DEAS 1314: 2025

ICS 91.140.70

DRAFT EAST AFRICAN STANDARD

Electrical and electronic waste management — Specification

EAST AFRICAN COMMUNITY

First Edition 2025

Copyright notice

Contents

Page

Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 031, *Waste management.*

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

Electrical and electronic waste management —Specification

1 Scope

This Draft East African Standard specify the requirements and responsibilities for the safe and environmentally sound handling, collection, transport, refurbishment, dismantling, recycling, storage and disposal of electrical and electronic waste.

It excludes radioactive waste.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references,

ISO 14001, Environmental management systems — Requirements with guidance for use

ISO 45001, Occupational health and safety management systems — Requirements with guidance for use

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
bulk consumer
bulk users of electrical and electronic equipment such as central government of state government departments, public sector undertakings, bank, education institutions, multinational organizations, international agencies private companies etc.

3.2
collection
group of objects or amount of material accumulated in one location

3.3
collector
individual or a registered association or cooperative, designated agency or a licensed company to undertake collection operations of e-waste

3.4
collection location or facility
place temporarily or permanently designated for receiving end-of-life electrical and electronic equipment in order to sort, store, and transport that equipment to storage or processing facilities. The collection location or facility may be co-located with the storage or processing facilities.

3.5
consumer
any person using electrical and electronic equipment excluding the bulk consumers

3.6
dealer
entity or individual who sells electric and electronic equipment on behalf of a company or manufacturer

3.7
dismantler
any person or registered society or a designated agency or a company or an association engaged in dismantling of used electrical and electronic equipment into their components

3.8
electrical and electronic waste (e-waste)
e-waste" is a term used to cover all items of electrical and electronic equipment (EEE) and its parts that have been discarded by its owner as waste without the intent of reuse

3.9
electrical equipment
any device, apparatus, or component, along with its associated interconnections and accessories, that is used for the generation, conversion, transmission, distribution, or utilization of electric energy.

3.10
electrical and electronic equipment
equipment which is dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation transfer and measurement of such currents and of fields

3.11
electronic equipment
equipment that involves the controlled conduction of electrons (especially in a gas or vacuum or semiconductor) e.g. amplifier, audio and sound system, cassette player, CD player, Cathode Ray Oscilloscope, detector, equalizer, mixer, modem, telephone among others

3.12
end-of-life
electrical and electronic equipment that is no longer suitable for use, and which is intended for disassembly and recovery of spare parts or destined for material recovery and recycling or final disposal

3.13
generator
any person or institution that produces e-waste

3.14
manufacturer
entity involved in the making or production of electrical and electronic equipment either locally or internationally

3.15
producer
any person or entity who introduces or causes to be introduced new and used electrical and/ or electronic equipment into the market by sale, donation, gifts, inheritance or by any such related methods and can either be a manufacturer, importer, distributor or assembler

3.16
recovering
separation or extraction of materials from used electrical and electronic equipment for further use or processing

3.17
[Recycling]
any operation by which used electrical and electronic equipment materials are processed in some way to enable products, materials or substances to be used, whether or not for the original purpose

3.17.1
recycler

Individual collecting recyclables and second hand goods for reuse or recycling

3.17.2
registered recycler or re-refiner or reuser
recycler or re-refiner or re-user registered for reprocessing e-waste

3.18
refurbisher
any person or entity that repairs, dismantles or reassembles electrical and electronic equipment to extend the working life of the product

3.19
reuse
e-waste that are used for the purpose for its original use or another use

3.20
storage
place where electric and electronic goods stored waiting to be reused, recycled or finally disposed

4 Requirements

4.1 General requirements

Electrical and electronic waste shall be managed to protect human health and the environment throughout its lifecycle, including all components, residues, liquids, and gases. Management shall follow the waste hierarchy, with appropriate segregation, handling, and science-based practices aligned with international best practice.

Legal and other requirements, including regulatory and international requirements that are directly applicable to electrical and electronic equipment, need to be identified and adhered.

This includes, but is not limited to the following:

a) environmental legislations;

b) laws relating to the collection, storage, transport, refurbishment, dismantling and recycling e- wastes and hazardous wastes;

c) occupational health and safety legislation;

d) export and import licensing laws and regulations; and

e) international treaty obligations which bind EAC Partner States.

