



*Additional Efforts Are Needed to Implement  
the Electronics Stewardship Program and  
Maximize the Energy Efficiency of  
Desktop Computer Equipment*

**June 15, 2010**

**Reference Number: 2010-20-056**

This report has cleared the Treasury Inspector General for Tax Administration disclosure review process and information determined to be restricted from public release has been redacted from this document.



## HIGHLIGHTS

### **ADDITIONAL EFFORTS ARE NEEDED TO IMPLEMENT THE ELECTRONICS STEWARDSHIP PROGRAM AND MAXIMIZE THE ENERGY EFFICIENCY OF DESKTOP COMPUTER EQUIPMENT**

## Highlights

**Final Report issued on June 15, 2010**

Highlights of Report Number: 2010-20-056 to the Internal Revenue Service Chief, Agency-Wide Shared Services, and the Chief Technology Officer.

### **IMPACT ON TAXPAYERS**

Federal agencies have been directed to improve their energy efficiency and reduce greenhouse gas emissions. Additional actions by the Internal Revenue Service (IRS) to minimize the energy consumption of its 110,000 desktop computers and improve printing practices could potentially save the IRS more than \$18.2 million over 4 years.

### **WHY TIGTA DID THE AUDIT**

This audit was initiated to determine whether the IRS has taken effective steps to ensure the acquisition, operation, and maintenance of energy efficient desktop computer equipment.

In January 2007, Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, was enacted to strengthen the environmental, energy, and transportation management of Federal agencies. In July 2007, the Department of the Treasury established the Electronics Stewardship Program and Implementation Plan to ensure sustainable practices in the area of electronics and to provide policy and guidance regarding acquisition, operations and maintenance, and end-of-life management.

### **WHAT TIGTA FOUND**

The IRS has taken actions to improve the energy efficiency of desktop computer equipment. For example, the IRS is purchasing energy efficient desktop computer equipment and has enabled an energy saving feature on

computer monitors that puts the monitors in "sleep mode" during periods of inactivity.

However, the IRS has not established an implementation strategy to ensure timely completion of applicable action items in the Electronics Stewardship Program and Implementation Plan. For example, timely actions have not been taken to implement power management (e.g., power down/sleep mode) functionality on desktop computers (also includes laptop computers). Policies and procedures have not been established to implement duplex (two-sided) printing on printers. In addition, actions to ensure procurement of energy efficient desktop computer equipment need improvement.

### **WHAT TIGTA RECOMMENDED**

TIGTA recommended that the Chief Technology Officer, in coordination with the Chief, Agency-Wide Shared Services, 1) assign clear responsibilities to ensure effective execution of the Electronics Stewardship Program and Implementation Plan and require each organization to periodically report its progress in completing the action items. The Chief Technology Officer should 2) develop an implementation strategy and plan to ensure the applicable energy efficient practices such as power management for desktop computers and duplex printing are implemented, as soon as possible, to the maximum degree based on the IRS mission needs. In addition, the Director, Office of Procurement, should 3) implement an effective process to timely review training records and ensure employees complete required annual training by the June 30 due date and 4) develop a tracking system to support the ongoing review of IRS efforts in acquiring energy efficient electronic products.

In their response to the report, IRS management agreed with all of the recommendations and plans to take corrective actions to address the issues identified.



TREASURY INSPECTOR GENERAL  
FOR TAX ADMINISTRATION

DEPARTMENT OF THE TREASURY  
WASHINGTON, D.C. 20220

June 15, 2010

**MEMORANDUM FOR** CHIEF, AGENCY-WIDE SHARED SERVICES  
CHIEF TECHNOLOGY OFFICER

*Michael R. Phillips*

**FROM:**

Michael R. Phillips  
Deputy Inspector General for Audit

**SUBJECT:**

Final Audit Report – Additional Efforts Are Needed to Implement the Electronics Stewardship Program and Maximize the Energy Efficiency of Desktop Computer Equipment (Audit # 200920032)

This report presents the results of our review to determine whether the Internal Revenue Service (IRS) has taken effective steps to ensure the acquisition, operation, and maintenance of energy efficient desktop computer equipment.<sup>1</sup> This review was part of our Fiscal Year 2010 Annual Audit Plan and addresses the major management challenge of Modernization of the IRS.

Management's complete response to the draft report is included as Appendix V.

