Closing the Circle News

Special Issue: Electronics Stewardship

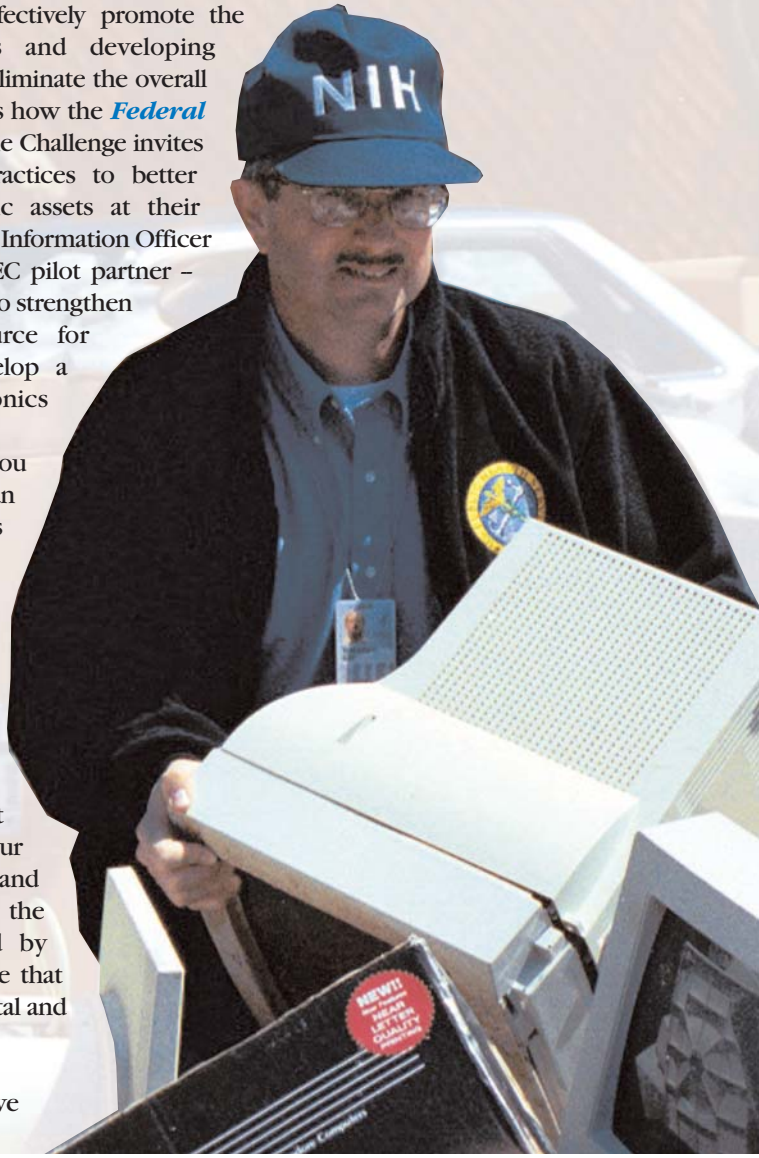
Inside

The Federal government has always been a strong advocate of sustainable environmental stewardship in its mission of safeguarding the welfare of all its citizens. This is especially the case when new environmental challenges surface, such as the management of our electronic assets.

The Federal government is the largest block purchaser of electronics in the world. The IT budget for FY 2003 alone was $54.2 billion. The majority of the 1.8 million employees in the Federal government have a personal computer; therefore, given an average three-year life cycle, the government discards approximately 10,000 computers each week.

In addition to the volume of waste generated, the volume of hazardous chemicals associated with the electronics waste is also an issue.

But the environmental issues relating to electronics go beyond how we dispose of them; they also include how we use them, and even how they are made. Hence, a little over three years ago, we started looking at how to effectively promote the purchase of greener electronic products and developing management systems that will help reduce or eliminate the overall environmental impact of these products. This is how the ***Federal Electronics Challenge (FEC)*** was created. The Challenge invites all Federal agencies to begin promoting practices to better purchase, manage and dispose of electronic assets at their installations and facilities. Brian Furusama, Chief Information Officer for the Bonneville Power Administration - a FEC pilot partner – agrees that the FEC has "provided the structure to strengthen communications and served as the resource for employee awareness and education to develop a common understanding about electronics stewardship."



In this issue of ***Closing the Circle News***, you will learn about the Challenge, how you can become a partner, and how you can help us implement greener, more effective, and efficient electronics life cycle practices across the Federal government. You will also read about the successes of our pilot partner agencies and the upcoming White House Federal Electronics Stewardship Summit on October 21.

We believe that each Federal employee has the opportunity to make a significant contribution to promote the management of our electronic assets in an environmentally sound and energy efficient manner. By participating in the Federal Electronics Challenge, we can lead by example and collectively make a big difference that will gain long term benefits for our environmental and natural resource conservation efforts.

Edwin Piñero, Federal Environmental Executive

Federal Electronics Challenge - Electronic Stewardship One Byte @ A Time

The Federal Electronics Challenge (FEC) is a voluntary education and recognition partnership program that assists Federal agencies and facilities in purchasing greener products, reducing the impacts of electronics products during use, and managing obsolete electronics in an environmentally friendly way. It is a flexible program as each individual facility determines its own level of commitment, goal(s), and life cycle phase(s) on which to focus.

The Challenge is sponsored by the Office of the Federal Environmental Executive and the Environmental Protection Agency, with the assistance of the General Services Administration, the Department of Defense, and the Federal Network for Sustainability.

Challenge Partners learn how to apply environmentally sound electronics management principles throughout a product's life cycle—from the acquisition and procurement of environmentally preferable products, to the operations and maintenance phase, to the end-of-life management of those products.

FEC Pilot Partners 2003-4

Bonneville Power Administration - Portland, OR

Environmental Protection Agency - Seattle, WA

Fort Lewis - Fort Lewis, WA

General Services Administration - Chicago, IL – 610 S. Canal Street

General Services Administration - Chicago, IL – Kluczynski Building

General Services Administration - Cincinnati, OH - Peck Building

Lawrence Livermore National Labs - Livermore, CA

National Aeronautics and Space Administration - Moffett Field, CA - Ames

National Park Service - Denver, CO

Why Get Involved?

The Federal government has the opportunity to provide leadership in the environmentally sound and cost-effective management of electronic assets. Over 15 federal regulations and Executive Orders require agencies to purchase energy efficient and environmentally

preferable products, reduce energy consumption, incorporate waste prevention and recycling, and implement environmental management systems.The Federal Electronics Challenge will help Federal facilities and agencies become leaders, face the challenges posed by this particular waste stream, and conform to the Federal requirements for using Energy Star® and energy-efficient electronics. In addition, by joining the Challenge, partners will receive tools, educational materials, and networking opportunities; see the sidebar.

