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Bulletin

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This Bulletin identifies the requirements and procedures for purchasing, using and disposing of computers and other electronics to conform to the requirements of current legislation and executive orders.

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Electronics Stewardship

1. Purpose

Good electronics stewardship practices are required by Executive Order (EO) 13423 and its implementing instructions, EO 13221, EO 13514, Policy and Procedure (P&P) 134.2, and the USDA Electronics Stewardship Plan. Performance is tracked by the Office of Management and Budget (OMB) on the Environmental Stewardship Scorecard. Using these practices will save energy, resources, and money.

2. Background

Electronics stewardship involves the responsible purchase, use, and disposal of computers and other electronics. Reducing energy costs is a top priority for the Agricultural Research Service (ARS). The Federal government is the largest consumer of energy in the country. Congress and the President have charged Federal agencies to lead by example by making significant efforts in conservation of energy and water, and good stewardship of resources. Meeting this challenge is mandatory. Computers and other electronics consume a significant amount of electricity and other resources such as paper. Good electronics stewardship will reduce utility costs and conserve resources. Proper end of life management of used electronic equipment will also allow for recovery of materials, diversion of waste from landfills, and conservation of the energy and resources required for manufacturing them from raw materials.

3. Requirements

The following requirements are mandatory:

- A. Purchase all computers (desktops, laptops, monitors) from electronics listed on the Electronic Product Environmental Assessment Tool (EPEAT) website unless there is a documented mission requirement to purchase an unlisted device. EPEAT is an on line listing of electronics products that have good environmental attributes including energy consumption. Electronics should bear the Energy Star label or be FEMP designated.
- B. Purchase equipment that uses no more than one watt of stand-by power, or if impracticable, purchase items with the lowest stand-by wattage available.
- C. Enable Energy Star features on 100 percent of electronics. These settings on the workstation control when a computer/monitor goes to sleep. Set monitors to go to sleep in 15 minutes and system standby for 30 minutes. Exceptions may be made based on mission requirements such as computers used for presentations or long term research instrumentation.

- D. Utilize Power Management software that resides on the server that will assure that energy conservation settings are preserved. Power management software will also monitor energy use.
- E. Configure workstations so they will go into the lowest sleep state possible.
- F. Extend the useful lifetime of electronics to four or more years (the refresh cycle).
- G. Use sound disposition practices. Donate usable electronics to qualified organizations, such as public schools. Sell usable or refurbishable equipment to the public. Recycle unusable, unsold equipment using sustainable environmental practices that help keep components out of the landfill and recover materials for use in the manufacture of new products. Refer to the USDA Electronics Stewardship Plan Appendix K for electronics recycling and repurposing options. Sanitize all media before disposal.
- H. Printers consume large amounts of electricity and paper. Printers should be capable of printing on both sides (duplex) and enabled to do so. Printers should be shared to the greatest extent possible. Use 30 percent post consumer recycled content paper. Recycle toner/ink jet cartridges.
- I. Use best management practices for data centers.
- J. Halon is prohibited.
- K. Refer to P&P 134.2 Appendix 1, page 17 for responsibilities of OCIO and IT Specialists to conserve energy concerning workstations, computer rooms, data centers, and their ventilation.
- L. Reporting of compliance is required semi-annually.
- M. Electronics must be turned off (not just allowed to go to sleep) outside of business hours, especially peripherals. Exceptions are: VPN users turn off peripherals but do not shut down their desktop, and some electronics must be left on for mission requirements, e.g., research instrumentation. Disconnect/unplug electronics and their power supplies from power where practicable. Arranging power strips so users have access to the switch is recommended when setting up a workstation. Computers can be configured to go into a very low sleep state and wake on LAN to allow patches and upgrades to be pushed out after hours. However, a better scenario is to configure the network so that when computers are started from shut down the server will push out upgrades and patches immediately.

4. Authorities

The Energy Policy Act of 2005 (EPACT 2005) - http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_public_laws&docid=f:publ058.109

The Energy Independence and Security Act (EISA) of 2007 - http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:h6enr.txt.pdf

Executive Order 13514 - <http://edocket.access.gpo.gov/2009/pdf/E9-24518.pdf>.

Executive Order 13423 - <http://www.wbdg.org/ccb/FED/FMEO/eo13423.pdf>.

Executive Order 13221 - http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2001_register&docid=fr02au01-128.pdf.

REE Energy, Water and Sustainability P&P 134.2 - <http://www.afm.ars.usda.gov/ppweb/PDF/134-02.pdf>.

5. References

ARS Bulletin 07-002 - <http://www.afm.ars.usda.gov/ppweb/Bulletins/07-002.pdf>

The USDA Electronics Stewardship Plan - http://greening.usda.gov/elect_steward.htm.

Instructions for implementing Executive Order 13423 - http://www.fedcenter.gov/Documents/index.cfm?id=6825&pge_prg_id=20683&pge_id=3286.

The EPEAT website - <http://www.epeat.net/>.

EPA Energy Star Product Purchasing and Computer Power Management for Federal Agencies - http://www.energystar.gov/index.cfm?c=fed_agencies.fed_ag_index

EPA Enterprise Server and Data Center Energy Efficiency Initiatives - http://www.energystar.gov/index.cfm?c=prod_development.server_efficiency.

The BigFix power management software website - <http://www.bigfix.com/content/power-management>.

The USDA Environmental Stewardship scorecard on the USDA Greening website - <http://greening.usda.gov/EnvironmentalStewardshipScorecard.pdf>.

Information on FEMP designated energy efficient products - http://www1.eere.energy.gov/femp/technologies/procuring_eeproducts.html.

ARS Telecommunication Distribution Design Guide, PGM-06-001 - www.afm.ars.usda.gov/facilities/files/PGM-06-001.DOC.

FEMP Best Practices Guide for Energy Efficient Data Center Design - http://www1.eere.energy.gov/femp/program/dc_resources.html.

6. Acronyms

ARS – Agricultural Research Service
CIO – Chief Information Officer
EISA – Energy Independence and Security Act
EO – Executive Order
EPA – Environmental Protection Agency
EPACT 2005 – Environmental Policy Act of 2005
EPEAT – Electronic Product Environmental Assessment Tool
FEMP – Federal Energy Management Program
IT – Information Technology
LAN – Local Area Network
OCIO – Office of the Chief Information Officer
OMB – Office of Management and Budget
P&P – Policy and Procedure
REE – Research Education and Economics
VPN – Virtual Private Network

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