Copies of this report are also being sent to the IRS managers affected by the report recommendations. Please contact me at (202) 622-6510 if you have questions or Alan R. Duncan, Assistant Inspector General for Audit (Security and Information Technology Services), at (202) 622-5894.

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<sup>1</sup> Desktop computer equipment includes desktop computers, laptop computers, and computer monitors.



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## *Abbreviations*

EUES	End User Equipment and Services
EPEAT®	Electronic Product Environmental Assessment Tool
IRS	Internal Revenue Service
REFM	Real Estate and Facilities Management



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## *Background*

On January 24, 2007, President George W. Bush signed Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*. The purpose of this policy was to strengthen the environmental, energy, and transportation management of Federal agencies by “conducting their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically, and fiscally sound, integrated, continuously improving, efficient, and sustainable manner.” In July 2007, the Department of the Treasury established the Electronics Stewardship Program and Implementation Plan to ensure sustainable practices in the area of electronics and to provide policy and guidance regarding acquisition, operations and maintenance, and end-of-life management. Treasury Directive 75-04 was issued in December 2008, establishing the policies and assigning responsibilities for maintaining the comprehensive energy programs within the Department of the Treasury and complying with all relevant regulations and Executive Orders.

Executive Order 13423 requires Federal agencies to, in part:

- Improve energy efficiency of agency facilities 3 percent annually through the end of Fiscal Year 2015 or 30 percent by Fiscal Year 2015 compared to the Fiscal Year 2003 baseline year, thereby reducing greenhouse gas.
- Acquire electronic products (at least 95 percent) that are an Electronic Product Environmental Assessment Tool (EPEAT<sup>®</sup>)-registered product, unless there is no EPEAT standard for such product, and enable ENERGY STAR<sup>®</sup> features on agency computers and monitors.

EPEAT is a system that helps purchasers evaluate, compare, and select electronic products based on their environmental attributes. The system currently covers desktop computers,<sup>1</sup> thin clients,<sup>2</sup> workstations, and computer monitors. Computer equipment that meets 23 required environmental performance criteria may be registered in EPEAT by their manufacturers in 40 countries worldwide. One of the 23 required criteria is for products to be ENERGY STAR labeled. Registered products are rated Gold, Silver, or Bronze depending on the percentage of 28 optional criteria they meet above the baseline criteria. Figure 1 provides the EPEAT registration levels.

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<sup>1</sup> Includes both desktop and laptop computers.

<sup>2</sup> A computer or a computer program which depends heavily on some other computer to fulfill its traditional computational roles.



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**Figure 1: EPEAT Registration Levels**

<b>EPEAT Bronze</b>	<b>EPEAT Silver</b>	<b>EPEAT Gold</b>
Meets all 23 required criteria	Meets all 23 required criteria plus at least 50% of the optional criteria	Meets all 23 required criteria plus at least 75% of the optional criteria

Source: [www.EPEAT.net](http://www.EPEAT.net)

ENERGY STAR is a joint program of the Environmental Protection Agency and the Department of Energy designed to help save money and protect the environment through energy efficient products and practices. An ENERGY STAR labeled computer uses 70 percent less electricity than computers without this designation. If the proper power management features are enabled, inactive ENERGY STAR labeled desktop computers enter a “sleep mode” and use 4 watts or less of power. Spending a large portion of time in low-power mode not only saves energy, but helps equipment run cooler and last longer.

The Department of the Treasury Affirmative Procurement Program incorporates requirements of Executive Order 13423 related to acquisition, use, and disposition of green products and services. The Internal Revenue Service (IRS) implemented its Green Procurement Plan to supplement the Department of the Treasury’s Affirmative Procurement Program.

This review was performed at the IRS’ End User Equipment and Services (EUES) organization’s offices in New Carrollton, Maryland, and the Agency-Wide Shared Services organization’s Office of Procurement in Oxon Hill, Maryland, during the period September 2009 through March 2010. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. Detailed information on our audit objective, scope, and methodology is presented in Appendix I. Major contributors to the report are listed in Appendix II.



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## *Results of Review*

### ***Actions Have Been Taken to Improve the Energy Efficiency of Desktop Computer Equipment***

#### ***The IRS is purchasing EPEAT-registered desktop computer equipment***

Executive Order 13423 directs agencies to acquire electronic products (at least 95 percent) that are an EPEAT-registered product, unless there is no EPEAT standard for such product. We found that 98 percent of the 76,706 desktop computers and monitors purchased in Fiscal Year 2009 were rated EPEAT Gold. In addition, the desktop computers were purchased via General Services Administration Schedules, which include all the required Federal Acquisition Regulations clauses to ensure energy efficient equipment is purchased.