4.2 Specific Requirements

4.2.1 e -waste stream management

This clause outlines the management of electrical and electronic waste according to the e-waste streams, (collection, transport, storage, recycling, and disposal), including personnel safety and competence. Detailed specifications for operational, infrastructural, and procedural measures are provided in Annex A, covering the safe, environmentally sound, and efficient handling of all components, residues, liquids, and hazardous fractions throughout the lifecycle of e-waste.

4.2.2 Risk assessment and management

A documented risk assessment process to identify and control any potential environmental, health or safety hazards associated with the entity's operations shall be maintained. The risk assessment process shall include the following steps:

a) define the responsibilities and qualifications for individuals conducting the risk assessment.

b) record and monitor any potential risks associated with the materials handled and tasks undertaken, as well as the overall operations, during both normal operating conditions and potential emergency situations.

c) evaluate any potential environmental, health or safety risks identified through the assessment and develop a risk mitigation plan.

d) implement controls suitable to the identified risks to protect the environment and human health and safety.

e) monitor the effectiveness of any implemented controls and adjust as required based on the acceptable residual risks.

f) maintain a schedule to review risk assessments at least on an annual basis, or more frequently if required as a result of any significant operational, environmental or regulatory changes.

g) maintain a list of products and waste materials that the organization is capable of collecting, processing, storing or otherwise handling in a safe and environmentally sound manner.

Note The risk assessment shall be conducted by competent personnel

5 Responsibilities

5.1 Responsibility of manufacturer and or dealer

Any manufacturer of electrical and electronic equipment shall ensure:

a) Collection of e-waste generated during the manufacture of electrical and electronic equipment and channel it for dismantling, refurbishing, recycling or disposal.

b) Collection of e-waste generated from the 'end of life' of their products in line with the principle of 'Extended Producer Responsibility' and to ensure that such e-waste are channelled to a licensed dismantler or recycler.

c) Setting up collection location or facilities or take back systems either individually or collectively.

d) 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. The financing arrangement of such a system shall be transparent. The Manufacturer may choose to establish such a system either individually or by joining a collective scheme.

e) Providing contact details such as address, telephone numbers or helpline number of authorized collection centres to consumers or bulk consumers so as to facilitate take back of used electrical and electronic equipment.

f) Creating awareness through publications, advertisements, posters, brochures or by any other means of communication and information booklets accompanying the equipment, with regard to:

i. information on hazardous constituents as specified in the guidelines;

ii. information on hazards of improper handling, accidental breakage, damage and/or improper recycling of e-waste;

iii. instructions for handling the electrical and electronic equipment after its use; and

iv. affixing a visible, legible and indelible symbol on the electrical and electronic equipment's or information booklets as may be prescribed in the guidelines.

5.2 Responsibility of consumer/generator

5.2.1 Any Consumer of electrical and electronic equipment shall:

a) ensure that e-waste generated by him is channeled to a dealer in e-waste or is returned through take back services to the manufacturer or authorized dealer;

b) segregate safely e-waste from other wastes and deposit separately into receptacles; and

c) identify e-waste which contains sensitive or confidential information and channel it to the appropriate dealer in e-waste.

5.2.2 Every bulk consumer shall maintain records of e-waste generated by them and make such records available for scrutiny by the environmental Inspectors.

5.3 Responsibility of collector

Any collector of e-waste shall:

a) ensure that the e-waste collected is stored in a secured manner till it is sent to a licensed dismantler or recycler.

b) ensure that no damage is caused to the environment during storage and transportation of e-waste;

c) maintain records of the e-waste collected and make such records available for scrutiny by competent authorities;

d) label vehicles used for transportation of e-waste;

e) avoid damage or breakage of components of e-waste during collection;

f) store the e-waste after sorting it into various categories for easy access by downstream users; and

g) follow required public health and safety procedure and facilities for handling e-waste.

5.4 Responsibility of refurbisher

Any refurbisher of e waste shall:

a) clearly label products for easy identification of product constituents;

b) separate through manual dismantling and/or automatic processing, the materials in equipment and components that are not directed to reuse and direct them to recovery facilities when technically and economically feasible;

c) clearly indicate extended producer responsibility on electrical and electronic equipment; and

d) clean up operations for all areas of the facility should be planned, regularly implemented, and monitored.