Benefits for FEC Partners

Join the FEC and receive a variety of benefits, including:

- Educational training and feedback
- Networking opportunities
- Cost-effective tools for managing electronic assets
- Cost savings through resource efficiency, energy savings, and new equipment maintenance practices
- Strategies to ensure data security
- National recognition from the Office of the Federal Environmental Executive

Goals

The Federal government can demonstrate sustainable environmental stewardship by environmentally sound and cost-effective life cycle management of electronic assets.These goals will be achieved in part by:

- Promoting ENERGY STAR® features
- Extending product life throughout Federal facilities
- Increasing recovery rate and expand the recycling infrastructure
- Utilizing the concept of supply and demand to encourage changes in the marketplace and promote environmentally preferable electronic equipment
- Reducing the volume and toxicity of electronic equipment waste

Website

The Federal Electronics Challenge website (http://www.federalelectronicschallenge.net) is a comprehensive resource that Federal facilities can use to learn how to improve the purchasing, use, and end of life environmental aspects and save resources. The website contains information on why electronics are a major >>>

> > > issue for Federal facilities, and tools to purchase greener electronics products and manage electronic assets in an environmentally sound manner.

Join Now!

Recruitment for the national roll-out of the Federal Electronics Challenge is currently underway and has garnered interest from several Federal agencies. To become a FEC partner, or for more information on the wide variety of tools developed to help Federal facilities reduce their environmental impact – contact Viccy Salazar, salazar.viccy@epa.gov and visit the website at:

www.federalelectronicschallenge.net

Spotlight on FEC Tools and Resources

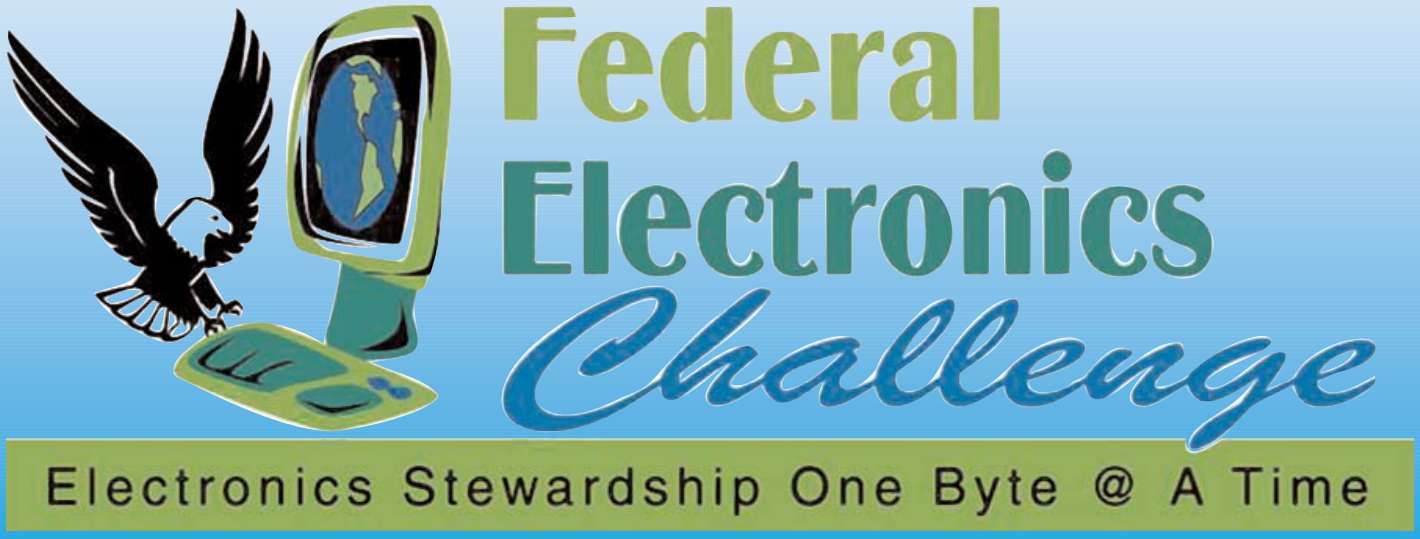
The Federal Electronics Challenge offers a plethora of tools and resources to new and seasoned partners through a website, teleconferences, and a listserv. Whether a Federal agency is working to set electronics management goals or select a recycler, FEC can help.

The website of the Federal Electronics Challenge (http://www.federalelectronicschallenge.net) is a clearinghouse for information on the proper management of electronic products, with tools that focus on each phase of the product life cycle—procurement, use, and end-of-life. Partners can mine the website for facts about electronic waste, purchasing tips, packaging instructions, and more. The site is divided into five sections—About FEC, Join FEC!, Recognition, Tools, and News/Events.

The "Tools" section includes checklists, tip sheets, presentations, case studies, and other materials to help partners implement their goals. Partners can use the Acquisition Planning and Procurement Checklist, for example, to inventory current purchasing practices and identify opportunities to "green" the procurement process. The Website also addresses the operation phase of the life cycle. It contains a fact sheet that explains how ENERGY STAR® can help Federal agencies meet Executive Order 13123, *Greening the Government through Efficient Energy Management*, while saving money and resources. From an End-of-Life Management Survey to a PowerPoint presentation on the liabilities associated with handling electronic waste, the website provides tools to help facilities reuse, refurbish, and recycle electronics properly.

"News/Events," the final section of the website, furnishes updates on innovative electronics management practices and lists upcoming FEC teleconferences, which the FEC Steering Committee hosts each month on topics ranging from green purchasing to auditing a recycler. These calls offer an opportunity for partners to hear from experts, network, and learn from one another. Typically, participants download a presentation from the FEC website before the call. During the call, a guest speaker delivers the presentation, and then attendees have an opportunity to comment and ask questions. Periodically, the committee holds a conference call for new partners to familiarize them with the goal setting process and program tools.

The FEC Steering Committee also maintains a listserv for partners, which it uses to distribute the latest news on electronics management as well as information about upcoming FEC teleconferences. Between the website, teleconferences, and listserv, FEC partners can access a wide array of resources on electronics management, allowing them to build a comprehensive program based on tried and true approaches. ■



Why Electronics Are A Concern

Computers and electronics have quickly become part of our daily lives, but many people are unaware of how their agency makes purchasing decisions and how they eventually dispose of them. A computer - from the time it is designed to when it arrives on your desk to when it becomes obsolete a few years later—can have a dramatic effect on the environment. But, the environmental impacts of electronics are only one of several concerns that federal employees and agencies should understand:

Excessive Use of Valuable Resources in Production. Electronic products are made from valuable resources, including precious and other metals, engineered plastics, glass and other materials, all of which require energy and natural resources to manufacture. The manufacture of one computer consumes 529 pounds of fossil fuels, 49 pounds of chemicals and 3,307 pounds of water – almost two tons of materials - roughly the weight of a rhinoceros or sport utility vehicle. [1]

Hazardous or Toxic Substances in Products. Some electronic products, specifically, the cathode ray tubes (CRTs) in monitors and circuit boards, contain toxic materials such as lead, mercury, cadmium, chromium and some types of flame retardants that could be released to the environment if these products are mismanaged.

