



NATIONAL ENVIRONMENTAL (ELECTRICAL/ELECTRONIC SECTOR) REGULATION (2011)

National Environmental Standard and Regulations Enforcement Agency (NESREA)

Simplified Summary

Curated by Clean Technology Hub



Clean Tech Incubation &
Acceleration Foundation
Energy Innovation Center



EXECUTIVE SUMMARY

Electronic waste has been a major environmental issue – scaling up to 53.16Mt and only 17.4 percent of it was officially reported as correctly collected and recycled, the volume of space occupied by this waste stream pales into insignificance. When e-waste is not channeled through appropriate collection and recycling platforms, it is disposed of with municipal solid waste, with a large percentage of it ending up in landfills or dumpsites and eventually in the hands of informal recyclers who use crude recycling practices to harvest the valuable components, resulting in the release of toxic and hazardous substances such as mercury, lead, Brominated Flame Retardants (BFR), Chlorofluorocarbons (CFCs), and dioxins. The goal of this regulation is to establish a legislative framework for the implementation of environmentally friendly and sustainable sanitation and waste management techniques in order to reduce pollution.

LEGAL FOUNDATION

A national regulation (National Environmental (Electrical/Electronic Sector) Regulations, 2011 SI No 23) is in place that adopts the Extended Producer Obligation (EPR) principle and suitably delineates the responsibility for the management of e-waste on the Producers. This regulation requires all manufacturers of various brands of Electrical and Electronic Equipment (EEE) goods to join the EPR Program, including the Buy Back for their industry, within two years. The National Environmental Standards and Regulations Enforcement Agency (NESREA) established an EPR guideline in 2014 to give clarity and direction on the application of the EPR Principle. This guideline brought the notion of EPR to life by assigning roles and responsibilities to everyone and supporting everyone in understanding that waste management is a common responsibility.

OBJECTIVE

The primary goal of these Regulations is to prevent and minimize damage to the Nigerian environment from all operations and auxiliary activities in the Electrical/Electronic Sector. These Regulations must apply to both new and used Electrical/Electronic Equipment (EEE/UEEE).

IMPORTATION OF EEE

1. All new EEE imported into the country shall be functional and have the date of manufacture inscribed on them and warranty indicated.
2. All EEE imported into the country or assembled in the country shall have the Pin and Serial numbers inscribed on them.
3. Any body corporate or organisation intending to import new EEE into the country shall register with the Agency.



4. All used EEE imported into the country shall comply with the provisions as specified in Schedule II to these Regulations and shall be:
 - a. of comparative model of equipment;
 - b. fit for purpose;
 - c. functional and not scrap;
 - d. such that the outward/external appearance of the item does not show any waste characteristics; and
 - e. Properly packaged for protection during transport, loading and unloading.

POLLUTER PAYS PRINCIPLE

1. The Polluter-Pays-Principle shall apply to every body corporate or organisation that pollutes.
2. The collection, treatment, transportation and final disposal of wastes shall be the responsibility of the corporate/organisation generating the wastes within the specified standards and guidelines.
3. In the event of an incident resulting in an adverse impact on the environment whether socio-economic or health wise, the facility shall be responsible for:
 - a. the cost of damage assessment, control and clean-up;
 - b. remediation!; and
 - c. reclamation and /or restoration

EXTENDED PRODUCER RESPONSIBILITY

1. Every importer, exporter, manufacturer, assembler, distributor retailer, o f various brands o f EEE products shall subscribe to an Extended Producer Responsibility Program including the Buy Back as specified in Schedule VIII to these Regulations.
2. Manufacturers and Importers of EEE shall partner with the Agency on the Extended Producer Responsibility Program within two years of commenting on these Regulations in order to achieve the Buy Back Program within a period of two years.



3. It shall be the responsibilities of the:
 - a. manufacturers, Importers, Distributors or Retailers to take back the end-of-life EEE and setup collection points/centres;
 - b. manufacturers and producers of EEE to ensure Environmentally Sound Management of e-waste from collection points or centres to NESREA accredited recyclers;
 - c. consumers to return end-of-life EEE to the collection points or centres ; and
 - d. all importers of new and/or used EEE to pay an administrative cost to NESREA to promote Environmentally Sound Management of WEEE.

COLLECTION AND ANALYSIS OF SAMPLES

For the purposes of determining license classification and license compliance, the body corporate or organization in the sector shall examine samples according to standard analytical methods in a laboratory accredited by the Agency and Federal Ministry of Environment.