5.5 Responsibility of dismantler

Any dismantler of e-waste shall:

a) ensure damage to the environment is minimized as practically possible during storage and transportation of e-waste;

b) ensure that the adverse effect during dismantling processes is minimized as practically possible on human health, life and the environment;

c) ensure that dismantled e-waste are separated and sent to the licensed recycling facilities for recovery of materials;

d) ensure that non-recyclable or non-recoverable components are sent to licensed treatment, storage or disposal facilities;

e) comply with all applicable environmental, health and safety, and data security legal requirements; and

f) ensure that employees involved in data destruction receive appropriate training and information on a regular basis and be evaluated for competency in data destruction processing.

5.6 Responsibility of recycler

Any recycler of e waste shall:

a) ensure that residue generated thereof is disposed in e-waste treatment storage, or disposal facility;

b) have hazard and safety signs displayed at appropriate places indicating the treatment plant or disposal facility and nature of operations;

c) comply with applicable environmental standards of emissions, effluents, noise pollution treatment and disposal for the e-Waste recycling facility

d) ensure reuse, recovery, recycling and final disposal of remains of e-waste;

e) conduct and document at all facilities regular re-evaluation of environment, health and safety objectives, and monitoring of progress toward achievement of these objectives;

f) take sufficient measures to safeguard occupational and environmental health and safety; and

g) ensure the personnel involved in handling e-waste in recycling facilities at all operational levels are qualified and properly trained.

5.7 Responsibility of disposer

Any disposer of e-waste shall:

a) ensure disposal takes place in appropriate disposal facility as stipulated in 4.1;

b) Ensure compliance with occupational and environmental health and safety standards as per ISO 45001 and ISO 14001

c) ensure the personnel involved in handling e-waste in disposal facilities at all operational levels are qualified and properly trained.

6 Receiving, handling and storage

The electrical and electronic waste equipment shall be maintained with precaution during receiving, handling and storage on site, in order to avoid release of hazardous substances into air, water or soil, as a result of damage and/or leakage. Electrical and electronic waste shall be handled and stored in a manner that:

a) prevents theft or vandalism;

b) prevents exposure of people on site to unsafe storage and handling conditions or hazardous substances;

c) not be powered unless it has been tested and tagged to indicate it is safe to power; and

d) methods of handling (i.e. loading, unloading and transport) and storage shall include the use of appropriate tools and means of securing to ensure safe and effective recovery or recycling.

7 Records management

All operational records shall be maintained to allow the traceability of electrical and electronic equipment, including but are not limited to manifests bills of loading, chain of custody documents, transport records and any other record keeping requirement outlined in this standard and all other applicable legal frameworks shall be accessible, identified, legible and maintained.

.

(Annex A)

(Normative)

Detailed specifications for operational, infrastructural, and procedural measures

A.1.1E-waste Personnel requirements

Any collector, transporter and recycler of E-waste shall adhere to the following in regards to the safety and well being of their employees

A.1.1.1 Provision and use of personal protective equipment (PPE)

All workers must be provided with fit-for-purpose PPE to protect against exposure to heavy metals (e.g., lead, mercury, cadmium) and hazardous chemicals (e.g., brominated flame retardants, acids).

PPE should include:

- Cut-resistant gloves for dismantling
- Respiratory protection (P2/P3 masks or equivalent) for dust and fumes
- Safety goggles or face shields for eye protection
- Protective overalls or aprons resistant to cuts and chemical splashes
- Safety boots with steel toe caps

PPE must be regularly inspected, cleaned, and replaced when worn or damaged.

A.1.1.2 Electrostatic Discharge Protection

For workers handling sensitive electronic components (e.g., motherboards, memory chips), ESD wrist straps, grounding mats, and anti-static clothing must be used.

This reduces the risk of damaging components and prevents potential static-related shocks to workers.

A.1.1.3 Worker training and competence

All staff must receive comprehensive induction and refresher training covering:

- Safe dismantling techniques
- Hazard identification and control
- Proper segregation and labelling of hazardous fractions

- Emergency procedures for spills, fires, and exposure incidents

Training records must be maintained and reviewed annually.