Lead: There is a substantial amount of lead in the CRT, roughly four to six pounds, encapsulated in the form of leaded glass. There is a much smaller quantity of lead in printed circuit boards in the CPU, in the form of solder. Some laptop computers also contain a sealed lead acid battery. In July, 2004, Dr. Tim Townsend of the University of Florida at Gainesville released a study showing that used electronics, when put through a landfill simulation, can release enough lead to be considered hazardous material in a municipal landfill.

Cadmium: There is a small amount of cadmium in plated contacts and switches, and a very small amount of cadmium may be used as a stabilizer in PVC wire insulation. Laptop computers often contain rechargeable nickel cadmium (Ni-Cd) batteries.

Beryllium: There is a small amount of beryllium, in the form of copper-beryllium alloy (typically 98% copper, 2% beryllium) in the motherboard.

Lithium: Lithium metals may be present in a small battery on the motherboard.

Chlorine and/or Bromine: Brominated flame retardants may be present in the plastic in printed circuit boards and cases. There is chlorine in any PVC insulation of wires and cables. Some types of these compounds have been identified as potential endocrine disruptors that can cause developmental defects in animals. To reduce the future risk from these types of compounds, EPA has worked with manufacturers to cease production of the riskiest flame retardants.

Mercury: A small amount is used in the bulbs to illuminate flat-screen displays.

Large Volume of Purchase. With 1.8 million employees, the U.S. federal sector represents roughly 7% of total world market for computers. The projected FY 2005 IT budget is approximately $60 billion for hardware & services. [2]

High Energy Usage. A computer uses 10 times its weight in fossil fuels and chemicals. Scientists at the United Nations university in Tokyo estimate that it takes 576 pounds of fossil fuels and chemicals—10 times the weight of the final product—to manufacture one desktop computer (i.e., a monitor plus a CPU). [3] PCs and peripherals indirectly produce as much carbon dioxide as 5 million cars. [4]

Growing Waste Stream. A compounding issue to the toxics problem is the volume of waste that is generated each year, which was roughly 1.1 million tons in 2001. [5] Information technology products include personal computers, telephones, fax machines, printers, and modems. If the average computer were 6.3 percent lead by weight, then this would represent 126,000 tons of lead that could be potentially released each year. > > >

Agencies To Hold White House Electronics Summit

The Office of the Federal Environmental Executive, in partnership with EPA and several Federal agencies, will hold a White House Federal Electronics Stewardship Summit on October 21, 2004 for Agency Environmental and Energy Executives, Chief Information Officers, and Senior Procurement Executives. The half-day summit is designed to formally announce the Federal Electronics Challenge (FEC) as a national program; educate senior agency officials on the benefits of becoming FEC partners; and also encourage Federal agencies to sign a Memorandum of Understanding (MOU) on November 15th to promote the implementation of environmentally preferable, energy efficient, and cost-effective practices when buying, using and managing the end-of-life of federal electronic assets.

In the year 2000, the White House Council on Environmental Quality, the Departments of Defense, Energy and the Interior, EPA, and the U.S. Postal Service signed an MOU to develop strategies to reduce the overall environmental impact of the purchase, use and disposal of electronics assets across the government.

These six agencies developed an Action Plan to design a government-wide strategy to increase the demand for greener electronics; promote Best Management Practices; reduce the economic and environmental life cycle cost of electronics; encourage the growth for reuse, demanufacturing and recycling operations; and provide recognition to individuals and organizations for promoting Federal electronics stewardship. In 2002, the FEC was piloted to advance the main goals and action items of this Action Plan.

The FEC and the MOU will help promote better life cycle management practices for electronic equipment in the Federal government. Both efforts will not only promote the proper design, management, and disposition practices to conserve energy and protect the environment, but will also include acquisition practices that make economic sense and save taxpayer dollars. ■

> > > ***Liability.*** Facilities disposing of more than 220 pounds of hazardous waste, including used CRTs (found in computer monitors and televisions), per month are subject to federal regulation under the Resource Conservation and Recovery Act (RCRA). Monitors and televisions sent for resale or donation are not considered hazardous waste. If a facility disposes of, or arranges for disposal of, electronics in a landfill or other disposal site, there is the risk of liability under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) if the site begins to release hazardous substances. Federal regulations also mandate the protection of confidential and privileged information contained on electronic equipment.

Clearly, when toxicity, volume, and liability are combined, the proper disposition of used electronics becomes relevant to all people purchasing, using, and managing computers. The Federal Electronics Challenge can help federal facilities how to purchase electronics with fewer toxins, extend the life cycle of equipment, and to properly manage end-of-life electronics. ■

[1] Computers and the Environment: Understanding and Managing Their Impacts. Kuehr and Williams (Eds), United Nations University, Kluwer Academic Publishers, 2003

[2] Federal Times, 2/9/04

[3] Computers and the Environment: Understanding and Managing Their Impacts. Kuehr and Williams (Eds), United Nations University, Kluwer Academic Publishers, 2003

[4] PC Magazine, May 1993

[5] Municipal Solid Waste in The United States: 2001 Facts and Figures, EPA Publication # EPA530-R-03-011, Appendix C, October 2003. http://www.epa.gov/garbage/pubs/msw2001.pdf.

How Do You Buy "Greener" Electronics?

Agencies have an opportunity to green their IT purchases now. Fortunately, there is no need to reinvent the wheel as a growing number of organizations – particularly state and local agencies – have done it. Adaptation and improvements on the work of early pioneers will help to drive the marketplace toward greener electronics. Some suggestions for how environmental aspects can be built into your IT purchases are provided below.

Like many other products, environmental preferability or the "greenness" of electronics can be based on a number of different measures or approaches, including:

- Government standards such as Energy Star®
- Third Party eco-labels
- Manufacturer claims about its products or practices
- Organization standards

Purchase/Lease Energy Star® Equipment

Many agencies are already purchasing Energy Star® equipment and meeting the requirements listed in Executive Order 13123. However, agencies should take measures to ensure that the Energy Star® equipment is enabled to reap the savings associated with the energy saving features. Requiring that vendors deliver the equipment with the energy saving features enabled is one way to make sure the financial savings and environmental benefits are fully realized.

