

Federal Electronics Reuse and Recycling

FEC Webinar

November 2012

Federal Electronics Reuse and Recycling Requirements

⚙ Executive Order 13514

- ⚙ Federal agencies must ensure they are “employing environmentally sound practices with respect to the agency’s disposition of all agency excess or surplus electronic products”

⚙ GSA FMR Bulletin

- ⚙ Guidance provided to “protect human health and the environment from the potentially harmful effects associated with the unsafe disposal of Federal Electronic Assets (FEA).”

Federal Electronics Reuse and Recycling Requirements

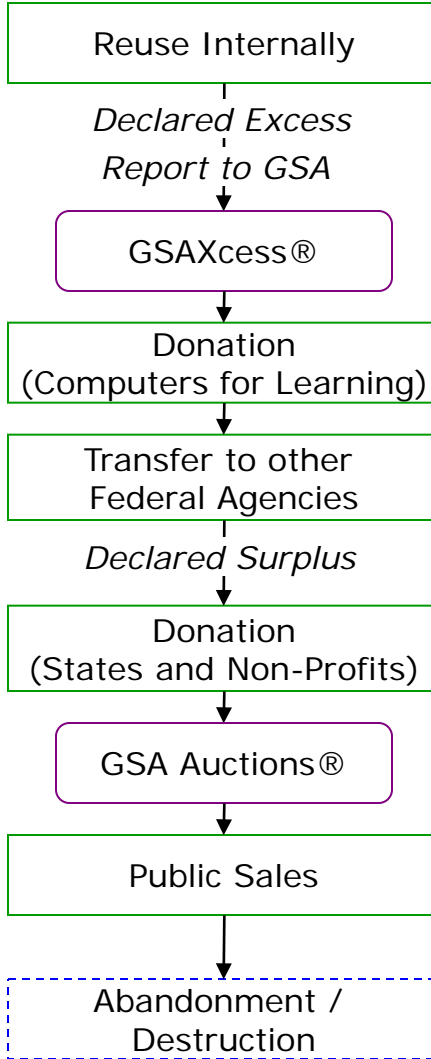
- ✿ Federal Management Regulation (FMR)
Subchapter B - Personal Property, 41 Code of
Federal Regulations (CFR) 102
- ✿ 15 U.S. Code (USC) 3710(i), commonly known
as the Stevenson-Wydler Act (amended by
Public Law 102-245), and Executive Order
12999

Environmental Hierarchy

Reuse
AND/OR
Refurbishment

Recycling
Incineration /
Landfill

GSA Hierarchy



Time Frame

7 days

14 days

5 days

Regulation

41 CFR 102-36

41 CFR 102-36.475

41 CFR 102-36

41 CFR 102-37

41 CFR 102-38

41 CFR 102-36

Property Disposition Requirements

- ⚙ Must adhere to Federal Management Regulations for property disposal
 - ⚙ Property must go through the [GSA disposition process](#)
 - ⚙ Obsolete or broken property with no value may be labeled for abandonment and destruction without going through the complete GSA process
- ⚙ Property should be reused and donated to the maximum extent practicable
- ⚙ After following the proper procedures, you can select a recycler

Internal Reuse

- ⚙ Extend the life of electronics in use
- ⚙ Understand how property is acquired, inventoried and deployed
- ⚙ Keep an accurate inventory of electronic assets
- ⚙ Utilize property/asset management software to find available equipment
- ⚙ Implement a “bumping” or “trickle-down” policy for electronics

Excess Equipment

- ⚙ Report unneeded equipment to your Property Officer
- ⚙ Property Officer declares property **excess**
- ⚙ Excess property can be directly transferred to eligible recipients or handled through [GSAXcess®](#)
- ⚙ Work with your Property Officer to complete necessary documentation

Computers for Learning

- ✿ Computers for Learning (CFL) matches the computer needs of schools and educational nonprofits with federal excess equipment
- ✿ Assists federal agencies in meeting the requirements of Executive Order 12999, “Educational Technology: Ensuring Opportunity for All Children in the Next Century”
- ✿ Allows transfer of “educationally useful federal equipment”
 - ✿ Computers and related peripheral equipment
- ✿ Results in title transfer
 - ✿ Recipients gain ownership of the property upon receipt