A.1.1.4 Occupational health controls

Install point source ventilation to capture hazardous fumes, vapours and dust at the source of generation

Implement a structured reporting process for accidents, near misses and health incidents

A.2.2 Requirements for E-waste Collection Centre

This facility serves as a temporary place to store and handle E-waste. The waste is stored here as a regional/municipal collection point before being sorted, packed and sent to the recycling centre. This collection centres include

- Retailer take-back
- Drop-off points
- Accumulation/temporary storage facilities

A.2.2.1 General Design and Site requirements

The facility shall be set up in an area easily accessible by the general public

The facility should be secure and protected from unauthorized access.

The facility shall provide enough room for the segregation of E-waste and sorting them into different categories.

The facilities construction shall be designed and constructed as shown in the table

Component	**Specification**
Flooring	The floor must be impermeable, hard standing, and resistant to chemicals. It must be designed to contain spills and facilitate easy cleaning.
Shelter/Cover	The storage area must be fully covered (roofed) to protect e-waste from adverse weather conditions (rain, direct sunlight). This prevents component damage, short-circuiting, and the leaching of hazardous substances.
Ventilation	Adequate ventilation must be provided, especially if batteries or other components that could emit fumes are stored.
Hazardous Waste Zone	A dedicated, clearly demarcated area must be established for the storage of potentially hazardous components (e.g., Cathode Ray Tubes (CRTs), fluorescent tubes, and batteries). These items must be stored in their original packaging or secondary containment to prevent breakage.

Fire Safety	The facility must be equipped with appropriate fire suppression equipment (e.g., fire extinguishers suited for electrical fires) and clear emergency response procedures.
Spill Containment	A suitable system (e.g., a bunded area or spill kits) must be in place to contain accidental leaks of fluids (oils, refrigerants, electrolytes) from equipment like refrigerators or batteries.

A.2.2.2 Handling and Operational Requirements

The personnel working in the collection centre shall meet the requirements of Clause A.2.1

A.2.2.3 Storage

E-waste shall be stored only for the time necessary for consolidation, typically not exceeding six months, to avoid excessive stockpiling and fire hazards.

A.2.3 Requirements for E-waste recycling facility

This facility serves as the final licensed destination for treating and recovering materials from E-waste. The requirements cover both the design and operation of the facility

A.2.3.1 Infrastructure and design requirements

This facility must be designed to contain hazardous materials and protect the environment

A.2.3.1.1 Site structure and containment

- Impermeable flooring: The entire operational and storage area must have a chemically-resistant, impermeable floor with a containment bunding system (raised edges) to manage spills and prevent the infiltration of any leaked contaminants (e.g., battery electrolytes, oils) into the soil or groundwater.
- Weather protection: The facility must be fully roofed and enclosed to prevent e-waste exposure to rain (which causes leaching) and direct sunlight (which can accelerate chemical degradation and fire risk).
- Security: The site must be secured with controlled access, inventory checks, and surveillance to prevent theft of high-value fractions or informal, unsafe scavenging.

A.2.3.1.2 Dedicated Processing Zones

The facility shall maintain specific zones for safe handling

ZONE	PURPOSE	ENVIRONMENTAL REQUIREMENT
Triage and assessment	Initial inspection, weighing and separation of reusable items from waste items	Good lighting, robust ventilation for dust/fume management
Hazardous storage	Segregation and temporary storage of problematic components i.e Lithium-ion batteries, lamps and toners	Secondary containment (e.g., non-conductive, sealed drums/trays), clear signage, and separation from general materials.

Consolidation	Baling, compacting, or packaging clean, segregated material streams (e.g., ferrous metals, mixed plastics) for bulk transport to the final recycler.	Robust racking and secure palletizing systems

A.2.3.2 Operational Requirements

The recycling facility shall adopt the principles of the Basel Convention on Best Available Techniques (BAT) and Best Environmental Practices (BEP).

- Priority of Treatment: The facility design must prioritize reuse and refurbishment of equipment and components before recycling.

- Closed-Loop Systems: The primary material recovery processes (shredding, sorting, smelting/hydrometallurgy) must be housed in fully enclosed systems to prevent the release of toxic dust, heavy metals, and Persistent Organic Pollutants (POPs) such as dioxins and furans.

