and Electronic Equipment (WEEE) Management Decree".

Philippines. "JAO 2013-09-0001 – Lighting Industry Waste Management Guidelines"

Portugal. "Decree Law No. 230/2004 – Instituting the Legal Regime of Waste Derived from Electric and Electronic Equipment".

803 Sañez, Geri Geronimo (2010). "E-Waste Management in the Philippines".
804
805 Sasaki, Kohei (2004). "Examining the Waste from Electrical and Electronic
806 Equipment Management Systems in Japan and Sweden". December 2004.
807 Sweden.
808
809 Secretariat of the Basel Convention. "Guidance Document on the Preparation of
810 Technical Guidelines for the environmentally Sound management of Wastes
811 Subject to the Basel Convention".
812
813 Spain. "Royal Decree 208/2005 on Electrical and Electronic Equipment and
814 Management of its Waste".
815
816 United Kingdom. "S.I. No.3289/2006 – The Waste Electrical and Electronic
817 Equipment Regulations of 2006".
818