Federal Reuse of Excess Equipment

- ✧ Excess equipment may be:
 - ✧ Reported to GSA and offered through [GSAXcess®](#)
 - ✧ Directly transferred to other federal agencies if certain conditions are met
- ✧ Federal Agencies must use excess property as the first source of supply
- ✧ Care, handling, and transportation are paid by the receiving Agency
- ✧ Unneeded excess equipment is declared **surplus**

Non-federal Reuse of Surplus Equipment

- ⊛ Non-federal organizations may obtain surplus property through State Agencies for Surplus Property (SASPs)
- ⊛ Includes non-federal public agencies (state and local governments) and private nonprofit organizations and institutions
- ⊛ Clear title to donated property is only granted:
 - ⊛ After a specified period of time has elapsed
 - ⊛ Donee has fulfilled all federal and state restrictions imposed on the property

Sale of Surplus Equipment

- ✧ Used electronics may be sold for reuse, remanufacturing or recycling through [GSA Auctions®](#)
- ✧ Follow guidance in Bulletin FMR B-34 with regards to sales
 - ✧ Selling only functional electronics, or non-functional electronics as individual assets

Leftover Electronic Equipment

- ⊗ Equipment that is not reused, donated or sold must be disposed of by the federal owner
- ⊗ Electronics should be declared for abandonment and destruction and sent to a certified recycler

Know When to Recycle

- ⚙️ Obsolete or broken equipment should be recycled
- ⚙️ Excess equipment that may not be donated or sold can be labeled for abandonment and destruction and subsequently recycled
- ⚙️ Agencies can donate to a public body in lieu of abandonment
 - ⚙️ UNICOR is a public body and provides electronics remanufacturing and recycling

Finding a Certified Recycler

- ☼ Two recognized certification programs
 - ☼ Responsible Recycling (R2)
 - ☼ e-Stewards
- ☼ Ensure the specific location you are using is certified

Find a Manufacturer Take-Back Program

- ☼ Check with your vendor
 - ☼ Contact your sales representative
 - ☼ Check a manufacturer's website
- ☼ Confirm that the manufacturer is following environmentally responsible practices and utilizing certified recyclers
 - ☼ Take-back of EPEAT registered equipment
- ☼ Remember requirements for exchange sales!

Evaluating an Electronics Recycler

- ⚙️ If you can not use a certified recycler or appropriate take-back program, *you must perform due diligence!*
- ⚙️ Perform an on-site review or rely on an on-site review completed by another federal entity
 - ⚙️ Obtain a copy of the review for your records

Special Note for Defense Facilities

- ⚙ The Defense Logistics Agency (DLA) manages all electronic equipment end-of-life activities for the Department of Defense (DoD)
- ⚙ DoD-owned electronic equipment, when excess to an organization's needs, must be reported as excess to DLA
- ⚙ Equipment in the DLA inventory is available for any school registered for the DLA application of the CFL program

Preparing to Reuse or Recycle

- ✧ Collect all peripherals and cables
- ✧ Complete media sanitization of internal and external media
- ✧ Remove external media (disks, CDs, DVDs, USB drives, paper)
- ✧ Remove property decals
- ✧ Properly package equipment to reduce breakage
- ✧ Complete necessary property disposal documentation
 - ✧ Include fact sheet for donation recipients

Recording and Reporting

- ⚙ Keep a record of either the number of units, or the weight of equipment, sent for reuse or recycling
 - ⚙ Reuse generally recorded by unit
 - ⚙ Recycling generally recorded by weight
- ⚙ For FEC reporting
 - ⚙ Required: Desktops, laptops, LCD and CRT monitors
 - ⚙ Optional: Imaging equipment*, TVs*, mobile devices, servers

* Reporting for these items will be required in FY2013

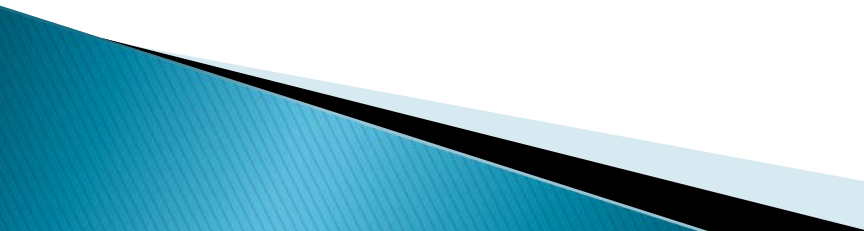
Recording and Reporting

- ⚙ *Reused*: includes anything reused internally, donated through Computers for Learning, reused in the federal government, or donated to States or non-profits
- ⚙ *Recycled*: includes anything sent to an electronics recycler or returned to an electronics vendor or manufacturer, even if it may be refurbished and reused
- ⚙ *Landfilled/Incinerated*: includes anything sent to a landfill or waste-to-energy facility
- ⚙ *Unknown (including sales)*: includes anything sold at auction, sold through other government sales, or otherwise has an unknown final disposition