- Integrated Pollution Control: The design must feature dedicated, co-located units for managing all emissions: Air Emissions Control, Wastewater Treatment, and Hazardous Residue Stabilization.

A.2.3.2.1 Depollution and Dismantling Zone

This area is critical for safety and value recovery, focusing on manual separation and removal of hazardous parts.

- Ventilation: shall feature negative pressure ventilation systems with extraction hoods and certified filters (e.g., HEPA) to capture airborne contaminants, especially during manual dismantling of Cathode Ray Tubes (CRTs) and toner removal.

- Hazardous Substance Removal: Dedicated workstations for:

o Refrigerant Recovery: Closed-loop systems for safely extracting CFCs, HCFCs, and HFCs from cooling appliances.

o Battery Removal: Specialized, chemically resistant containers for safe storage of different battery chemistries (Li-ion, Ni-Cd).

o CRT Processing: Equipment for separating leaded glass (funnel) from panel glass without causing dust release.

A.2.3.2.2 Mechanical Processing and Separation Unit

This unit handles the physical breakdown and sorting of bulk materials.

- Shredding: Use multi-stage shredders and crushers to achieve uniform particle sizes necessary for subsequent separation. This shall be a closed process with continuous dust suppression.

- Advanced Sorting Equipment: The technology shall include:

o Eddy Current Separators (ECS): To effectively recover non-ferrous metals (aluminium, copper).

o Magnetic Separators: To recover ferrous metals.

o Optical Sorters/Density Separation: To separate plastics, Printed Circuit Boards (PCBs), and mixed materials based on color or density.

A.2.3.2.3 Refining and Recovery Technology

For high-value or hazardous fractions (PCBs, precious metals), either local advanced treatment or certified export is required.

- On-site Refining (Optional/Advanced): If precious metal recovery is done locally, it shall use controlled hydrometallurgical or pyro metallurgical processes that adhere to the strictest emission standards (BAT/BEP). No uncontrolled acid leaching is permitted.

- Export Management: If fractions are exported, the facility shall have robust protocols for packaging and labelling according to the Basel Convention requirements and secure the necessary transboundary movement permits.

A.2.3.2.4 Integrated Pollution Control (IPC) Systems

The environmental integrity of the facility depends entirely on its IPC systems.

A.2.3.2.4.1 Air Emissions Control (Flue Gas Treatment - FGT)

- Thermal Processes: Any process involving heat (e.g., smelting, wire burning) requires a robust FGT system.

- System Components: This shall include cyclones (for larger particulates), bag filters (for fine dust), scrubbers (for neutralizing acidic gases like HCl, SOx, NOx), and activated carbon injection (for adsorption of dioxins/furans and mercury).

- Continuous Emissions Monitoring: Install and operate a Continuous Emissions Monitoring System (CEMS) to track pollutant levels in real-time

A.2.3.3 Record keeping and Inventory Management

The facility shall be required to keep a well-documented inventory log detailing the source, type, and weight of all incoming e-waste in order to enable traceability.

A.2.3.4 Storage

E-waste shall be stored only for the time necessary for recycling, typically not exceeding six months, to avoid excessive stockpiling and fire hazards.

A.2.4 Requirements for E-waste transporters

Any transporter shall be required to acquire a licence from the regulator.

A.2.4.1 Vehicle specification

Vehicles shall be enclosed or equipped with secure covers to protect the e-waste from adverse weather (rain, excessive heat) and prevent materials (especially toxic dust) from escaping during transit.

Vehicles shall have adequate mechanisms (e.g., tie-downs, secure racking) to prevent movement, shifting, or crushing of fragile and bulky e-waste during transit.

Vehicles shall display clear registration details and the appropriate hazard warning placards when carrying consolidated hazardous e-waste fractions (e.g., batteries, mercury lamps).

A.2.4.2 Cargo Segregation and Packaging

Hazardous components shall be segregated from non-hazardous components during transport. Mixing of general municipal waste and E-waste from collection centres shall be prohibited. Segregation of hazardous components shall be as shown below

E-waste	Segregation and Packaging
Batteries	Must be individually insulated and transported in sturdy, sealed, non-conductive containers to prevent short circuits and fire risk.
Lamps/CRTs	Must be transported in protective packaging or upright cages to prevent breakage and the release of mercury vapour or lead dust.