Purchase/Lease IT Equipment with Other Environmental Benefits

Purchasers can ask their vendors whether particular electronic equipment has received any of the third party eco-labels. An "eco-label" identifies specific energy or environmental attributes of a product or service within a specific product/service category based on life cycle considerations. When consumers see eco-labels such as Energy Star® on electronic office equipment, for example, they know the product meets a certain energy efficiency that is deemed to be acceptable by EPA. A great one-stop shop for eco-labels is the EPP Database of Environmental Information for Products and Services (http://www.epa.gov/epp/database.htm), a searchable database of environmental standards, guidelines and contract language developed by government programs, both domestic and international, as well as third parties.

Purchase High-Performing Equipment

Choosing to not buy, at least not as often, by extending the life of equipment or through upgrades is a great environmental purchasing decision. Bonneville Power Administration recently changed the replacement cycle of its IT equipment from every three years to five years. > > >

Proposed IT Budgets: Top 10 Federal Agencies

Ranking	Department/Agency Name	FY 2005 Request ($billions)
1	Defense Department	$27.45
2	Department of Health and Human Services	$5.11
3	Homeland Security Department	$4.43
4	Treasury Department	$2.73
5	Transportation Department	$2.72
6	Energy Department	$2.70
7	Justice Department	$2.20
8	NASA	$1.90
9	Agriculture Department	$1.75
10	Department of Veterans Affairs	$1.61
	Subtotal for Top 10	**$52.6**
	Total for all agencies	**$59.79**

Why Buy Green?

Statutory and Executive Order Requirements

Several Executive Orders and the Federal Acquisition Regulation support the purchase of greener products. For the list of requirements, see:

www.federalelectronicschallenge.net/Tools/fec_regs.pdf

www.federalelectronicschallenge.net/Tools/farprov.pdf

Reduce Liability

- Purchase or lease electronics that minimize use of hazardous substances
- Purchase services of recyclers who manage electronics in a responsible manner

Save Money

One DOE office purchased and activated Energy Star® features in 312 monitors and saved $5,300/year. If implemented agency-wide, DOE could save up to $120,000/year. ■

>>> The higher costs of this top-of-the-line equipment were justified using life cycle costing tools and supported through best value purchases.

Require Sound Management of Electronics in Recycling and Disposal Service Contracts

Discussions of green purchasing usually revolve around purchases of products. Yet, within the realm of IT, it's important to consider greening the purchases of both the hardware and related services, particularly recycling and disposal services. For more information on this topic, see the article on EPA's READ contract in this issue of Closing the Circle News.

FEC Tools Can Help

FEC has developed a number of tools to enable Federal facilities to integrate environmental aspects into their purchasing decisions. If your agency is developing a new solicitation for IT equipment, consider including some of the environmental attributes identified by the Federal Electronics Challenge (http://www.federalelectronicschallenge.net/Tools/topenv.pdf).

Making Buying Green Electronics Even Easier

A group of leading manufacturers, recyclers, and purchasers are developing the Electronic Product Environmental Assessment Tool (EPEAT), a tool to make it easier for you to buy green electronic products. Dell, HP, IBM, Panasonic, and other companies have met with government and non-profit stakeholders over the last year to assess the environmental performance of their products. If you do not know how to weigh mercury-free versus energy efficiency versus reduced packaging, do not despair, this new tool will help you figure it out. The tool will be a U.S.-based eco-label that evaluates the "greenness" of a computer, laptop, or monitor on the basis of eight categories of attributes – Environmentally Sensitive Materials, Energy, Materials Selection, Design for End-of-Life, Life Cycle Extension, End-of-Life Management, and Corporate Performance and Packaging. There will be three levels of achievement so you will not only know a product is green – you will also know "how green." EPEAT is still in the developmental stage, but products should become available to Federal purchasers in mid- to late 2005. More product categories will be developed after the initial launch. For more information, go to www.epeat.net. ■

DOI Wants Greener Electronics

After years of decentralized purchases of IT equipment, the Department of the Interior wanted to reduce its IT costs by consolidating requirements, thereby leveraging its buying power. In Spring 2003, Interior issued a solicitation for its consolidated IT hardware purchase. DOI, who historically has been an environmental leader, could not require specific environmental requirements beyond Energy Star®, due to time and other constraints. Yet, it wanted to signal to the vendor community about the importance of environmental preferability in the Department's purchasing decisions. Thus, in its Request for Quotes, it states that "DOI also intends to incorporate environmental considerations into the re-competition…Inability at that time to address these concerns may result in non-selection as a supplier." A separate provision in the RFQ spells out some of the potential environmental criteria that may become mandatory, including reduced toxic constituents in the product and in the manufacturing process, recycled content, design for recycling/reuse including upgradeability considerations, reduced packaging, and vendor-provided product take-back service. In re-competing the mandatory usage Blanket Purchase Agreement in Spring of 2005, DOI plans to integrate environmental factors into its evaluation criteria..

Contact: John Sherman, Bureau of Land Management, john_sherman@blm.gov ■

ENERGY STAR® for Electronics: Finding New Savings in Active Power

EPA is working closely with industry stakeholders and international governments to determine ways in which "active" power can be addressed in consumer electronics and office equipment product categories without compromising product performance. Provided below are some of EPA's efforts to incorporate "active" power requirements into ENERGY STAR® specification requirements:

Computer Monitors

The version 4.0 specification for computer monitors will take effect on January 1, 2005. Unlike the previous version, which focused exclusively on the energy efficiency of a product in its "sleep" mode, the new specification addresses power consumption in the "on," "sleep," and "off" modes.

Single-Voltage External AC-DC and AC-AC Power Supplies

EPA is coordinating with the China Certification Center for Energy Conservation Products (CECP) and other international initiatives to develop a harmonized voluntary energy efficiency level for single-voltage external AC-DC and AC-AC power supplies. The specification includes both "active" and "no-load" requirements.

Imaging Equipment

EPA is taking a slighting different approach to addressing "active" power in imaging equipment. One proposed option is a Typical Electricity Consumption (TEC) approach, which would look at the total amount of energy a product consumes throughout a typical duty cycle. This approach would address the energy consumption in all operational modes including production, power management, and "off". Other product categories where EPA is considering "active" power energy efficiency requirements include computers, servers, and more advanced battery charger systems.

For more information on the development of ENERGY STAR® specifications visit the ENERGY STAR® Website at:

http://www.energystar.gov/productdevelopment

SLEEP IS GOOD!