#### ***The IRS has enabled energy saving settings on computer monitors***

The EUES organization enabled an ENERGY STAR feature on computer monitors as required by Executive Order 13423. In January 2008, the IRS began sending out software changes to update energy settings on monitors. The settings put the monitors to sleep during periods of inactivity, thereby saving energy. In August 2009, the IRS distributed a patch<sup>3</sup> that ensured the ENERGY STAR sleep mode on monitors was enabled. As of September 11, 2009, over 99 percent of the monitors had the ENERGY STAR feature enabled. Information quantifying the energy savings due to enabling the sleep mode feature on the monitors was not available.

While the IRS has purchased energy efficient desktop computers and implemented some actions to reduce energy use, additional improvements are needed to effectively and timely implement the Electronics Stewardship Program and maximize potential cost savings.

### ***The Electronics Stewardship Program Was Not Timely Implemented***

The IRS designated the Director, Real Estate and Facilities Management (REFM), as responsible for the Electronics Stewardship Program and Implementation Plan. However, the Director, REFM, does not have authority over all impacted areas of the IRS. To address the authority issue, in August 2007, the Director, REFM, proposed that a working group be established to address the IRS' implementation strategy and tactics in regards to the Electronics Stewardship Program and Implementation Plan. However, the working group was not established and the EUES organization did not designate an executive responsible for the Electronics Stewardship

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<sup>3</sup> A piece of software designed to update a computer program or its supporting data.



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Program and Implementation Plan until January 2009. In addition, the IRS has not developed an implementation strategy to ensure timely completion of action items applicable to the IRS. Figure 2 provides a timeline of key events regarding desktop computer energy efficiency.

**Figure 2: Timeline of Key Events Regarding Desktop Computer Energy Efficiency**

Timeline	Dates
Executive Order 13423 signed.	January 2007
Department of the Treasury Electronics Stewardship Program and Implementation Plan signed.	July 2007
The Director, REFM, sent the Electronics Stewardship Program and Implementation Plan to the Associate Chief Information Officer, EUES, and the Director, Procurement.	August 2007
The IRS began the initial distribution of a package (i.e., software changes containing monitor settings) to update energy settings on monitors.	January 2008
The Internal Revenue Manual was revised in March 2008 (with an effective date of July 2008) to include the allowance of power management on desktop computers.	July 2008
A Director in the EUES organization was appointed to the Federal Electronics Challenge Group and became aware of the Electronics Stewardship Program and Implementation Plan.	January 2009
EUES organization personnel became aware of the Internal Revenue Manual revision allowing power management on desktop computers.	March 2009
The IRS began distributing a patch to ensure the energy settings on computer monitors were enabled.	August 2009

*Source: IRS personnel and documentation provided by the IRS.*

Timely actions have not been taken to implement power management (e.g., power down/sleep mode) functionality on desktop computers. The IRS did not begin turning their focus to desktop computer energy efficiency activities until January 2009, 2 years after Executive Order 13423 was signed and 18 months after the Electronics Stewardship Program and Implementation Plan was signed. The IRS informed us that they are evaluating third-party software to assist them with implementing power management on computers. However, the IRS could not provide a date for when power management on the desktop computers will be implemented.

The IRS has also not established policy and procedures to implement duplex printing on printers (i.e., two-sided printing). EUES organization personnel advised us that IRS printers are capable



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of duplex printing, but the IRS has not developed a requirement or methodology to enforce and monitor duplex printing. Finally, while ENERGY STAR features on computer monitors have been enabled, some employees can reset the monitor configuration and the IRS does not have a process to monitor whether the ENERGY STAR setting stays enabled. Management advised that when users turn on their desktop computer, the ENERGY STAR feature is enabled.

Executive Order 13423 requires agencies to enable ENERGY STAR features on agency computers and monitors. In August 2007, the Department of the Treasury issued its Electronics Stewardship Program and Implementation Plan to establish policy, provide guidance on electronics stewardship, integrate environmental accountability into the Department's day-to-day decision making and long-term planning processes, and fulfill the requirement of Executive Order 13423. Agencies, including the IRS, are also required to develop a strategy for each action item listed in the plan to ensure the implementation of sustainable environmental practices in the area of electronics stewardship. Finally, agencies are required to promote sustainable practices including duplex printing. The Internal Revenue Manual similarly requires the REFM Associate Director, Logistics Management, the EUES organization, and the Office of Procurement to develop a plan to implement electronics stewardship practices for all eligible owned or leased electronic equipment in support of electronics stewardship goals.