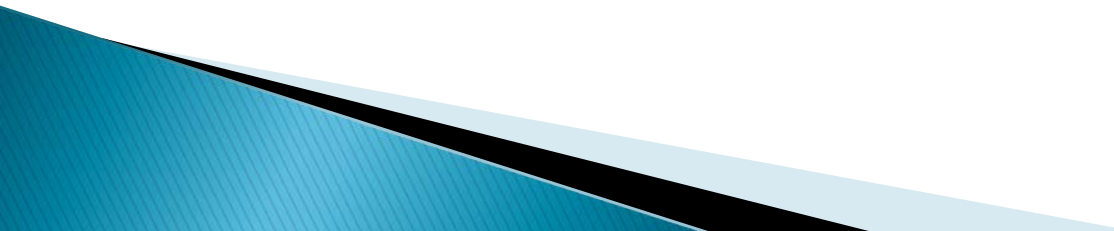
Implementing the National Strategy

- ▶ FMR Bulletin issued February 29, 2012.
 - Electronic version at www.gsa.gov/ewaste.
- ▶ FMR Regulation 102-36 drafted and GSA is obtaining comments.
 - We expect to have the regulation published by the end of the FY.
 - Major points are new policies and new reporting requirements.

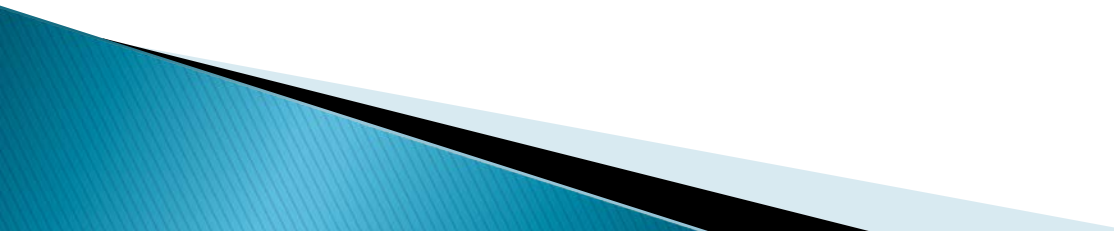
FMR Bulletin B-34

- ▶ Introduces the term “Federal Electronic Asset” (FEA); defines covered categories.
 - ▶ Encourages reuse within Federal government.
 - ▶ Facilitates donations to state and local entities.
 - ▶ Allows for sale of FUNCTIONAL electronics.
 - ▶ Prohibits bulk sales of non-functional FEA.
- 

FMR Bulletin B-34 (Continued)

- ▶ Requires ultimate disposal to certified recyclers/ refurbishers.
 - ▶ Prohibits landfilling and incineration.
 - ▶ Encourages downstream recipients to dispose of FEA in a responsible manner.
 - ▶ Changes the reporting requirements, deadlines, and dissemination of data.
- 

Changes to Reporting

- ▶ Data collected via automated reporting tool for annual reports (non-federal recipients).
 - ▶ Pushing the envelope to have reports submitted by October 15 of each year.
 - ▶ Reports are much more granular to determine disposition.
 - ▶ Data to be published on data.gov for transparency.
- 

USPS RETURNS



**United States Postal Service
Recycling Program
EPA**

November 1st, 2012

Federal Agency eWaste Regulations



Recently, policies have been put into place on what federal agencies must do to combat electronics waste (eWaste)



- **Executive Order 13514:** U.S. agencies must “employ environmentally sound practices for the disposition of all agency excess or surplus electronic products”
- **e-CFR 102-36:** GSA policy on the Disposition of Excess Personal Property¹
- **State eWaste Regulations:** 25 states have passed laws mandating statewide e-waste recycling²

¹<http://www.gsa.gov/portal/ext/public/site/FMR/file/Part102-36.html/category/21858/>

