

DEPT. OF WATER, ENERGY, AND ENVIRONMENT

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Electronic Waste

This guidance document has been produced by the Nebraska Department of Water, Energy, and Environment (DWEE) to provide guidance on procedure for managing electronic waste as universal waste. The regulations applying to this topic can be found in Nebraska <u>Title 128 – Hazardous Waste Regulations</u>, Chapter 25.

An "electronic item" is defined in Title 128, Chapter 25, §008.03 as electronic equipment that contains one or more electronic circuit boards or other complex circuitry. This includes items such as computer monitors, televisions, cathode ray tube (CRT) monitors, telephones, and keyboards. Electronic items also include components, subassemblies, or other parts derived from the disassembly of electronic devices. Discarded household appliances do not fall under the definition of electronic items.

Household Electronics

Electronics from households are not regulated as hazardous waste and may be disposed of in a permitted municipal solid waste landfill or recycled. The Nebraska Recycling Council is a nonprofit organization with a statewide "Nebraska Recycling Guide" that allows the user to search for recycling resources by material type and location. The Recycling Guide can be found at https://nrcne.org/recycling-guide/.

Electronic Waste from Businesses

Electronic waste generated by businesses, government agencies, not-for-profit organizations, schools, colleges, charitable organizations, churches, farms, ranches, and hospitals are regulated under Title 128, Chapter 25. Generators are allowed to accumulate electronic waste as universal waste for recycling without having to include these wastes towards their hazardous waste generation rates and storage times.

A small quantity handler is anyone who accumulates less than 5,000 kg (11,000 lbs.) of total universal waste at any time. Small quantity handlers are not required to notify the Environmental Protection Agency (EPA) of universal waste handling activities.

A large quantity handler is anyone who accumulates 5,000 kg (11,000 lbs.) or more of total universal waste at any time. The designation of large quantity handler is retained through the end of the calendar year in which 5,000 kg or more of total universal waste is accumulated on-site. Large quantity handlers are required to notify using EPA Form 8700-12 on the RCRAInfo website before meeting or exceeding the 5,000 kg limit unless they have already notified of hazardous waste management activities.

A used electronic item destined for disposal becomes a waste on the date it is discarded and those destined for recycling become a waste on the date the recycler determines that the item cannot be resold, donated, repaired, refurbished, or that they cannot directly reuse or sell useable parts from the item. An unused electronic item becomes a waste on the date the handler decides to discard it.

See the DWEE Guidance Document titled "Universal Waste Regulations" for more information on universal wastes and handler requirements.

Storage of Electronic Waste

Electronic items must be placed in structurally sound containers that are adequate to prevent breakage and lack evidence of damage that could cause leakage. Broken and damaged electronics must be immediately cleaned up and placed into a container free of damage that could cause leakage or the release of hazardous substances. Broken CRTs must be either stored in a building with a roof, floor, and walls or placed in a closed container. Containers holding other broken and damaged electronics are not required to be closed, but it is recommended. Each item or container must be clearly marked with one of the following phrases:

- "Universal Waste Electronic Item(s)"
- "Waste Electronic Item(s)"
- "Used Electronic Item(s)"

The name of the electronic item may be used in place of the words "Electronic Item(s)."

Electronic items may be accumulated on-site for no more than one year from the date of generation or being received from another generator unless the items are collected for the purpose of recycling. The handler must be able to prove that the items are being collected solely for the purpose of recycling. Written approval from DWEE must be obtained before the one-year accumulation time limit if the limit will be exceeded.

The handler must be able to demonstrate the length of time that the electronic waste has been collected. This can be done by:

- Labeling the collection container with the earliest date that any item in the container became a waste
- Label individual items with the date they became a waste
- Place the electronic waste in a specific accumulation area and identify the earliest date that any item in the collection area became a waste
- Maintain an inventory system on-site that identifies the earliest dates individual items or groups of items became wastes
- Any other method that clearly identifies the length of time that electronic wastes have been accumulated from the date they became waste

Electronics that are being donated do not need to meet storage requirements.

Disassembling Electronic Items

Handlers may disassemble electronic items provided that the items are disassembled in a manner that prevents the release of materials to the environment. A written procedure must be implemented that details how to safely disassemble each electronic item managed at the site. The procedure must include the type of equipment used to disassemble items, operation and maintenance of all equipment used, proper segregation of incompatible waste, proper waste management practices, and waste characterizations. Employees should be thoroughly familiar with disassembly procedures, proper waste handling, and emergency procedures relevant to their responsibilities and a system should be maintained that ensures compliance with the written procedures.