Enabling the Energy Star® settings of 1,000 monitors on your local area network (LAN) can save 200,000 kWh per year, enough energy to power 230 households for one month. EZ Save, installed on the LAN, reads monitors' Energy Star® settings and automatically enables them to "sleep" after the screen saver has been on for a while. EZ Save installs in a matter of hours (a short time by LAN standards), can be customized, and is fully compatible with nearly every type of network. It has many ardent supporters among LAN teams. This free software makes for true win-win situations for Federal energy conservation. EZ Save and more information are available at:

http://www.energystar.gov/index.cfm?c=power_mgt.pr_pm_large_org

Recycling Electronics and Asset Disposition (READ) Services

On March 19, 2004, the Office of Management and Budget (OMB) designated the EPA as the executive agent for a Government Wide Acquisition Contract (GWAC) to provide the Federal sector with Recycling Electronics and Asset Disposition (READ) services. EPA's vision for this initiative is to promote and advance the disposition, reclamation, reuse, and recycling of electronic assets held throughout the Federal sector in order to enhance public health and environmental protection. EPA plans to issue nine performance-based contracts by the end of FY 2004.

The READ GWAC will accomplish four significant goals:

1. Providing an effective contract vehicle for addressing the proper disposition of Federal electronic equipment in an environmentally responsible manner;
2. Ensuring appropriate levels of security for sensitive electronic data contained in obsolete equipment currently stocked in Federal warehouses; > > >

Integrating Environmental Objectives into Lease Agreements

If your agency leases IT equipment or is considering lease options, try using the lease as a vehicle to pursue environmental objectives. The following are some ideas on how to put a lease to work for your agency.

Lease Options

Choose a lease option that will help your agency meet equipment use and disposition goals. There are three principal leasing options used today in Federal government contracting: (1) lease, (2) LWOP (Lease with Option to Purchase) and (3) LTOP (Lease to Ownership Program). The LWOP and lease structures are fundamentally different from the LTOP and can offer additional environmental opportunities. The government does not own the equipment in a LWOP or lease structure. Ownership, including the responsibility for disposition, remains with the contractor or vendor at the end of the LWOP/lease term, if the government does not elect to exercise the LWOP purchase or renewal options. In contrast, the burden of equipment upgrade, redeployment and ultimate disposition are the responsibility of the government in a LTOP.

Purchasing

- Leasing companies procure a significant volume of computer assets annually, which make them potentially powerful influences in the marketplace for environmentally-preferred computers. Since leasing companies typically make purchases based on criteria and attributes specified by the end user, agencies can influence the leasing companies' and manufacturers' product offerings by outlining their environmental requirements in lease terms.

Product life extension (for LWOP/Lease structures)

- Consider longer lease terms to extend initial product life.
- Computer hardware and software needs can be assessed at the end of the lease term, and a decision made on whether to extend the lease, purchase the equipment, or lease new equipment.
- If appropriate to the user's needs, equipment can be upgraded or redeployed within the agency.

Product redeployment & reuse (for LWOP/Lease structures)

- Leasing companies have an incentive to preserve the value of computer assets by extending the product's useful life. Since deploying and redeploying assets is their core business, leasing companies often have the expertise and well-established secondary markets and customers for used equipment.
- Lessors may also provide an equipment donation option to meet your agency's goals.

Equipment disposition (for LWOP/Lease structures)

- Because the leasing company is the owner of the computer assets, it plans and manages computer disposition, from desktop de-installation to data destruction and vendor audits to recycling and disposal.
- The resale and recycling practices of leasing vendors vary. A careful screening and selection of vendors will help to ensure that environmental goals are met. ■

> > >

3. Creating an audit trail of the equipment's final destination to ensure that reclamation and recycling efforts are reportable; and
4. Establishing a means to realize value and maximize potential revenues from electronic equipment currently in storage.

The resulting READ contracts will fulfill a need in the current marketplace by providing an environmentally responsible process for properly handling and reporting on the large quantities of obsolete electronic equipment inventoried throughout the Federal sector. The READ program will provide Federal agencies with a reliable vehicle for recycling excess electronic equipment. Finally, the GWAC will provide a source of high quality businesses that agencies can readily access for asset disposition services.

For more information, contact Oliver Voss at voss.oliver@epa.gov or view the solicitation information at www.epa.gov/oam/hpod. ■

Computers for Learning - GSA Helps Put Computers in Classrooms

Executive Order (E.O.) 12999, Educational Technology: Ensuring Opportunity for All Children in the Next Century, enables Federal agencies to make an important contribution to American education. E.O. 12999 directs agencies, to the extent permitted by law, to transfer excess computers and related peripheral equipment directly to schools and educational nonprofit organizations. The E.O. also "encourages federal employees to volunteer their time and expertise to assist teachers and connect classrooms." Federal agencies that have accepted this challenge are earning recognition by transferring their unneeded computers to classrooms, thus giving new life to equipment would otherwise become e-waste.

The Computers for Learning (CFL) website (www.computers.fed.gov) supports the E.O. and connects schools and some educational nonprofit organizations with available excess Federal computer equipment. The CFL program has grown steadily from approximately 4,000 registered schools and educational nonprofit organizations in 1999 to more than 11,100 currently registered users. Schools and educational nonprofit organizations can receive computer equipment through the CFL program. Since October 1999, the Federal government has transferred more than 79,000 computer systems to schools and educational nonprofit organizations educational organizations, including 24,793 during FY 2004.

GSA recently expanded access to the CFL website to include private-sector entities. Seventeen private companies have already registered with CFL to transfer their unneeded computers and related equipment to schools and educational nonprofits. "The Computers for Learning program is an ideal, web-based resource for linking unneeded computers with less fortunate children in at-risk communities, including empowerment zones and enterprise communities throughout America," said GSA Associate Administrator G. Martin Wagner.

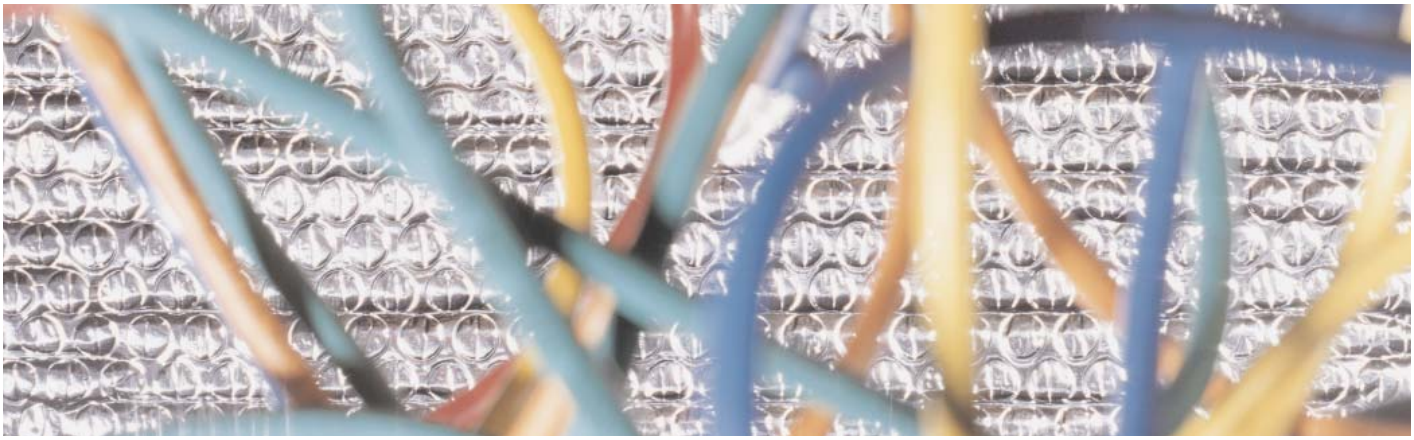
Thirty-six agencies from the executive and judiciary branches are earning gold stars and contributing to the success of America's schools by participating in the CFL program. In presenting the first annual Computers for Learning Gold Star Award to NASA, Becky Rhodes, GSA Deputy Associate Administrator, said "GSA will present this award annually to recognize the Federal government's support of education and specifically increased access to computer technology" for schools and educational nonprofit organizations.