The Internal Revenue Manual revision effective in July 2008 allows power management on desktop computers; however, EUES organization personnel stated they did not become aware of the change until March 2009. In addition, EUES organization management advised us that resource limitations to purchase industry software prevented the IRS from implementing power management. Also, the IRS has not implemented the Electronics Stewardship Program and Implementation Plan item that requires agencies to promote duplex printing, and the EUES organization has not performed the necessary research on how to invoke duplex printing without inhibiting productivity.

Because the IRS has not implemented all required ENERGY STAR features on its computers, it is not in compliance with Executive Order 13423 requirements and operating its desktop computers in the most efficient manner. Based on our analysis of industry and Federal Government results from implementing desktop power management capabilities and presentations from software vendors being considered by the IRS, we determined that the IRS could potentially gain annual energy cost savings from \$19 to \$25 per desktop computer if the EUES organization was to enable the missing ENERGY STAR features. The IRS currently has 110,000 desktop computers in inventory. Figure 3 provides the estimated energy cost savings once ENERGY STAR features are enabled.



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**Figure 3: Estimated Energy Cost Savings Once ENERGY STAR Features Are Enabled**

Computers in the IRS Inventory	110,000
Estimated Annual Savings Per Computer	\$20
Estimated Annual Savings	\$2,200,000
Potential Energy Cost Savings Over 4 Years	\$8,800,000

*Source: IRS personnel and documentation provided by the IRS. Also, implementing power management capability on desktop computers will incur software and maintenance costs, but the amount of the costs are not known.*

Additionally, due to the delay in implementing duplex printing, the IRS has not realized the potential cost savings related to reduced paper use. Industry information indicates that organizations can potentially reduce annual paper costs by at least 30 percent by selecting duplex printing as a default setting on printers. In Fiscal Year 2009, the IRS spent \$7,892,442 on paper. Figure 4 provides the estimated paper cost savings that could be realized by requiring duplex printing when feasible.

**Figure 4: Estimated Paper Cost Savings**

Fiscal Year 2009 Paper Cost	\$7,892,442
Industry Estimate of Paper Cost Reduction	30%
Estimated Annual Paper Cost Savings	\$2,367,733
Estimated Paper Cost Savings Over 4 Years	\$9,470,932

*Source: Industry best practices and documentation provided by the IRS.*

The lack of an effective strategy to guide the implementation of the Electronics Stewardship Program hampers the IRS' ability to timely and efficiently satisfy the requirements of Executive Order 13423. As a result, the IRS continues to not take full advantage of potential energy and paper cost savings.

### **Recommendations**

The Chief Technology Officer, in coordination with the Chief, Agency-Wide Shared Services, should:

**Recommendation 1:** Assign clear responsibilities among the REFM organization, the EUES organization, and the Office of Procurement to ensure effective execution of the



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Electronics Stewardship Program and Implementation Plan, and require each organization to periodically report its progress in completing the action items.

**Management's Response:** IRS management agreed with the recommendation. The Chief Technology Officer, with input from the Chief, Agency-Wide Shared Services, is responsible for providing updated progress reports to the Department of the Treasury. The reports contain measures that will reflect the progress being made in effectively administering the components of the Electronics Stewardship Program and Implementation Plan.

**Recommendation 2:** Develop an implementation strategy and plan to ensure the applicable energy efficient practices such as power management for desktop computers and duplex printing outlined in the Electronics Stewardship Program and Implementation Plan are implemented, as soon as possible, to the maximum degree based on the IRS mission needs.

**Management's Response:** IRS management agreed with the recommendation. The Associate Chief Information Officer, EUES, will develop an implementation strategy and plan to ensure energy efficiency practices for power management on desktop computers as outlined in the Electronics Stewardship Program and Implementation Plan. A Unified Work Request, based on IRS mission needs, will be submitted to engage all required parties and request funding in support of implementing power management on desktop computers. In addition, the Associate Chief Information Officer, EUES, will develop a strategy and plan as outlined in the Electronics Stewardship Program and Implementation Plan to inform users on using duplex printing as a default and only using single-sided printing when absolutely necessary. A Unified Work Request, based on IRS mission needs, will be submitted to engage all required parties and request funding in support of implementing automatic duplex printing as a default on all IRS network printers.