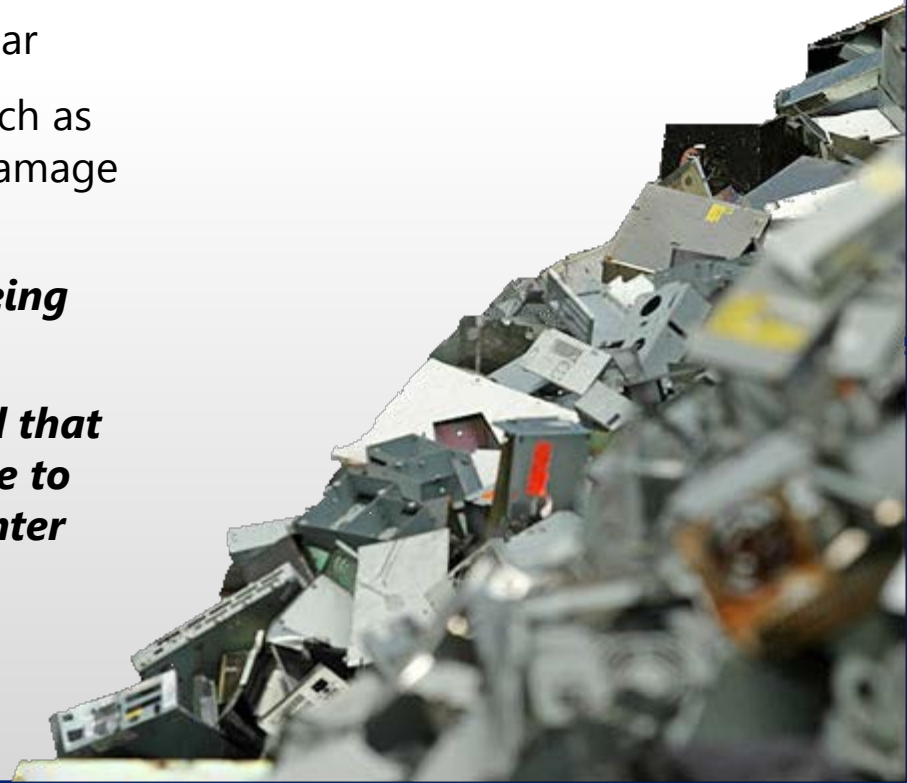
²<http://www.epa.gov/osw/conserve/materials/ecycling/rules.htm>

State of Electronics Recycling Today



As people upgrade to newer models of electronic devices, they often dispose of the old items improperly, which is harmful to the environment.

- The average U.S. household **spends \$1,407** per year on new electronics
- The average home has **twenty-four (24)** used, unwanted electronics
- **130 million cell phones are retired** each year
- Electronics contain **hazardous materials** (such as lead) that cause health and environmental damage when trashed instead of recycled
- ***Only 10-15% of all used electronics are being recycled***
- ***In a USPS survey, 35% of respondents said that they are not willing to travel ANY distance to recycle electronics at a local collection center***



USPS Federal Recycling Program Overview



- USPS is assisting U.S. federal agencies to be more green by allowing the customer agencies and their employees to recycle qualified end of life products FREE of charge.
- The USPS designated recycler receives residual value in these products and as such by agreement will fund the transportation cost via US Mail from the federal agencies location to the certified recycler's destination.
- **The program is divided into two categories**
 1. A recycling program for federal agencies on a national level for official equipment at the agency location
 2. A recycling program for federal agencies employees for disposal of their personal property from home



USPS Federal Recycling Program Overview



- **Web based (two web sites)**
 1. For official equipment only, shipped from the agency location
 2. For employee's personally owned equipment only, shipped from home
- **Simple Process**
 1. Enter information on web site
 2. Print label
 3. USPS picks up with existing mail.



*Provides a Process to Separate Federal Assets
from Employee Owned Equipment*

USPS Federal Recycling Program Overview



- Reports generated from these web sites will be managed by the federal agency customer through administrative rights designated by the federal agency.
- The federal agency customer understands and agrees that no monies will be paid to its agency for any end of life products.
- Employees sending personal equipment from their home may be entitled to payment of specific electronics, as indicated on the designated employee web site.
- Phase Two
 - The program includes the ability to diagnosis laptops
 - Upgrade & reuse
 - Parts only

Agency Benefits



- **No Costs: Implementing this program is free for U.S. federal agencies**
- **Simple process to launch this program on a national level**
- **The associated federal agency customer will receive reports describing all recycled or reused items that can be leveraged to meet EO 13514.**



Agency Visibility



The program provides reporting and analysis on every item exchanged.

