

PURPOSE

This resource briefly outlines different options available to federal agencies for recycling of federally-owned electronic equipment. For information on recycling non-federal equipment, please see the U.S. Environmental Protection Agency (EPA) eCycling website: <http://www.epa.gov/ecycling/>.

INTRODUCTION

Used electronics that are broken or obsolete may have no reuse value but may be made of valuable materials, such as precious metals, copper and plastic, that can be recovered by recycling. Broken or obsolete electronics should be recycled in an environmentally sound manner.

The following environmental hierarchy – from most to least preferred – should be followed for managing end-of-life electronics:

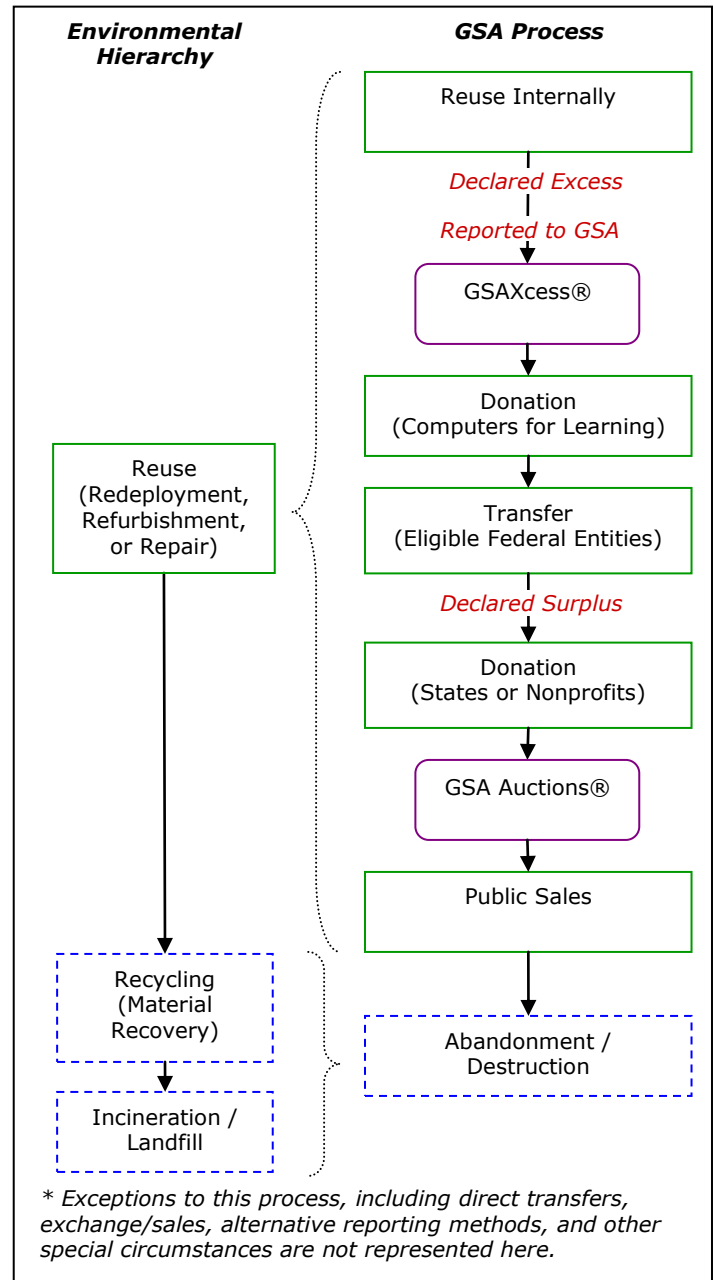
- Reuse, including
 - Redeployment¹
 - Refurbishment²
 - Repair³
- Recycling (Material Recovery)
- Incineration or Landfilling

This environmental hierarchy captures the specific end-of-life processes required by federal regulation and facilitated by the General Services Administration (GSA) (see box on right).

Federal Management Regulation (FMR) Subchapter B - Personal Property, 41 Code of Federal Regulations (CFR) 102, mandates reuse of personal property, to the extent practicable. This recycling resource presumes that a facility has fully considered reuse options prior to moving down the end-of-life electronics management hierarchy to consider recycling options. Federal property sent for recycling must be declared for abandonment/destruction.

Federal agencies and facilities should also be aware of, and adhere to, relevant federal, state and local laws related to electronics reuse, recycling, and disposal.