AIR SAMPLING FOR ANALYSIS

1. Measurements of air quality parameters shall take place at any facility, downwind and upwind.
2. Measurement of total suspended particulate shall be by gravimetric method using air sampler or by any other recommended scientific method and the following shall be observed:
 - a. a three sampling period (morning 8-10am, afternoon 12-2evening 4-6pm) shall be adopted ; and
 - b. the heavy metals level of total suspended particulate shall be determined using any referenced standard method using an atomic absorption spectrometer.
3. Gaseous pollutants shall be measured in a manner as may be approved by any of the following ways :
 - a. passive sampling method shall require the submission of an analysis certificate along with results.
 - b. a-3 sampling periods (morning 8-10am, afternoon 12-2pm and even in g 4-6pm) shall be adopted.



c. active sampling for NOX shall, use the Saltzman or any other recommended standard method.

d, active sampling for SO₂ shall use the West-Gaeke, hydrogen peroxide/ conductometry or any other recommended standard method.

(e) active sampling for hydrocarbons shall use the adsorption on activated charcoal method and

(f) continuous sampling of any gaseous air pollutant shall use an instrument with detection range accommodating the maximum allowable limit of measured parameter Measurement shall last for at least 1 hour, in every sampling location.

NOISE MEASUREMENTS

1. Noise levels shall be measured with instruments having both A and C weighting, a resolution not more than 0.1 dB and fast /slow responses.
2. Measurement shall be taken at least 3 meters from any barrier or other sound reflecting sources, at about 1.2- 1.5 meters above ground level or working platform and shall last for at least 10 seconds.
3. Daytime (07:00 - 22:00) and night time (22:00 - 7:00) measurements shall be taken at the fence line of any facility

E-WASTE HANDLING

1. Every importer and technician (involved in repair, dismantling and reassembling) of used EEE shall ensure that e-waste is handled by a person and or body corporate registered to do so by the Agency.
2. End-of-life, unusable or unserviceable EEE are prohibited from being imported into Nigeria.
3. The importation of Cathode Ray Tubes (CRT) into the country is banned.
4. Every person, body, corporate or organisation in charge of a collection
 - a. are not stored longer than one year onsite;
 - b. are not disposed in trash receptacles or at a dump-site and or landfill;
 - c. collected for recycling are transported to the designated recycling centre ; and
 - d. open burning is prohibited.
5. Everybody Corporate or organisation shall ensure that the facility is maintained in a clean and orderly condition;



6. Operator of e-waste collection centers and transporter to recycling plants shall:
 - a. maintain copies of all e-waste manifests and/or receipts and copies shall be made available for review during an inspection visit by officers of the Agency;
 - b. forward a copy of the e-waste manifest to the Agency within 30 days of waste removal; and
 - c. sign copies of the e-waste manifest.
7. Every body, corporate, or organisation, which generates e-waste, shall separate such a source from other wastes streams.

PROHIBITIONS ON E-WASTE

A person or body corporate or organisation shall not discard and or throw and or drop any e-waste anywhere except in designated bin, collection center/point.

Every operator of a facility, technician, assemblers or scavengers of e-waste shall practice Environmentally Sound Management (ESM) of e-waste and shall not:

- a. burn e-waste in the Nigerian environment;
- b. dispose of e-waste along-side domestic and/or municipal waste;
- c. dispose e-waste at dump site, land-fill site, water body, etc;
- d. break Cathode Ray Tubes (CRTs), in an unsound environmental manner
- e. release Chlorofluorocarbons (CFCs) from fridges and other cooling systems
- f. leach precious metals with acids and other hazardous waste from Printed Wire Boards (PWBs) or Printed Circuit Boards(PCBs).

USE OF PERSONAL PROTECTIVE EQUIPMENT

Every body corporate or organisation involved in the handling of e-waste shall ensure that the technicians, repairers or scavengers wear appropriate Personal Protective Equipment (PPE).

PERMIT

1. All permits (notices/orders, consent or demand) shall be in writing and as set out in the National Environmental (Permitting and Licensing Systems) Regulations, 2009.



2. A body corporate or organisation shall not undertake the following without permit from the Agency:
- (a) discharge or cause to be discharged any effluent, or oil in any form into water system, public drains, or underground injection and land ; and
 - (b) release hazardous or toxic substances into the water or land or air of Nigeria's ecosystem beyond the permissible limits as specified in Schedules X to these Regulations.