For more information about the Computers for Learning program contact Coral Childs or Rob Miller at (866) 806-7767 or via email at computers.learning@gsa.gov. ■

DOD Encourages Electronics Reuse and Recycling

The Defense Reutilization and Marketing Service (DRMS), located in Battle Creek, Michigan, is responsible for managing the military's surplus and excess equipment, including electronics. To complement the demanufacturing services that it continues to provide, DRMS has participated in the National Defense Center for Environmental Excellence's Demanufacturing of Electronic Equipment for Reuse and Recycling (DEER2) pilot program as a way to demonstrate new processing methods to meet the military's need for electronics recycling services. The DEER2 system was transferred to the Lone Star Army Ammunition Plant (LSAAP) in Texas, providing the capability of efficient demanufacturing methods for used electronics that focus on recovering materials as cleanly as possible for reuse. With this capability, LSAAP emerges as a potential provider of electronics demanufacturing services to all Federal agencies. The program has completed the demonstration phase and ended on September 30, 2004.

For more information, visit the website at www.deer2.com. ■



Bonneville Power Administration: Sound Electronics Management through Top-Down/Bottom-Up Commitment and Education

In October 2003, four members of Bonneville Power Administration's Cross Agency Sustainability team met with the CIO, Information Technology staff, and select employees in Procurement, Investment Recovery, and the Environment Fish and Wildlife organizations. The team reviewed the Federal Electronics Challenge objectives and solicited management support for BPA to join the pilot challenge. This was important for BPA from a business and environmental perspective:

- BPA procures and manages a significant amount of electronics material and recognizes that successful management of all electronic hazardous waste materials is inherent in its business operations. It was clear that the FEC activities could influence other BPA property asset systems, increasing effective management.
- BPA's Information Technology systems were slated for agency-wide consolidation.

The team members believed that now was a good time to update environmentally-focused standards. They also recognized that because some electronics waste is hazardous, its proper 'end-of-life' recycling and disposal would continue to be a financial consideration and environmental liability. Better business choices in the management of electronics waste (E-Waste) would likely evolve through BPA's participation in the FEC pilot.

- Issues that further motivated BPA's participation in the FEC included:

  (a) The cost of shipping E-Waste to the Oak Ridge National Recycle Center represented a significant cost in the life cycle – upwards of $6,000 per shipment, and yet this was the only facility available to BPA at the start of the FEC pilot;

  (b) Local vendors providing recycling services were not meeting BPA environmental audit standards. Recycling facility selection criteria had to be strengthened and clarified. Audits would ensure careful selection of future recycling facilities. Information sharing about available resources was an attractive benefit of the FEC network.

- Internal BPA organization changes and implementation of a new tracking system (Sunflower Property Management program) would allow for better coding and life cycle tracking of all electronic equipment. However, the level of education and understanding about the importance of this process was embryonic. Education about tracking the total life cycle cost of electronics would be key to successful electronics management
- BPA's team agreed that participation in the FEC Pilot program would provide a broader view on how other Federal agencies are dealing with E-Waste, and it would provide an opportunity to improve internal practices. Both reasons supported BPA's strategic plan as an environmental steward and its business and mission goals. > > >

The Bonneville Power Administration, Portland, OR, has implemented an exemplary electronics management program that is applied BPA-wide, across four states. BPA, part of the Department of Energy, is an electric power marketing utility that serves 10 million people in the Pacific Northwest. The agency is committed to environmental stewardship and actively supports the objectives of the Federal Network for Sustainability.

The information technology program sustains over 3,200 employees. In 2004, BPA's electronics acquisition and purchasing investment was more than $800,000; and its annual E-Waste disposal volume averages 50,000 to 100,000 lbs.

A Commitment Worth Keeping

BPA made a formal commitment to participate in the FEC in December 2003. Based on all of the above factors, the team chose to participate at the "Gold level". BPA researched, evaluated, and addressed each FEC objective, then identified four focus areas that were central to BPA's long-term business need. These would become the cornerstone of BPA's electronics stewardship efforts.

(1) Establish cross-agency education and awareness about the impacts of E-waste, both environmentally and economically, from the global perspective and pertinent to BPA business practices.

Result: Between January and May 2004, the team designed and presented 14 one-hour education briefings, including a viewing of the Basel Action Network documentary film, *Exporting Harm: The High-Tech Trashing of Asia.* A cultural awareness of the E-Waste problem evolved—on both global issues and those close to home within the BPA workplace. Awareness and understanding of why the Federal government is focused on this national effort became a topic of discussion across business lines. Networking and information sharing led to acceptance of recommended changes in BPA's procurement, tracking, and management of electronic equipment.

(2) Acquire a new 'end-of-life' recycling facility for BPA E-Waste and develop audit criteria that are consistent with the FEC guidelines.

Bonneville's FEC team members visited and personally audited four electronics processing facilities in Washington, California, and Arizona. Many state governments now impose restrictions on E-Waste in landfills, and bans on shipping E-Waste overseas are also growing. Therefore, selection processes were carefully scrutinized.

Result: In April 2004, a contract was established with Gold Circuit, Inc. in Casa Grande, Arizona. This progressive company utilizes a high-tech approach to recycling. It meets state guidelines and Federal government requirements for the recycling of hazardous materials. This facility sets a 99.9 percent recycling standard for electronic wastes. The timely selection of Gold Circuit minimized BPA transportation expenses and helped to avoid potential liability fines, as BPA is now subject to Washington State's six-month limit on the storage of the hazardous materials contained in electronic wastes.

(3) Minimize Turnover of Electronics Equipment

BPA's replacement cycle for personal computers has been five years, with a 20 percent replacement goal per year. Extending the life cycle of personal computers and encouraging the purchase of Energy Star, electronic products are business norms that continue to be reinforced.