- Number of exchanges per day
- Number of exchanges by state
- Comparison of exchanges by type of electronic item
- Tracking by agency, location, cost center, department and employee category
- Components listed by the **serial number** where available
- “Detail” and “Summary” views - Detail view provides data on each individual item; summary view provides data on total exchanges



Provides Agencies the Ability to Track & Measure Results for their Annual Sustainability Reports

What Electronics Qualify?



The following list of electronic items are acceptable for cash back (assuming item retains cash value) for recycling:

- Cell phones (smart phones and flip phones)
- Cell phone accessories
- Laptops, Notebooks, PC Towers (no monitors)
- Cameras, Camcorders, Camera Equipment
- Media Games and Games Systems
- Tablets, Readers
- MP3 players, DVD, Blue Ray
- Ink jet cartridges
- Toner cartridges



Recycled Items are Limited to the Above

Recycler Security Protocols



- **Clover Technologies Data Destruction Standards – Hard Drives**
- Consistent with the data sanitization standards of the Department of Defense, DOD Standard 5220.22-M, and with the aid of DOD approved software for data clearing, CORE and/or its subcontractors will utilize the following process methods:
 - Drive Sanitization Utility:
 - Triple pass overwrites characters across the drive platters
 - First Pass writes initial character
 - Second Pass writes complementary character
 - Third Pass writes random character
 - Data is rendered irretrievable by standard recovery methods
 - Allows multiple passes
 - No drive/partition size limitation
 - Useable on all IDE/SCSI drives
 - Destruction/Shredding
 - If the storage medium is unable to be processed via software destruction, it is physically destroyed.
 - All such storage mediums will be immediately placed in a secure lock box and transported for shredding.
 - Equipment is physically shredded and/or smelted at our Electronic Equipment Recycling Company
 - Compliant with DOD Standards for Classified Material.

Recycler Security Protocols



- **Clover Technologies Destruction/Data Security – Phones, Camera Equipment and Other Media**
- Consistent with the data sanitization, purging, or destruction practices described in the NIST Guidelines for Media Sanitation: Special Publication 800-88, and with the aid of manufacturer approved data clearing software when applicable, CORE and/or its subcontractors will utilize the following process methods:
- Digital Camera/Camcorder Memory Cards – An all in one reader should be used to remove any user data from flash or memory cards and format them to factory default settings.
- Camcorder Tapes (Any type or size) – All tape-based media should have the exterior case crushed, and the internal tape severed before being scrapped.
- DVD or CD Media – All DVD or CD media (rewritable or non rewritable) should be cracked in half before being scrapped
- Embedded memory devices –Software specific to the correct unit should be used to sync the unit and use the reset function to remove any user data and restore them to factory default settings.
- Smartphones/PDAs/Cell Phones – delete all memory files such as email, photo files, calls made, contact lists, downloads, etc., remove and destroy all media SD cards and sim cards per section 2:2 above, then, select the internal “hard reset” function to reset these units to original factory default settings and test to verify full deletion.
- All devices should be tested to verify the data clearing was successful. Any equipment that does not pass data clearing shall be coded as defective and scheduled to be scrapped.

Certifications



USPS partners with Clover Technologies Group for the recycling and buy-back program. Clover has the following certifications:

- **ISO 14001 Environmental Certification-** Independent third party validation of environmental stewardship at CES
- **3 Degrees Partnership-** Strategic partnership supporting our renewable energy credit initiatives (REC)
- **EPA Green Power Partner-** EPA recognition of CES' 100% offset of energy consumption through purchase of REC's
- **Waste Wise Program Participant-** EPA partnership that recognizes our commitment to waste reduction
- **Sustainable Forestry Initiative (SFI)-** Recognizes our packaging partners commitment to responsible forestry initiatives
- **Forest Stewardship Council (FSC)-** FSC provides a credible link between responsible production and consumption of forest products
- **Responsible Recycling Practices (R2)-** The R2 Standard sets forth requirements relating to environmental, health, safety, and security aspects of electronics recycling



