Sandia's Electronics Stewardship

Another Year of Progress

Ralph Wrons, P.E.
Pollution Prevention (P2) Program
Sandia National Laboratories

Credit to Northeast Recycling Council

Overview

- Federal Electronics Challenge (FEC)

- Operations

- What is EPEAT?

- FEC Goals for FY08

Federal Drivers

- Executive Order 13423 (January 2007)
  - Requires 95% of applicable computers purchased to be $\geq$ EPEAT-Bronze
  - Enable Energy Star features on 100% of applicable equipment
  - Recycle 100% of electronics equipment
- DOE Order 450.1a
  - Specifies electronics stewardship and adopted the language in E.O. 13423

Federal Electronics Challenge

- EPA administered program

- Applies to procurement, operations and end-of-life disposition

- Set goals annually

- Submit annual report

- Can apply for awards (bronze, silver, gold)
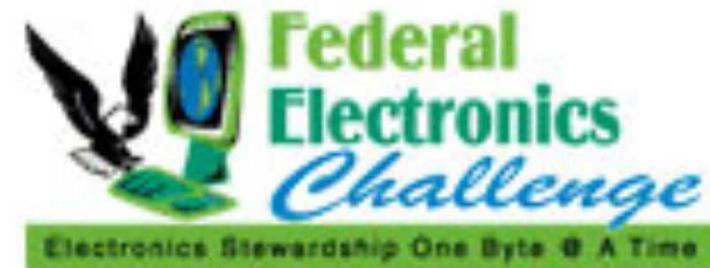
FEC participation

- SNL/NM Joined February 2006

- First year goals:
  - Vendors supply equipment with "Sleep" feature enabled
  - "Sleep" features enabled on 100% of existing monitors
  - Default to 2-side printing at copiers and network printers (ongoing)
  - Recycle 100% of non-reusable computers

FEC participation

- Second year goals:
  - Evaluate total cost of ownership for new purchases
  - Establish & promote policy to power off PCs when employees go home (carry over to FY08)
  - Reuse or refurbish 25% of equipment (carry over to FY08)

Operations

- Network-based enterprise delivery of Common Operating Environment (COE) software programs
  - Immense paper and plastic savings on reduction of boxed manuals and software.
  - At end of FY06, deployed new program to activate "sleep" features on network-connected monitors
    - Within first week, 9300 computer stations impacted
  - Periodic checks (September & November 2007, February 2008) – almost 20,000 monitors enabled, with ~99% success rate.
    - Estimated annual energy savings of $41,000

What is EPEAT©?

Electronic Product Environmental Assessment Tool

A comparison purchasing tool for computer desktops, laptops and monitors based on their environmental attributes.

What is EPEAT©?

EPEAT was developed over an intensive three year, EPA-funded process that included the following participants:

- **Purchasers**
- **NGOs**
- **Governments**
- **Recyclers**
- **Academia**
- **Manufacturers** – Dell, HP, IBM, Apple, Panasonic, Sharp, EIA

What is EPEAT©?

1) Set of voluntary environmental performance criteria

   ➢ IEEE 1680 American National Standard for the Environmental Assessment of Personal Computer Products

2) System for identifying and verifying products meeting the criteria

3) Only applies to desktops, monitors and laptops

   ➢ www.epeat.net

What is EPEAT©?

Environmental Performance Categories

- Environmentally Sensitive Materials

- Materials Selection

- Design for End of Life

- Product Longevity/Life Cycle Extension

- Energy Conservation

- End of Life Management

- Corporate Performance

- Packaging

What is EPEAT©?

EPEAT Performance Tiers:

BRONZE

Product meets all required criteria.

SILVER

Product meets all required criteria plus at least **50%** of the optional criteria that apply to the product type being registered.

GOLD

Product meets all required criteria plus at least **75%** of the optional criteria that apply to the product type being registered.

What is EPEAT©?

Re: Environmentally Sensitive Materials

Mandatory

- Comply with European RoHS Directive, restricting:
  - Cadmium, Mercury, Lead, Hexavalent chromium
  - Selected brominated flame retardants

Optional

- Additional limits on mercury for light sources
- Batteries free of lead, cadmium & mercury
- Large plastic parts free of PVC

RoHS = Restriction of Hazardous Substances in electrical and electronic equipment (www.rohs.gov.uk)

What is EPEAT©?

Re: Materials Selection

Mandatory
- Declare post-consumer recycled plastic content
- Declare renewable/biobased plastic materials content

Optional
- Meet minimum post-consumer recycled plastic content
  $\geq$10% or $\geq$25%
- Meet minimum renewable/biobased plastic content
  $\geq$10%

What is EPEAT©?

Re: Design for End of Life

Mandatory
- Design case to be easily disassembled
- Label plastic components by type
- Make it easy to identify & remove components with hazardous materials

Optional
- Reduce number of plastic types used
- Ensure 90% of product is reusable or recyclable

Pitch to the Preferred Systems Administrator

- SNL has a huge environmental impact through computer purchasing

- SNL's money (combined with all Federal money) can drive economic change

  (Send "green is good" message to manufacturers)

- Specifying EPEAT can result in:
  – Less hazardous materials coming onsite
  – Less lifetime energy consumption
  – Improved end-of-life disposition

- Little to no price premium for EPEAT

Silver is the new Standard

- EPEAT Silver is now minimum for all models approved by PSA for JIT supplied computers & monitors.

- Including EPEAT preference in contracts:
  - TIG (Dell) Contract - *Complete 12/06*
  - Holmans (HP & Apple) Contract

E-scrap generation

Reuse and Recycling

- Our documentation on reuse indicated only 1%
  - Pursuing the data from NWIS & Reapp
- Recycled 136.3 mT in FY07
- Recycled ~70 mT thus far in FY08
  - Last shipment of 66,000 pounds 50% greater than previous

Imaging Equipment

- Working on the concept of "green" printer attributes

- Met with JIT buyers last fall, and subsequently two of the suppliers

- Analysis of purchases indicates majority of models available on JIT:
  - Energy Star compliant and
  - could have duplexing capability

Instructions to Save Energy and Paper

- **Fact sheet distributed to department secretaries**

  - **Energy Star**
  - **Duplexing**
 - **Recycling of consumables**

ENVIRONMENTAL COPIER OPTIONS
Automatically Save Energy and Paper

These steps are based on the Konica 7145. While every model is different, the buttons and options are generally similar between models.

Save Energy	Save Paper
…by activating	…by activating
Energy Star features	**duplex copying features**
Press:	*Press:*
1. Help	1. Help
2. Key-Ope mode	2. Key-Ope mode
3. "1. System/copier"	3. "1. System/copier"
4. Down Arrow	4. "2. Copier Initial"
5. "11. Power Save"	5. "1. Copy mode"
6. Under "Auto Low Power"	6. 1-2
▪ Press "30 Min"	7. OK
7. Under "Auto Shut off"	8. Return
▪ Press "60 Min"	9. Return
8. OK	10. Return
9. Return	
10. Return	

Please recycle spent copier toner bottles in the nearest plastic beverage recycling bin and the cardboard packaging at the nearest site for cardboard.

2 HDPE
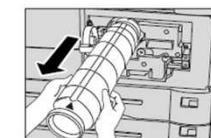
FEC participation

FY08 goals:

- Pursue 98% EPEAT compliance with purchases of applicable office electronics products
- Develop and maintain a system for tracking the percentage of existing electronic equipment that is reused internally
- Conduct at least one employee training activity on energy conservation for office equipment
- Establish & promote a policy or guidance addressing the use of duplex printing & copying

Have applied for FEC Bronze