## ***Actions to Ensure Procurement of Energy Efficient Desktop Computer Equipment Need Improvement***

### **An effective process to ensure personnel complete required "buying green" training has not been implemented**

Office of Procurement personnel have not completed required training on purchasing EPEAT-registered equipment. The training provides guidance on how to ensure desktop computer equipment contracts meet the EPEAT criteria, information regarding EPEAT participating manufacturers, and requirements to ensure proper Federal Acquisition Regulations clauses are added to contracts. The "buying green" training also provides information regarding roles and responsibilities of procurement personnel in meeting the regulations for ensuring the purchase of energy efficient products.



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Specifically, 84 (28 percent) of the 302 Contract Specialists, Business Operations Specialists, and Procurement Analysts required to take “buying green” training had not taken the training. We also found that more than one-half of the employees completing the training did so after the training was due on June 30, 2009. Office of Procurement personnel advised us that they manually review the completion of the training by comparing a list of all employees required to take the training with a list of people who completed the training, and the names of employees identified as not completing the training are provided to managers for followup. However, the training was not timely completed because management does not have an effective process to follow up and ensure employees timely complete the training.

Executive Order 13423 requires annual green training for all appropriate acquisition personnel. The Electronics Stewardship Program and Implementation Plan also requires agencies to ensure training for contracting officers and purchase card holders to support acquisition of energy efficient equipment. Without the completion of required training, the IRS is at risk of not complying with Executive Order 13423 and purchasing products that are not EPEAT rated and energy efficient.

**A tracking system to ensure procurement of energy efficient equipment has not been developed**

The Office of Procurement has not implemented a tracking system to ensure ongoing compliance with the requirement to acquire EPEAT-registered desktop computers and monitors. Office of Procurement personnel advised us that they rely upon the EUES organization to properly identify the equipment to purchase and submit the requisition request. However, Office of Procurement personnel do not review the requests to ensure inclusion of Executive Order 13423 and Electronics Stewardship Program requirements.

The Electronics Stewardship Program and Implementation Plan requires agencies to develop a tracking system for procurement of EPEAT and ENERGY STAR labeled equipment. Without a tracking system to ensure procurement of energy efficient equipment, the Office of Procurement cannot readily determine whether 95 percent of the desktop computer equipment purchased is EPEAT-registered.

***Recommendations***

The Director, Office of Procurement, should:

**Recommendation 3:** Implement an effective process to timely review training records and ensure employees complete required annual training by the June 30 due date.

**Management’s Response:** IRS management agreed with the recommendation. The Director, Office of Procurement, will work with Learning and Education to add the annual Buying Green Training to each affected employee’s learning plan automatically. All Contract Specialists, Contracting Officers, Contracting Officers’ Technical



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Representatives, and Purchase Cardholders will be required to complete the Buying Green Training by June 30 of each year. A reminder email will be sent to all affected employees no later than 30 days prior to the June 30 due date. A second reminder email will be sent to all affected employees no later than 15 days prior to the June 30 due date. The Enterprise Learning Management System will be monitored by the Buying Green Coordinator in the Office of Procurement to ensure that all affected employees have taken the training. Managers of any employee who has not taken the training as of June 30 will be notified and a followup will occur by July 15 of each year. It is the responsibility of the affected employee's manager to ensure that the required training is completed.

**Recommendation 4:** Develop a tracking system to support the ongoing review of IRS efforts in acquiring electronic products of which at least 95 percent are EPEAT-registered.

**Management's Response:** IRS management agreed with the recommendation. The Director, Office of Procurement, will implement a tracking function in the new Integrated Procurement System as part of a maintenance release by December 1, 2011.



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## **Appendix I**

### *Detailed Objective, Scope, and Methodology*

The overall objective was to determine whether the IRS had taken effective steps to ensure the acquisition, operation, and maintenance of energy efficient desktop computer equipment.<sup>1</sup> To accomplish this objective, we:

- I. Identified the requirements of the Electronics Stewardship Program and researched industry and Federal Government best practices to improve energy efficiency of desktop computer equipment.
  - A. Obtained and reviewed the Electronics Stewardship Program guidelines and evaluated the status of the implementation plan, including actions to improve desktop computer equipment energy efficiency.
  - B. Researched the internet to identify best practices used by industry to improve the energy efficiency of desktop computer equipment.
  - C. Identified any Federal Government best practices that had been successfully implemented to reduce the energy consumption of desktop computer equipment.
  - D. Obtained and reviewed audit reports from other Inspector General organizations and reports from the Department of Energy and the Environmental Protection Agency to identify recommendations and best practices that can be successfully implemented for the IRS desktop computer equipment.
- II. Determined whether the IRS had an effective process to ensure the acquisition of energy efficient desktop computer equipment.
  - A. Reviewed the IRS process for the acquisition of energy efficient desktop computer equipment.
  - B. Reviewed Modernization and Information Technology Services organization's desktop<sup>2</sup> computer replacement efforts to determine whether they were striving to achieve a 4-year lifecycle for the computer equipment.
  - C. Evaluated the procedure for ensuring appropriate Federal Acquisition Regulations clauses related to purchasing energy efficient desktop computer equipment are added to the requisitions.

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<sup>1</sup> Desktop computer equipment includes desktop computers, laptop computers, and computer monitors.

<sup>2</sup> Includes both desktop and laptop computers.



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- D. Verified that Office of Procurement staff was trained on the requirements for purchasing energy efficient desktop computer equipment.
- III. Ascertained whether the IRS had an effective process to ensure operations and maintenance of energy efficient desktop computer equipment.
  - A. Determined whether the EUES organization had established a process to enable ENERGY STAR features on desktop computers and monitors.
  - B. Determined whether the EUES organization had taken effective actions to improve the energy efficiency of desktop computer equipment.
  - C. Analyzed the amount of cost savings the IRS could achieve after enabling ENERGY STAR features on all IRS desktop computers and monitors.
- IV. Determined whether efforts to improve energy efficiency of the desktop computer equipment were being effectively monitored, measured, and reported.
  - A. Evaluated the IRS' process of monitoring acquisition, operation, and maintenance of energy efficient desktop computer equipment.
  - B. Evaluated the IRS' process of measuring energy efficiency improvements of desktop computer equipment.
  - C. Evaluated the IRS' process of reporting energy efficiency improvements of desktop computer equipment.

**Internal controls methodology**

Internal controls relate to management's plans, methods, and procedures used to meet their mission, goals, and objectives. Internal controls include the processes and procedures for planning, organizing, directing, and controlling program operations. They include the systems for measuring, reporting, and monitoring program performance. We determined the following internal controls were relevant to our audit objective: REFM organization, EUES organization, and Office of Procurement policies and procedures for implementing an effective Electronics Stewardship Program to ensure the improvement of desktop computer equipment energy efficiency. We evaluated these controls by interviewing management, reviewing desktop computer equipment energy efficient best practices, and reviewing policies and procedures such as the Internal Revenue Manual, Executive Orders, and the Department of the Treasury's Electronics Stewardship Program and Implementation Plan.



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## **Appendix II**

### *Major Contributors to This Report*

Alan R. Duncan, Assistant Inspector General for Audit (Security and Information Technology Services)  
Scott Macfarlane, Director  
Danny Verneuille, Audit Manager  
Kanika Kals, Lead Auditor  
Mark Carder, Senior Auditor  
Beverly Tamanaha, Senior Auditor  
Tuyet Nguyen, Auditor



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## **Appendix III**

### *Report Distribution List*

Commissioner C  
Office of the Commissioner – Attn: Chief of Staff C  
Deputy Commissioner for Operations Support OS  
Deputy Chief Information Officer, Operations OS:CIO  
Associate Chief Information Officer, End User Equipment and Services OS:CIO:EU  
Associate Chief Information Officer, Enterprise Services OS:CIO:ES  
Director, Procurement OS:A:P  
Director, Stakeholder Management Division OS:CTO:SM  
Chief Counsel CC  
National Taxpayer Advocate TA  
Director, Office of Legislative Affairs CL:LA  
Director, Office of Program Evaluation and Risk Analysis RAS:O  
Office of Internal Control OS:CFO:CPIC:IC  
Audit Liaisons:  
    Director, Program Oversight Office OS:CTO:SM:PO  
    Chief, Agency-Wide Shared Services OS:A



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## **Appendix IV**

### *Outcome Measure*

This appendix presents detailed information on the measurable impact that our recommended corrective actions will have on tax administration. These benefits will be incorporated into our Semiannual Report to Congress.

#### **Type and Value of Outcome Measure:**

- Cost Savings, Funds Put to Better Use – Potential; \$2.2 million per year; \$8.8 million over a 4-year period (see page 3).
- Cost Savings, Funds Put to Better Use – Potential; \$2,367,733 per year; \$9,470,932 over a 4-year period (see page 3).