7 Agencies Committed to Federal Recycling Program



- GSA
- EPA
- DHS
- DOI
- FAA
- VA
- USDA



Summary



- **USPS is helping U.S. federal agencies by allowing agencies to recycle electronics and their employees to recycle and/or receive cash back for personal electronic items.**
- **The program can replace or supplement existing programs.**
- **The program complies with all government executive orders and regulations including R2 and e-Stewards certification.**
- **Agencies will benefit with access to metrics and tracking**
- **USPS has national reach, proven successes in sustainability and recycling efforts.**
- **USPS makes it simple and free to launch this agency wide initiative**

Next Steps



- **Concurrence agency will deploy as a National Program**
- **Complete a Memorandum of Understanding**
- **Develop a marketing program to communicate within the federal agency**
- **Build a web site**



Questions?



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Southwest Laboratory

CASE STUDY OF ELECTRONICS RECYCLING

Introduction

- The Southwest Laboratory generates electronic waste comprised of office and scientific equipment.
- As a member of the FEC, the Southwest Laboratory ensures that electronic waste disposal is conducted in an environmentally sound way.

Equipment Tracking

- In 2008, we had over 20 pieces of equipment to surplus.
- In response, we started an End-of-Life tracking spreadsheet.
- This maintained the item description, location, age and operational status.
- It also aided in identifying the different pieces of a unit.

Number	Make	Model	S/N	Type	Location	Aquired	Disposed	Notes
SWL-36	HP	ScanJet 8350	CN66PA0074	scanner	Tool Room	2/26/2007	11/18/2011	recycled
SWL-37	Infoguard	SX100M		shredder	F/P			
SWL-38	Infoguard	SX100M		shredder	F/P			
SWL-39	Sirchie	DFC 100	31921	lab	F/P			
SWL-40	Nikon	CoolPix 4200	3021074	camera	F/P			
SWL-41	GBC	Shredmaster 950S	SC06888H	shredder	Group 3/MLH	9/20/2006		
SWL-42	HP	ScanJet 8350	CX66PA0072	scanner	Tool Room	9/9/2010	11/18/2011	recycled
SWL-43	Sony	Digital Mavica MVC-FD95	91030	camera	Group 3			
SWL-44	Kodak	DX6490	KCTCT43024766	camera	Group 3			
SWL-45	HP	ColorLaserJet 2820	MXBC5400F6	all-in-one	Group 3		4/11/2012	recycled
SWL-46	Epson	Stylus photo R380	JL7K120250	printer	Group 3			
SWL-47	Kodak	DX6440	KCKCK34600858	camera	Group 3	9/21/2006		
SWL-48	Kodak	Z712IS	KCXGT73011975	camera	Group 3			
SWL-49		USB 2.0 LaserJet	99B821208222601494PWS000	CD burner	Group 3			
SWL-50	HP	4000TN	USNC154237	FB printer	Admin/TF			
SWL-51	IBM	Wheelwriter 1000	11PAW78	typewriter	Admin/VB		3/2/2010	recycled
SWL-52	HP	ScanJet 8350	CN67TA0254	scanner	Admin	2/26/2007		
SWL-53	HP	ScanJet 8250	US5B7TR553	scanner			3/9/2009	recycled
SWL-54	IBM	Wheelwriter 1000	11PAW77	typewriter	Admin/DP			
SWL-55	HP	LaserJet 2200d	JPGGC82045	printer	Admin/DP			
SWL-56	HP	LaserJet 8000DN	USBB068766	FB printer	Admin/LMC		4/11/2012	recycled
SWL-57	GBC	Shredmaster 950S	SC06863H	shredder	Admin/LMC	9/20/2006		
SWL-58	HP	ScanJet	C7716A	scanner			3/9/2009	recycled

Destination

- ① After cataloging the equipment, we started to segregate items into reuse or recycle groups based on its operational status.
- ① Items that could be reused were offered to local schools and offices.
- ① Items that were beyond repair were set aside for an electronics recycler.

Reuse Rules

- ① Personal Property Excess Utilization (41 CFR 102-36)
- ① “...executive agencies, to the maximum extent practical, fill requirements for personal property by obtaining excess property from other federal agencies”

Reuse

- DEA offices in the Southwest Laboratory's region were contacted about still operational equipment.
- In 2010, 23 balances and one Ion Scan were sent to resident offices.

Reuse

- Local colleges and universities were contacted via email about scientific equipment that was still functional but might need repairs.
- Instruments were given on a first come, first serve bases. Those schools that had not received equipment previously were given priority.