A.2.4.3 Operational requirements

Drivers and support crew shall receive mandatory training in the safe handling and transport of hazardous materials, including the identification of toxic components in e-waste.

Training shall include detailed instruction on:

o Spill Procedures: Managing leaks from liquids (e.g., battery acid, refrigerants) or containing accidental breakage of mercury lamps.

o Fire Safety: Use of on-board fire suppression equipment, particularly for managing lithium-ion battery fires.

A.2.4.4 Emergency equipment

All transport vehicles shall be equipped with the following:

- PPE: Personal Protective Equipment (PPE) for the crew (gloves, safety glasses, high-visibility vests).

- Spill Kit: A suitable spill containment kit (e.g., absorbent materials, neutralizers) for addressing minor chemical leaks.

- Fire Extinguishers: Appropriate and serviced fire extinguishers, ideally suitable for electrical and chemical fires.

A.2.4.5 Route planning Log-keeping

Transporters shall plan and adhere to approved routes, especially for hazardous consolidated shipments, to minimize risk to dense population centers.

Transporters shall maintain a detailed logbook recording trip details, including journey time, stops, and any incidents encountered, to ensure accountability.

A.2.5 Requirements for disposal of Residual waste

Residual waste refers to the non-recoverable, often highly hazardous, output (e.g., filter dust, sludge, slag) remaining after materials have been separated and recovered through mechanical and chemical processes.

The disposal shall comply with the relevant country Sustainable waste management law.

A.2.5.1 Before disposal, the recycling facility shall:

• Test and Characterize: The residue must be chemically analysed to determine its specific hazardous properties (e.g., concentration of heavy metals like lead, cadmium, or mercury; presence of POPs like dioxins/furans).

• Classification: Based on testing, the residue must be classified as Hazardous Waste. This classification dictates the necessary treatment and final disposal site.

A.2.5.2 The recycling facility shall ensure that no waste is disposed of by either burning, burying in a non-designated dump sites

A.2.5.3 Pre-Disposal Treatment

Before any disposal, the recycling facility shall ensure that residual hazardous waste undergoes treatment to make the contaminants chemically inert and non-leachable before final placement.

A.2.5.3.1 Stabilization and solidification

The facility shall employ techniques like stabilization (chemical treatment to reduce the mobility of hazardous substances) and solidification (binding the waste into a solid matrix, typically using cement, lime, or specialized polymers). This process transforms materials like toxic dust, sludge, and contaminated fines into a durable, non-leachable form (e.g., a stabilized block) that prevents contaminants from escaping into groundwater or soil once landfilled.

A.2.5.3.2 Documentation

A full record shall be kept detailing the chemical composition of the residual waste before and after the stabilization process, including the chemicals used and the leaching tests performed to prove the effectiveness of the treatment.

A.2.5.4 Final Disposal to designated Facilities

A.2.5.4.1 Designated Landfill

The final disposal of stabilized hazardous residual waste is mandatory at a designated hazardous waste disposal facility. This facility must be an engineered landfill designed specifically to handle hazardous materials. The landfill must use specially designed cells with:

- Multiple Liners: Impermeable barriers (e.g., high-density polyethylene/HDPE liners and compacted clay) to prevent leachate migration.
- Leachate Collection System: A system to collect and treat contaminated liquid (leachate) that percolates through the waste.
- Monitoring Wells: Groundwater monitoring systems to detect any leakage.

A.2.5.4.2 Non-hazardous Residuals

Non-hazardous materials remaining after sorting and recovery (e.g., inert shredded plastics or glass fractions confirmed as clean) should be:

• Secondary Recycling: Re-routed for secondary recovery by conventional waste processors if market capacity exists.

• Municipal Landfill: If truly non-hazardous and confirmed inert, disposed of at a licensed sanitary landfill (not a hazardous waste facility), segregated from general municipal waste.

A.2.5.4.3 Documentation

The Facility shall keep all the records of the hazardous and non- hazardous waste that have been disposed

Bibliography

[1]

[2]