#### **Methodology Used to Measure the Reported Benefit:**

Based on our analysis of industry and Federal Government results from implementing desktop computer<sup>1</sup> power management capabilities and presentations from software vendors being considered by the IRS, we determined that the IRS could potentially gain annual energy cost savings from \$19 to \$25 per desktop computer if the EUES organization was to enable ENERGY STAR features. The IRS currently has 110,000 desktop computers in inventory. Using \$20 as an estimated annual cost savings per desktop computer, the IRS could potentially save \$2.2 million (\$20 x 110,000) annually. The total energy cost savings is \$8.8 million over a 4-year period (\$2.2 million per year x 4 years).

Industry examples indicate that organizations can potentially reduce annual paper costs by at least 30 percent by selecting duplex printing as a default setting. Based on the IRS' paper costs for Fiscal Year 2009 of \$7,892,442, the IRS can potentially save \$2,367,733 (\$7,892,442 x 30 percent) annually and \$9,470,932 (\$2,367,733 x 4 years) over 4 years after implementing duplex printing as a requirement.

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<sup>1</sup> Includes both desktop and laptop computers.



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**Appendix V**

*Management's Response to the Draft Report*



CHIEF TECHNOLOGY OFFICER

DEPARTMENT OF THE TREASURY  
INTERNAL REVENUE SERVICE  
WASHINGTON, D.C. 20224

**RECEIVED**  
MAY 21 2010

BY: *DAS*.....

May 21, 2010

MEMORANDUM FOR DEPUTY INSPECTOR GENERAL FOR AUDIT

FROM:

Terence V. Milholland  
Chief Technology Officer

*Terence V. Milholland*

SUBJECT:

Draft Audit Report – Additional Efforts Are Needed to Implement the  
Electronics Stewardship Program and Maximize the Energy Efficiency  
of Desktop Computer Equipment (Audit # 200920032)  
(i-trak #2010-76188)

Thank you for the opportunity to review and respond to the subject audit report. We appreciate your comments and observations that the IRS has taken actions to improve the energy efficiency of desktop computer equipment.

We acknowledge that our continued diligence is necessary in this effort and additional actions by the IRS are needed to effectively and efficiently implement the Electronics Stewardship Program. We agree with the recommendations made as a result of your audit and the attachment to this memo details our planned actions to implement them.

We can not confirm the dollar amounts for the Estimated Savings Costs in the draft report. We provided data based on best guess efforts from vendor industry standards. We do not have any established baselines or measures for actual cost. Also, benefits may not necessarily be measured through an actual dollar amount but through carbon footprint reductions.

Your continued support and the assistance and guidance your team provides have been a valuable resource to our organization. If you have any questions, please contact me at (202) 622-6800 or Darrin D. Brown, Manager, Program Oversight and Coordination at (202) 283-4613.

Attachment



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*Additional Efforts Are Needed to Implement the  
Electronics Stewardship Program and Maximize the  
Energy Efficiency of Desktop Computer Equipment*

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Attachment

Draft Audit Report – Additional Efforts Are Needed to Implement the Electronics Stewardship Program and Maximize the Energy Efficiency of Desktop Computer Equipment (#Audit 200920032) (i-trak # 2010-76188)

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**RECOMMENDATION #1:** The Chief Technology Officer, in coordination with the Chief, Agency-Wide Shared Services, should assign clear responsibilities among the REFM organization, the EUES organization, and the Office of Procurement to ensure effective execution of the Electronics Stewardship Program and Implementation Plan, and require each organization to periodically report its progress in completing the action items.

**CORRECTIVE ACTION #1:** We agree with this recommendation. The Chief Technology Officer, with input from the Chief, Agency-Wide Shared Services, is responsible for providing updated progress reports to the Department of Treasury. The reports contain measures that will reflect the progress being made in effectively administering the components of the Electronics Stewardship Program and Implementation Plan. These reports will be made available to TIGTA on an on-going basis.

**IMPLEMENTATION DATE:** August 1, 2010

**RESPONSIBLE OFFICIAL:** Associate Chief Information Officer, Strategy and Planning

**CORRECTIVE ACTION MONITORING PLAN:** We enter accepted Corrective Actions into the Joint Audit Management Enterprise System (JAMES) and monitor them on a monthly basis until completion.