Email sent to schools

Dear fellow associates of the scientific community,

We are currently making changes to our instrument inventory which has left us with instruments that are in a surplus status. As a federal government entity one of our first routes of surplus is to reach out to those in the educational community. Listed below are the instruments that we have available at no cost to you. Your only responsibility is for transport from our site to yours. Some of these instruments may need some repairs but the value of the instrument far exceeds those costs. Donation of these items is on a first come first serve basis so a speedy response is suggested. There are many universities in our local area therefore do not request every instrument, select only one on the list. The available instruments are listed below:

1. Agilent 6890 Gas Chromatograph, dual column w/ FID detectors, 2 auto injectors, 100 count sample tray, CPU, monitor and printer-may need general maintenance at set-up
2. Agilent 6890 Gas Chromatograph, single column no detector, 1 auto injector, 100 count sample tray, CPU, monitor and printer
3. Agilent 5973 Mass Spectrometer, single column, 1 auto injector, 100 count sample tray, CPU, monitor and printer-may need general maintenance at set-up

Once again this is a first come first serve basis so please let me know as soon as you can.
Thank you!

Reuse

- Along with their donation, the schools receive a letter about responsible electronics recycling.



U. S. Department of Justice
Drug Enforcement Administration
Southwest Laboratory
2815 Scott Street
Vista, CA 92081

www.dea.gov

University of California, Riverside
900 University Ave.
Riverside, CA 92521

Attention Recipients of Electronic Equipment Donated by the Federal Government

Your institution has just received property formerly belonging to the Federal Government. The Federal Government encourages recycling practices that keep obsolete electronics from being disposed of in landfills.

Did You Know.....

By 2004, computers could add as much as 4 billion pounds of plastic, 1 billion pounds of lead, 2 million pounds of cadmium and 400,000 pounds of mercury to the solid waste stream. It is estimated that, by 2007, there will be more than 680 million computers that will require proper end-of-life management. Currently, 95 % of discarded computers end up in the solid waste stream, headed for disposal in landfills or incinerators!

Reuse

- The Southwest Laboratory also maintains an account with GSAXcess.
- GSA offers government offices a website that lists excess property based on description, location and condition.
- This is a free service. Shipping is on the buyer and they have ~30 days to claim the item.

Reuse

- GSA also offers Computers for Learning (CFL) program. (41 CFR 102-36.475)
- This program allows the transfer of excess computer equipment to schools and educational nonprofit organizations.
- This is based on Executive Order 12999, Educational Technology.

Reuse

- If you still have equipment that has gone through all viable options of reuse-items not wanted by federal, state or local agencies, nor schools; then they are made available to the public via GSA Auctions.
- This is known as the “government e-bay”.

Recycle

- ① When absolutely no one wants the item, due to age or repair, it has to be scrapped.
- ① “The property has no value or the cost of care, handling and preparation of the property for sale would be greater than estimated fair market value.”
- ① Items are taken to a GSA approved recycler. (41 CFR 102-36)

Recycle

- ② 2-3 times a year, electronics are scheduled for recycling.
- ② Employees of the laboratory and a local resident office are encouraged to bring their home electronics to this event.

End Results

- ◎ In FY 2008, the Southwest Laboratory surplussed 6336 lbs.
 - 4662 lbs. reused
 - 1674 lbs. recycled (does not include employee home electronics)
- ◎ Since then, every year we average:
 - 1000* lbs. reused
 - 2000** lbs. recycled

*approximately 5 instruments

**includes employee home electronics

Reminder

- ⦿ The integrity of the instrument has to be maintained.
- ⦿ Don't get stuck with anything with a radiation symbol on it.
- ⦿ It's shelf life is much longer than its half life.



Questions

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Sources

- GSA Personal Property Disposal Guide
- Code of Federal Regulations
- www.GSAXcess.gov
- www.MySales.fss.gsa.gov
- www.GSAauctions.gov
- www.epa.gov/fec/publications

Resources

☼ FEC (End-of-life management resources)

☼ <http://www.epa.gov/fec/publications.html#eol>

☼ GSA (Federal Personal Property Disposal)

☼ <http://www.gsa.gov/portal/category/21260>

Contact Us

☼ FEC Champions

☼ <http://www.epa.gov/fec/technical.html>

☼ FEC e-mail

☼ fec@epa.gov