(4) Educate about E-Waste Total Life Cycle Costing

BPA's FEC team developed a network of subject matter experts who could respond to questions regarding various electronic management functions. A single-page overview of all of the tasks involved with electronics management was created as a "talking tool." Successful electronics management addresses all phases of costs and environmental impacts relative to a particular system or business practice. The BPA team collaborated on connecting the processes. They educated employees regarding acquisition and procurement requirements, operations and maintenance processes, and disposal/end-of-life challenges.

Result: Consistent life cycle standards will be implemented across BPA business lines now that all Information Technology (IT) processes are consolidated. Awareness of liabilities motivated decisions such as discontinuing BPA's computer donation program. Accountability for the disposal of hazardous electronic materials, coupled with an inability to regulate end-user disposition and to provide follow-up IT maintenance support to the schools, and data security issues, begged for careful scrutiny and specific guidance. This awareness led to further evaluation of existing trade-in agreements.

BPA's FEC networking led to communication breakthroughs. With implementation of the new Sunflower tracking system for all electronics equipment, the BPA team worked with property management staff to integrate a coding system that could identify the management and location of all electronic equipment over its life cycle. A great deal of time was spent educating employees about why this was important.

Future Focus

Volume electronics management will continue at BPA, and issues and opportunities for improved systems will also continue. Team members will stay connected with the FEC and will research changes such as moving to flat screen monitors, implementing procurement policies that motivate environmental-friendly take back options, and recycling packaging, such as polystyrene foam. Most importantly, the team and subject matter experts are available for information sharing with other Federal agencies.

For more information, contact Annette Guarriello at aguarriello@bpa.gov. ■

E-Recycling in the GSA Chicago Region

Two GSA offices in Chicago, the Kluczynski Building and 610 South Canal building, joined the Federal Electronics Challenge as Pilot Partners in 2003. Property managers Jane Rath and Yolanda Gonzalez worked together to create a solution that fit the needs of their tenants, including the newly created Department of Homeland Security. Each building manager provided the tenants with temporary storage space where equipment could be accumulated, and then sorted as to where it would go, either to a recycler or for reuse. By working with their regional Federal Supply Service Area Property Officer (APO), Maria Lopez, the building managers were able to donate working equipment to schools through the Computers for Learning program. The remaining equipment, mostly non-working, will be sent to a recycler, using the checklists and other tools available on the FEC web site. Through their cooperation, Jane and Yolanda were able to reduce their recycling costs by combining expenses such as shipping and preparation tasks. The feedback from tenants has been positive because property managers were able to provide direction on how to manage their used electronics, thus keeping this material out of landfills. Tenants also appreciated being part of a larger cooperative program such as the FEC that enhances their efforts to manage their used equipment, and look forward to recycling programs for electronics becoming standard practice in their buildings.

For more information, contact Jane Rath at jane.rath@gsa.gov or Yolanda Gonzalez at yolanda.gonzalez@gsa.gov. ■

NASA Ames Pilots Comprehensive Donation Programs for Electronic Equipment

NASA Ames Research Center, one of 10 NASA field installations, is located in the heart of California's Silicon Valley. With more than $3 billion in capital equipment, more than 4,000 research personnel, and a $775 million annual budget, Ames' economic impact is significant. Ames conducts critical R&D and develops the enabling technologies that make NASA missions possible.

As part of the FEC pilot program, Ames developed goals for improving its management of electronic equipment. GSA awarded NASA the 2004 Gold Star for Excellence for its implementation of the Federal Computers for Learning program. Each year NASA facilities donate approximately 5,000 pieces of electronic equipment to needy schools throughout the U.S. One of Ames' FEC goals was to assist donation recipients, such as the ones that participate in Computers for Learning, with the proper handling of equipment when it was no longer useful. Ames developed fact sheets detailing what to do with the equipment, what the potential impacts of this waste stream are, information resources, pertinent regulations, and recycling service providers. By providing recipients with detailed information about the importance of proper management of the equipment, Ames not only minimizes its liability from improper handling of donated equipment, but also educates the recipients about the importance of recycling of this material. In addition, Ames provided recipients with points of contact in the Environmental Services Office in case recipients had additional questions or needed help locating recycling facilities.

For more information, contact Mark Lacy at mlacy@arc.nasa.gov. ■

EPA Regions Green Their Electronics

EPA New England

EPA's New England office is taking an innovative approach to implementing its EMS by integrating it into the existing employee-based Green Team. The Green Team was established in 2002 and selects environmental objectives and works cooperatively with management and employees to develop operational programs and procedures to manage and improve the region's environmental footprint, communicate its programs, and build awareness and support for them. The EMS provides the structure to assure that the regional staff looks at the big picture, evaluating and prioritizing the full range of its environmental impacts. It also acts as the "glue" that binds together all of the environmental programs, through documentation and training, measuring of progress, and periodic review and program improvement.

In August 2003, the Green Team implemented several operational controls addressing "green" electronics, specifically:

- Aggressively implementing computer monitor power down
- Purchasing LCD monitors
- Donating computers to schools in participation with GSA Computers for Learning or employee connections
- Returning computer equipment to vendors under "buy back" programs
- Recycling computer equipment through GSA

The EPA New England office plans to join the Federal Electronics Challenge in the fall of 2004 and to implement the challenge through the EMS process. For more information contact Chris Beling at beling.christine@epa.gov.

EPA Region 8

In April 2003, the EPA Region 8 office in Denver adopted objectives and targets under its Environmental Management System concerning computers. Two significant aspects related to computers were "energy use by computers and other electronic equipment," and "waste generation." The objectives were to:

- Reduce energy use by task lighting and computers left on after office hours
- Join the Energy Star® Million Monitor Drive