Federal agencies and facilities must coordinate with their property management personnel prior to conducting any activity pertaining to the reusing, recycling or disposing of electronic equipment.



¹ Redeployment reuses equipment, as-is, within an organization.

² Refurbishment requires reinstallation of software on a product, after proper media sanitization, with legal copies of software licenses.

³ Repair replaces physical components in a product, to make it usable if it is broken.

Other Federal Electronics Challenge (FEC) resources address the GSA personal property disposal process and electronics reuse options.

IMPORTANT NOTE: Regardless of the disposition activity chosen, federal agencies and facilities should follow proper media sanitization procedures.

RECYCLING OPTIONS FOR CIVILIAN FACILITIES

Civilian facilities have a number of options available to assist them in recycling their electronic equipment:

- Use an electronics recycler certified to the Responsible Recycling (R2) Practices for Use in Accredited Certification Programs for Electronics Recyclers, or the e-Stewards Standard for Responsible Recycling and Reuse of Electronic Equipment®;
- Use UNICOR;
- Use manufacturer take-back services for electronics recycling; or
- Select and use another environmentally responsible electronics recycler.

For information on how to prepare electronic equipment for recycling, see the FEC resource, *Preparing to Recycle Used Federal Electronic Equipment*, available at: <http://www2.epa.gov/fec/preparing-recycle-used-federal-electronic-equipment-722012>.

For information on properly packaging used electronic equipment, see the FEC resource, *Packaging Used Electronics for Transportation*, available at: <http://www2.epa.gov/fec/packaging-used-electronics-transportation-6272012>.

Electronics recycling activities are handled through the Defense Logistics Agency (DLA) for Department of Defense (DoD) organizations. Please see RECYCLING PROCESS FOR DEFENSE FACILITIES, below.

Using a Certified Recycler

There are existing recycling certification programs, such as the R2 Practices and e-Stewards, that EPA and the FEC believe advance environmentally safe practices and include standards for use in third party certification of such efforts. Information regarding certified recyclers is available at: <http://www.epa.gov/epawaste/consERVE/materials/ recycling/certification.htm>

Use of either an R2 or e-Stewards certified electronics recycler meets your federal requirements to employ environmentally sound practices with respect to disposition of electronic products. Use of these certified recyclers requires no further due diligence.

IMPORTANT NOTE: Recycling facilities are certified at the facility level. A multi-facility or national organization must independently certify each of their locations. Due to the length of time required for certification, these multi-facility or national organizations may have some facilities that are certified and some that are not yet certified. Check to determine which facility location will be used to recycle your electronics, and ensure that specific facility is certified.

EPA has an interactive map that consolidates information obtained from e-Stewards® and R2 Practices at: <http://www.epa.gov/epawaste/consERVE/materials/ recycling/certmap.htm>. This map may be used to search for and find electronics refurbishing and recycling facilities certified to either or both of these voluntary, non-federal standards. The indicators on the map generally mark the location of the facility. Inclusion of facilities on this map is for informational purposes only. The EPA does not endorse any of these facilities or their services.

Why Recycling?

General Services Administration (GSA) Federal Management Regulation (FMR) Bulletin B-34 strongly encourages environmentally sound recycling of scrap and salvage electronic equipment.

Executive Order (E.O.) 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, requires agencies to employ environmentally sound practices with respect to the agency's disposition of all agency excess or surplus electronic products.

Using UNICOR

Federal agencies and facilities may use UNICOR to recycle their electronics. UNICOR is a wholly owned government corporation whose mission is to train and employ inmates housed in Federal prisons. UNICOR receives no Congressional appropriations, but instead sustains its operations through the sale of goods and services to primarily Federal agencies.

IMPORTANT NOTE: All of UNICOR's electronics recycling facilities are R2 certified. Use of UNICOR for electronics recycling meets your federal requirements to employ environmentally sound practices with respect to disposition of electronic products. Use of UNICOR requires no further due diligence.

Using Manufacturer Take-Back Services for Electronics Recycling

Federal agencies and facilities may use manufacturer take-back services through one of two methods: exchange/sales or abandonment/destruction.

- *Exchange/Sales:* When replacing personal property with similar items, the value of the old items may be used to reduce the cost of the replacement item either by exchange (trade-in) or sale with a manufacturer or vendor.
- *Abandonment/Destruction:* If the manufacturer is willing to take-back obsolete and/or broken equipment, federal agencies may declare the property for abandonment and destruction and use manufacturer take-back services.