**RECOMMENDATION #2:** The Chief Technology Officer should develop an implementation strategy and plan to ensure the applicable energy efficient practices such as power management for desktop computers and duplex printing outlined in the Electronics Stewardship Program and Implementation Plan are implemented, as soon as possible, to the maximum degree based on the IRS mission needs.

**CORRECTIVE ACTION #2a:** We agree with this recommendation. The Associate Chief Information Officer, EUES will develop an implementation strategy and plan to ensure energy efficiency practices for power management on desktop computers as outlined in the Electronics Stewardship Program and Implementation Plan. A Unified Work Request (UWR), based on IRS mission needs, will be submitted to engage all required parties and request funding in support of implementing power management at the Desktop.

**IMPLEMENTATION DATE:** June 1, 2011



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Attachment

Draft Audit Report – Additional Efforts Are Needed to Implement the Electronics Stewardship Program and Maximize the Energy Efficiency of Desktop Computer Equipment (#Audit 200920032) (i-trak # 2010-76188)

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**RESPONSIBLE OFFICIAL:** Associate Chief Information Officer, End User Equipment and Services

**CORRECTIVE ACTION MONITORING PLAN:** We enter accepted Corrective Actions into the Joint Audit Management Enterprise System (JAMES) and monitor them on a monthly basis until completion.

**CORRECTIVE ACTION #2b:** We agree with this recommendation. The Associate Chief Information Officer, EUES will develop a strategy and plan as outlined in the Electronics Stewardship Program and Implementation Plan to inform users on using duplex printing as a default and only use single-sided printing when absolutely necessary. A Unified Work Request (UWR), based on IRS mission needs, will be submitted to engage all required parties and request funding in support of implementing automatic duplex printing as a default on all IRS network printers.

**IMPLEMENTATION DATE:** June 1, 2011

**RESPONSIBLE OFFICIAL:** Associate Chief Information Officer, End User Equipment and Services

**CORRECTIVE ACTION MONITORING PLAN:** We enter accepted Corrective Actions into the Joint Audit Management Enterprise System (JAMES) and monitor them on a monthly basis until completion.

**RECOMMENDATION #3:** The Director, Office of Procurement, should implement an effective process to timely review training records and ensure employees complete required annual training by the June 30 due date.

**CORRECTIVE ACTION #3:** We agree with this recommendation. The Director, Office of Procurement will work with Learning and Education to add the annual Buying Green Training to each impacted employee's learning plan automatically. All Contract Specialists, Contracting Officers, Contracting Officers Technical Representatives, and Purchase Cardholders will be required to complete the Buying Green Training by June 30 of each year. A reminder email will be sent to all impacted employees no later than 30 days prior to the June 30 due date. A second reminder email will be sent to all impacted employees no later than 15 days prior to the June 30 due date. The ELMS system will be monitored by the Buying Green Coordinator in the Office of Procurement to ensure that all impacted employees have taken the training. Managers of any employee who has not taken the training as of June 30 will be notified and a follow-up will occur by July 15 of each year. It is the responsibility of the impacted employee's manager to ensure that the required training is completed.



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**IMPLEMENTATION DATE:** October 1, 2010

**RESPONSIBLE OFFICIAL:** Director, Office of Procurement

**CORRECTIVE ACTION MONITORING PLAN:** We enter accepted Corrective Actions into the Joint Audit Management Enterprise System (JAMES) and monitor them on a monthly basis until completion.

**RECOMMENDATION #4:** The Director, Office of Procurement should develop a tracking system to support the ongoing review of IRS efforts in acquiring electronic products of which at least 95 percent are EPEAT-registered.

**CORRECTIVE ACTION #4:** We agree with this recommendation. We will implement a tracking function in the new Integrated Procurement System (IPS) as part of a maintenance release. The existing procurement system is currently in the process of being re-developed and re-deployed to comply with IRS security and architecture standards. The new IPS project is currently in Milestone 4B (development phase) and the functionality for the initial release (scheduled for April 2011) has been established. As a result, functional changes to IPS to implement a tracking system for EPEAT-registered products will be added in a maintenance release of IPS by December 1, 2011.

**IMPLEMENTATION DATE:** December 1, 2011

**RESPONSIBLE OFFICIAL:** Director, Office of Procurement

**CORRECTIVE ACTION MONITORING PLAN:** We enter accepted Corrective Actions into the Joint Audit Management Enterprise System (JAMES) and monitor them on a monthly basis until completion.