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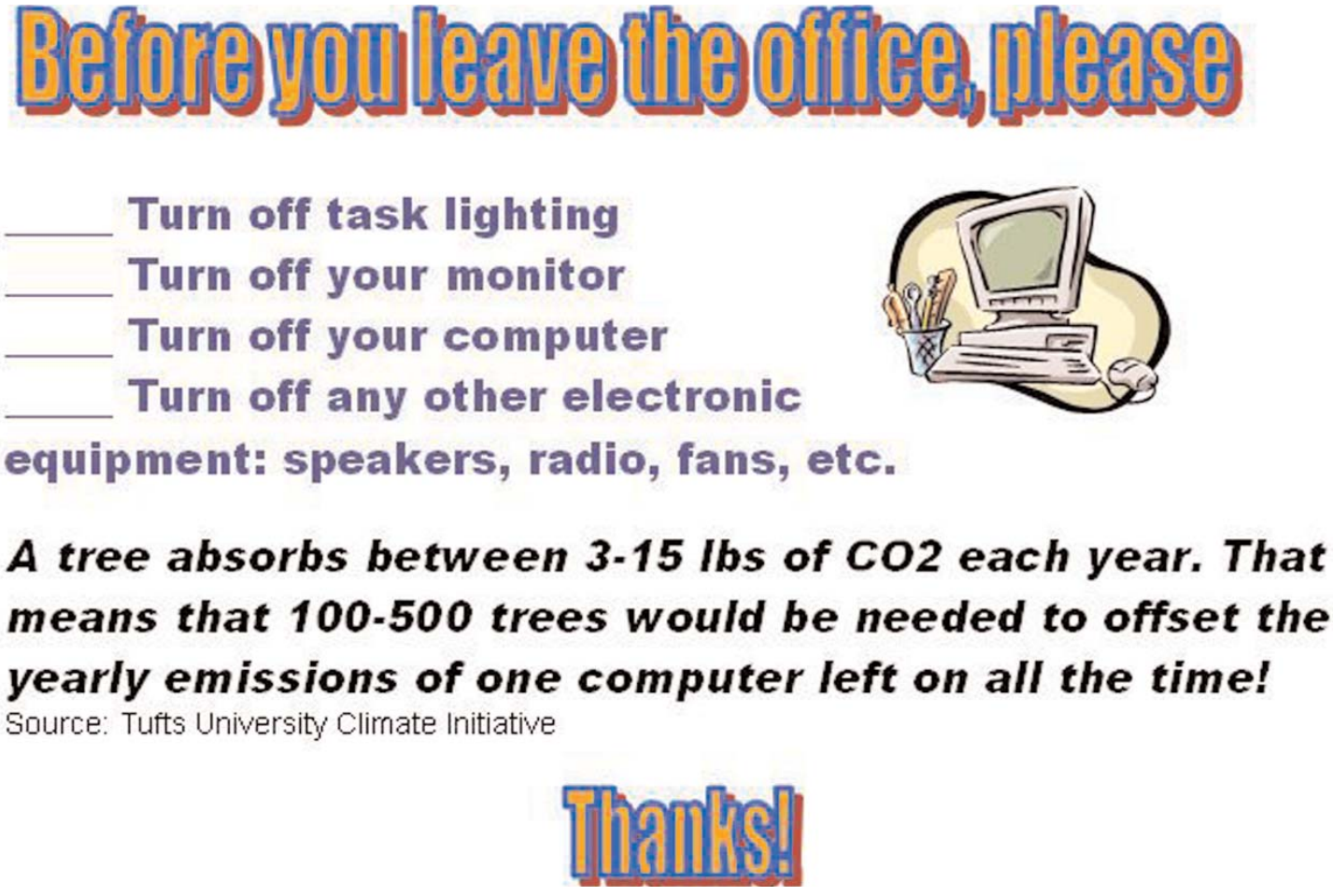

- Look for other opportunities to reduce environmental impacts from the computers
- Review the pollution prevention plan, applicable Executive Orders and regulations by June 30, 2003 and identify gaps or issues that need to be addressed

For energy use, the region developed a successful energy awareness campaign using signs to identify energy conservation opportunities. The EMS Team conducted three electronics and task lighting inventories to determine if equipment and lights were being turned off at night. Each employee who turned off his or her computer, monitor, speakers and other electronic equipment received a thank you note and candy. For other employees, the team left a note (see below) with checks next to the pieces of equipment left running. These notes generated many positive comments and requests for more information.

The Information Systems Program designed a humorous pop-up message that appeared on employee monitors on Thursdays between 2:30-3:00 pm and said: "Burned out at the end of the day? So is your equipment. Give it a rest. Turn it all off!" A member of the EMS team also purchased a watt meter to educate employees about how much electricity computers and other equipment use.

Under the other computer-related EMS significant aspect – waste generation – the team identified computer waste as an outstanding issue. They met with GSA personnel at the Denver Federal Center in 2003 to learn how they transfer, sell or dispose of used electronic equipment. GSA relies on lot sales of equipment that cannot be reused by other agencies or schools. This process may not be compatible with two of EPA Region 8's Guiding Principles: We will work toward sustainability by 1) reducing purchases, use and releases of man-made toxic substances; and 2) ensuring that our decision and actions protect all communities and people, regardless of location, income and race.

In Colorado, computers and electronic equipment can be managed as a Universal Waste. During June 2004, the team inventoried electronic equipment at the Regional Office and Regional Laboratory and found approximately 7,000 pounds of electronic equipment ready to be disposed or recycled. The team is awaiting the announcement of availability of the READ contracts to determine the best options for recycling unusable equipment. For more information contact Dianne Thiel at thiel.dianne@epa.gov.

EPA Region 10

During the design of the Region 10 EMS, it was noted that an aspect of the organization that had a significant impact on the environment was the use of computers and electronic devices. Meanwhile, the Federal Electronics Challenge pilot was started and introduced a comprehensive set of guidelines and goals to address the proper purchase, management, and disposal of electronic equipment. The Region saw that most, if not all of the objectives that had been written by the design team regarding computers and electronics were very similar to those within the FEC. For this reason, the Design team revised the Region's objectives and targets for computers and electronics to match the same goals in the FEC. Additionally, the Region participated as an FEC pilot organization. Due to the Region's efforts to become better stewards of computers and electronic devices, it has applied for the FEC Silver Award.

For more information contact Michael Fagan at fagan.michael@epa.gov. ■

Environmental Management Systems and the Federal Electronics Challenge - A Natural Fit

To reduce the Federal government's environmental footprint and improve the implementation of green purchasing and other energy and environmental initiatives, Executive Order 13148, Greening the Government Through Leadership in Environmental Management, directs agencies to implement environmental management systems (EMS) at all appropriate facilities by December 2005. As a result, Federal facilities across the country now are endeavoring to develop and implement EMS to improve their environmental performance.

Federal organizations can take advantage of the increased emphasis on environmental performance and enhanced internal communication associated with an EMS to expand and encourage green purchasing - including buying green electronics. Procurement and contracting personnel can play an important role on the Cross Functional Team for EMS implementation. By using EMS procedures, agencies can encourage implementation of an effective green purchasing program, reduce their organization's environmental footprint, and encourage progress toward sustainable operations.

A new report, Integrating Green Purchasing into Your Environmental Management System, offers guidance and provides examples of different approaches taken by a host of federal facilities. The report was prepared by EPA's Environmentally Preferable Purchasing Team and a host of partners, including OFEE, EPA's Federal Facilities Enforcement Office, and many federal agencies. The report includes specific examples of ways that EPA's regional facilities incorporated buying green electronics into their EMS objectives and targets. The report should be completed in Fall 2004 and will be posted at www.epa.gov/epp/ems.htm. For more information, contact Holly Elwood at elwood.holly@epa.gov. ■

Office of the Federal Environmental Executive

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