IMPORTANT NOTE: Electronics taken-back by a manufacturer may not necessarily be reused, refurbished, recycled, or disposed of in an environmentally sound manner. Federal agencies and facilities must exercise due diligence when returning used electronics to manufacturers.

Under GSA FMR Bulletin B-34, federal organizations are strongly encouraged to only return electronic equipment to a manufacturer or vendor under a take-back program that uses a third-party certified recycler (e.g., R2 or e-Stewards certified).

Certain restrictions and reporting requirements apply to exchange/sales and abandonment/destruction declarations. See GSA's *Personal Property Disposal Guide*, available at: http://www.gsa.gov/graphics/fas/5-06-00389_R2-yWC-w_0Z5RDZ-i34K-pR.pdf, for more information.

Selecting and Using Another Environmentally Responsible Recycler

Federal agencies and facilities that are unable to find a certified recycler to meet their needs may also choose and contract with a local electronics recycler that meets their needs, provided that they perform the necessary due diligence:

- Federal agencies and facilities may utilize GSA's Environmental Services Schedule (GSA 899-5), a multiple award schedule of electronic waste or hazardous material recycling contractors. Be sure to check GSA's list of Certified Contractors for Environmental Services Schedule 899 (linked as an Excel spreadsheet) to first look for a certified recycler on the schedule: <http://www.gsa.gov/portal/content/104611>.
- The EPA's eCycling website includes links to manufacturer and retailer program websites, and links to other organizations that provide assistance in finding local electronics recyclers: <http://www.epa.gov/epawaste/consERVE/materials/ecycling/donate.htm>.
- Local or state environmental or solid waste agencies may have local collection programs or databases of vendors who recycle electronics.

IMPORTANT NOTE: When not utilizing an R2 or e-Stewards certified recycler, federal agencies and facilities must practice due diligence to ensure that the electronics recycler they select utilizes environmentally sound practices, in accordance with E.O. 13514 (see PERFORMING DUE DILIGENCE FOR ELECTRONICS RECYCLERS below).

RECYCLING PROCESS FOR DEFENSE FACILITIES

The DLA manages all electronic equipment end-of-life activities for DoD. DoD property is handled according to the same priorities as civilian agency property. DoD-owned electronic equipment, when excess to your organization's needs, must be reported as excess to DLA. DLA handles the disposal of all excess property received from the military services.

PERFORMING DUE DILIGENCE FOR ELECTRONICS RECYCLERS

If a federal agency or facility opts to use a certified recycler, they do not need to perform additional due diligence because due diligence activities have been performed through the third-party certification process to ensure these recyclers follow environmentally sound recycling practices.

IMPORTANT NOTE: When not utilizing a certified recycler federal agencies and facilities must practice due diligence to ensure that the electronics recycler they select utilizes environmentally sound practices, in accordance with E.O. 13514.

The following FEC tools can help federal organizations perform due diligence:

- *Checklist for Selection of an Electronics Recycler* provides a brief checklist to assist in the initial selection of an electronics recycler, and is available online at: <http://www2.epa.gov/fec/checklist-selection-electronics-recycler-722012>.
- *Guidelines for On-Site Reviews of Electronics Recyclers* provides in-depth guidance for completing an on-site review of electronic recycler to help ensure the selection of an environmentally responsible vendor, and is available online at: <http://www2.epa.gov/fec/guidelines-site-reviews-electronics-recyclers-722012>.

REFERENCES

The Federal Management Regulation, 41 CFR 102, is available at: <http://ecfr.gpoaccess.gov/>.

The National Center for Electronics Recycling provides a list of electronics recycling laws in effect at their website: <http://www.electronicrecycling.org/public/ContentPage.aspx?pageid=14>.

The text of Executive Order 13514 is available at: <https://www.fedcenter.gov/programs/eo13514/>.

Information about the R2 Practices is available at: <http://www.r2solutions.org/>.

Information about the e-Stewards Standard is available at: <http://e-stewards.org/>.

Information about UNICOR's electronics recycling services is available at: <http://www.unicor.gov/recycling/>.

Information about DLA is available at: <https://www.dla.mil/>.

CONTACT INFORMATION

If you have questions related to this resource or need other assistance with the Federal Electronics Challenge, please contact your Regional Champion: <http://www2.epa.gov/fec/technical-assistance>.

Visit the FEC online: <http://www2.epa.gov/fec/>

E-mail the FEC: fec@epa.gov