Disassembled items must be immediately segregated and transferred to appropriate containers. Shredded circuit boards being recycled must be free of mercury switches, mercury relays, nickel-cadmium and lithium batteries, and stored in containers that prevent release to the environment. A spill cleanup kit should be readily available to immediately clean up spills or leaks that occur during disassembly operations.

A handler that disassembles electronic items must determine whether the disassembled item, its components, and other pieces are hazardous waste. If they are hazardous, they may continue to be managed as universal waste. If they are not managed as universal waste, then the handler is considered a generator of newly generated hazardous waste and is subject to all applicable hazardous waste requirements and the items must be contained in containers that meet the requirements of Title 128, Chapter 10, §004. If the disassembled electronic item, its components, or other pieces are not hazardous, the handler must manage the waste in accordance with Nebraska Title 132 – Integrated Solid Waste Management Regulations.

Shipping and Tracking Electronic Waste

Handlers are prohibited from sending electronic waste to any place other than another universal waste handler, a destination facility, or a foreign destination. If a handler self-transports electronic waste offsite, the handler becomes a universal waste transporter and must comply with the transporter requirements of Title 128, Chapter 25, §031 – 037.

Small quantity handlers are not required to keep records of shipments of universal waste.

Large quantity handlers must keep records of each shipment of universal waste received or sent off-site in the form of a log, invoice, manifest, bill of lading, or other shipping document. Documentation for received shipments must include the name and address of the originating universal waste handler, the quantity of electronic waste received, and the date the shipment was received. Documents for universal waste shipped off-site must include the name and address of the universal waste handler, destination facility, or foreign destination to whom the waste was sent, the quantity of electronic waste sent, and date that the shipment left the facility. Records must be kept for at least three years from the date a shipment was received or left the facility.

Recycling Electronic Waste

The EPA's definition of legitimate recycling is based around four factors:

1. Hazardous secondary materials must provide useful contributions to the recycling process or to the recycled products

- 2. The recycling process needs to produce valuable products or intermediates
- 3. Both the generator and recycler must manage the secondary material as a valuable commodity when it comes under their control
- 4. Products of the recycling or refurbishment process must be comparable to a legitimate product or intermediate, or the recycler must assess, document, and ultimately certify the recycling's legitimacy

For legitimate recycling, the first three factors must be met and the fourth must be considered. Materials are considered reclaimed if they are processed to recover usable products or if they are regenerated.

Electronic items that are sent for refurbishment or recycling are not considered waste. These items do not need to be in working condition before being sent for refurbishment or recycling. Refurbishers and recyclers should be qualified to work on the equipment and any waste generated from recycling operations is the responsibility of the refurbisher.

Sham recycling is the deceptive practice where materials that are believed to be recycled are instead disposed of through less sustainable methods. This often involves actions that undermine genuine recycling processes and divert materials to landfills, incinerators, or illegal dump site under the guise of responsible handling. It also includes situations where secondary material is ineffective or marginally effective for the claimed use, used in excess amount, handled inconsistently with its use as a commercial product substitute or raw material, or used to produce a product that has no value. Some key indicators of sham recycling include lack of transparency related to the recycling process, destinations of materials, and rate of recycling, unusually low costs, and vague certifications.

RESOURCES:

- DWEE Home Page https://dwee.nebraska.gov/
- Nebraska Recycling Council Home Page https://nrcne.org/
- RCRAInfo Website https://rcrainfo.epa.gov/

Contacts:

•	DWEE Main Number	(402) 471-2186
•	DWEE Toll Free Number	(877) 253-2603
•	DWEE Hazardous Waste Compliance Assistant	(402) 471-8308
•	Email questions to: DWEE.moreinfo@nebraska.gov	

DWEE Publications:

- Environmental Guidance Document "Universal Waste Regulations"
- Environmental Guidance Document "Waste Determinations & Hazardous Waste Testing" Guidance documents are available on the DWEE website by clicking "Visit Nebraska Department of Environment and Energy (DEE)," selecting "Forms," and "Publications, Grants & Forms."".
- Title 128 Nebraska Hazardous Waste Regulations
- <u>Title 132 Nebraska Integrated Solid Waste Management Regulations</u>

 Titles are available on the DWEE website by clicking "Visit Nebraska Department of Environment and Energy (DEE)," selecting "Resources and Services," "Laws & Regulations," and "Rules & Regulations."