GENERAL PERMIT

A permit is designed to allow the holder thereof to conduct activities listed in this permit only after strict compliance with conditions and applicable effluent limitations. The permit explicitly states what activities shall be unlawful without a permit.

Procedures for permits and revocation of such permits where they have already been issued shall be as provided in the National Generally. Environmental (Permitting & Licensing System) Regulations, 2009, S.1.29.

Everybody corporate organisation involved in EEE manufacturing, processing,- recycling, e-waste collection, power (generation, transmission, distribution), broadcasting and telecommunications shall obtain permit from the Agency as relevant to the organisation and such permits shall be in the format contained in Schedule to these Regulations and shall include:

- a. EEE import permit;
- b. EEE export permit;
- c. E -waste Collection center Permit;
- d. E -waste Recycling Permit;
- e. Installation /Operation permit;
- f. Industrial/Commercial discharge permit ;



PERMIT APPLICATION PROCEDURE.	PERMIT TERMS AND CONDITIONS.	EFFECTIVE DATE AND VALIDATION
<p>Upon receipt of necessary information and the appropriate permit application fees, the application shall be processed by the Agency.</p>	<ol style="list-style-type: none"> 1. Every Permit shall be subject to all the provisions of these Regulations and all other rules, regulations, user charges and fees, which are in effect or which may be made by the Agency. 2. The following terms may be imposed by the Agency in the issuance of the Industrial/Commercial Discharge Permit: <ol style="list-style-type: none"> a. a limitation upon the quality of wastewater, volume of wastes and the rate of flow discharged from the facility; b. notification shall include the hazardous wastes constituents, their numbers, the total volume, type of discharge (batch or continuous), and rate of flow of the discharge; c. all notifications must take place within 60 days of the effective date of this Regulation for existing and any new facility that commences operation after the effective date of this Regulation 	<p>A permit shall become effective from the day of issuance and shall expire on December 31st of the Second year and shall thereafter be renewed once in every two (2) years.</p>



SCHEDULE VIII (REGULATION II)

Guidelines for Extended Producer Responsibility Programme New EEE only

1. As part of the Strategic Sectoral Alliance Programme of the Agency, all private individuals, retailers, refurbishers, distributors, producers, recyclers, manufacturers and importers of Electrical Electronics products shall partner with the Agency to establish an effective Extended Producer Responsibility Programme. The manufacturers and importers shall submit a proposal for an Extended Producer Responsibility Programme to the Agency for approval; such a proposal shall include elements for successful implementation of the scheme as follows:
 - a. manufacturers and (importers shall establish a process for the collection, handling, transportation and final treatment of post-consumer Electrical Electronic products regardless of who is the original brand owner;
 - b. the post-consumer products shall include new and Used Electrical Electronic Products but not limited to branded products;
 - c. incorporate the principles of a pollution prevention hierarchy by moving progressively from disposal to reduce, repair, reuse, recycle and recover post-consumer products ;
2. Submit on or before June 30 in each year to the Agency, an annual report on their extended products responsibility program during the previous fiscal year including , but not limited to , information in respect of:
 - a. the total amount of consumer Electrical Electronic sold and post consumer products collected;
 - b. the total amount of post-consumer Electrical Electronic products and Electronic products processed in storage;
 - c. the percentage of post-consumer Electrical Electronic products that were treated or contained , reused , recycled , recovered and repaired;
 - d. efforts taken through consumer Electrical Electronic products marketing strategies to reduce post-consumer products and packaging waste;
 - e. the type of processes used to repair, reuse , recycle or recover post-consumer EEE products, including but not limited to details of efforts to incorporate the priorities of pollution prevention , hierarchy by moving progressively from disposal to reduction, repair, reuse, recycling and recovery of postconsumer painted products;
 - f. the location of any long -term containment or final treatment and processing facilities for post-consumer products;
 - g. the process of internal accountability used to monitor environmental effectiveness ; and
 - h. any other information requested by the Agency .
3. Responsibilities of the producer. The producer shall be responsible for:
 - a. collecting any e-waste generated during the manufacture of electrical and electronic equipment and channeling the same for recycling or disposal;



- b. ensuring that all electrical and electronic equipment are provided with a unique serial number or individual identification code for tracking the products in the e-waste management system;
- c. collecting e-waste generated from the end-of-life of their products in line with the principle of Extended Producer Responsibility (EPR), and to ensure that such e-wastes are channeled to registered refurbisher or dismantler or recycler;
- d. setting up collection centers or take back system either individually or collectively for all electrical and electronic equipment at the end of their life;
- e. financing, and organizing a system to meet the costs involved in the environmentally sound management of e-waste generated from the end-of-life of its own products and historical waste available on the date from which these rules come into force. Such a financing system shall be transparent. The producer may choose to establish such financial system either individually or by join in g a collective scheme;
- f. providing contact details such as address, telephone numbers/helpline number and e-mail of dealers arid authorized collection centers to consumer(s) or bulk consumer(s) so as to facilitate return of used electrical and electronic equipment;
- g. incorporating the principles of energy efficiency in all manufactured EEE;
- h. creating awareness through publications, juvertisemencs, posters, or by any other means of communication and information booklets accompanying the equipment, with regard to the following:
 - (i) information on hazardous constituents in electrical and electronic equipment;
 - (ii) information on hazards o f improper handling, accidental breakage, damage and/or improper recycling o f EEE ;
 - (iii) instructions for Handling the equipment after its use, along with the Do's and Don'ts;
 - (iv) promoting acquisition o f EEE products with energy efficiency measures; and
 - (v) affixing the symbol given below on the products to prevent e-waste from being dropped in garbage bins containing waste destined for disposal.

SCHEDULE X

EFFLUENTS LIMITATION OF ELECTRONICS MANUFACTURING

Pollutants	Units	Guideline Value
pH	mg/l	6-9
COD	mg/l	160
BODs	mg/l	50
Total suspended solids	mg/l	50
Oil and grease	mg/l	10



Total phosphorus	mg/l	2
Fluoride	mg/l	5
Ammonia	mg/l	10
Cyanide (total)	mg/l	1
Cyanide (free)	mg/l	0.1
AOX (adsorbable organic bound halogens)	mg/l	0.5
Arsenic	mg/l	0.1
Chromium (hexavalent)	mg/l	0.1
Chromium(total)	mg/l	0.5
Cadmium	mg/l	0.1
Copper	mg/l	0.5
Lead	mg/l	0.1
Mercury	mg/l	0.01
Nickel	mg/l	0.5
Tin	mg/l	2
Silver	mg/l	0.1
Selenium	mg/l	1
Zinc	mg/l	2
Temperature increase	° C	less than 3°
GUIDE FOR IMPORTERS OF Used Electronic and Electrical Equipment (UEEE)		
<ul style="list-style-type: none"> ● Every importer of UEEE should register with NESREA; ● The Federal Government of Nigeria allows the importation of new EEE and functional UEEE; ● Nigeria has banned the importation of WEEE and near end of life electrical/electronic equipment; ● Any waste from Electronic and Electrical Equipment (WEEE) imported into Nigeria shall be sent back to the Port of origin; ● Administrative punitive fee shall be imposed on the carrier of WEEE or UEEE mixed with WEE 		
POWERS OF NESREA		
<ul style="list-style-type: none"> ● The Agency shall exercise the powers under its enabling Act to enforce compliance with the provisions of these regulations. ● Agency shall prescribe appropriate fee for the various permits 		



- The Agency may waive the application fee for a controlled substance
- The Agency may update the conditions on a permit from time to time.

KEY STAKEHOLDERS

- NESREA
- Federal Ministries and Agencies
- Civil Societies
- Non-Governmental Organisation
- Private Sector
- Corporate Bodies
- Industries
- State and Local Government

RELATED REGULATORY AND POLICY DOCUMENT

1. Environmental Impact Assessment Act Cap E12
2. Harmful Waste (Special Criminal Provisions) Act Cap HI, 1988 and updated in 2004.
3. The National Environmental (Sanitation and Waste Control) Regulation 2009.
4. Guide for Importers of UEEE.
5. The National Environmental (Electrical/Electronic Sector) Regulations 2011.
6. The adoption of the EPR Guidelines 2014
7. Development of Standards for Solar PV Modules, Batteries and Charge Controllers in Nigeria 2021
8. E-waste Guild for Stand Alone Solar in Nigeria 2021
9. National Waste Battery Management Policy 2021

IMPLEMENTATION

Implementation means more than simply exercising the plan during an emergency. It means acting on recommendations made during the vulnerability analysis, integrating the plan into company operations, training employees and evaluating the plan.

- a. integrate the Plan into Facility or Organisation's Operations;
- b. conduct Training, Drills and Exercises ; and
- c. activate the Plan as and when necessary.