

## **EPA Region 8 Business Case for Reducing Desktop Printers**

**12/6/10**

### **I. Background**

In 2009, the Information Systems Program (ISP) requested assistance from the Green Operations Network (GreenOps)\* to research the use of desktop printers in Region 8. This refers to the approximately 110 printers that are hooked up directly to an individual's computer in their office or workstation as opposed to the shared network printers (multi-function printers, or MFPs). The intent of this research was to identify who has desktop printers, why they have them and determine just cause for reducing the number of desktop printers in use in Region 8 with the following anticipated benefits in mind:

- a. Reductions in energy use in accordance with goals in the Environmental Management System and Executive Order 13514;
- b. Reductions in paper use since most desktop printers make duplex printing difficult or don't have the capability to duplex print;
- c. Reductions in costs to purchase ink and toner cartridges;
- d. Reducing waste from disposal of expired ink and toner cartridges;
- e. Improving our ability to meet criteria for Federal Electronics Challenge Platinum rating.

The Office of Technical & Management Services, the Environmental Management System (EMS) Team and the Union support reducing the number of desktop printers in Region 8, though it is recognized that there are valid reasons for some positions to have desktop printers. Such a reduction would occur by developing a policy whereby as existing desktop printers break, an individual would have to meet certain criteria in order to be approved for the purchase of a new one.

### **II. Approach**

A survey was conducted in March 2010 to gather data on the following:

1. What is your position in the agency (supervisor, team leader, staff, etc.)?
2. How did you acquire your desktop printer?
3. Why do you have one?
4. How frequently do you use it?
5. How often do you print double sided?
6. Do you turn it off at the end of each day?
7. Are you aware that MFPs have a PIN print feature?
8. How important is it to you to have a desktop printer?
9. Would you voluntarily give up your personal printer?

\*GreenOps is a volunteer group of staff who support our Environmental Management System (EMS) Team in implementing projects to reduce the environmental impacts of our operations, and communicate to staff the role that they have in helping us reach our EMS targets and objectives.

About 47 people who have desktop printers responded to the survey. The majority of the responses were that a desktop printer was needed for printing confidential information; needing it for printing official documents and records; being located too far from a MFP; having a disability that makes it difficult to get to a MFP; and, some have it for convenience purposes. The majority did not print double sided because their printer does not have the capability or they don't know how to set it up to print double sided. When asked if they would voluntarily give up their personal printer to help support our EMS efforts to save energy, print double-sided to the maximum extent possible and reduce cartridge costs, 9 said yes and 38 said no.

In addition to the survey, we collected information about resource use and costs associated with desktop printers:

Energy use of desktop printers	An evaluation of 110 printers operating in standby mode 24 hours a day, 365 days per year estimates that they would use 1,986 kilowatt hrs of electricity annually. That energy use equates to approx. 1,787 pounds of coal burnt and 3,634 pounds of CO2 emitted. Desktop printers are not hooked into our power management system so it is up to the user to manually turn them off at the end of the day.
Cost to print per page, desktop vs. MFP	<p><b>Printer Model: DeskJet 6940</b>  HP 96 large black ink (\$34) yields 860 pages = 4 cents/page.  HP 97 large tricolor ink (\$40) yields 560 pages = 7 cents/page.  Because this color ink printer uses both the black and tricolor inks, the total = 11 cents/page.</p> <p><b>Printer Model: LaserJet 2015</b>  HP 53X large black toner (\$165) yields 7,000 pages = 2 cents/page.</p> <p><b>Printer Model: M4345 multi-function printer:</b>  HP 45A black toner (\$229) yields 18,000 pages = 1 cent/page.</p> <p><b>Conclusion:</b> we estimate that printing from a personal color printer can be up to 11x as expensive as printing from an MFP. And printing from a personal laser printer can be up to 2x as expensive as printing from an MFP.</p>
Expense of purchasing cartridges for desktops	In FY2009, ISP spent \$8,116 on inkjet cartridges for desktop printers. For FY2010 to date, ISP has spent \$8,602 on inkjet cartridges for desktop printers. This expense is currently not a formal line item in ISP's budget.
Managing cartridge inventory and preventing waste	While management of cartridge inventory has improved in recent years, these cartridges are still subject to expiration. Currently there are many different types of cartridges purchased for the many different makes/models of machines that we have. Through this policy, we will standardize the type of desktop printers used and, therefore, minimize the type of cartridges we need to purchase. This will simplify the process for purchasing cartridges and managing the inventory.

Finally, we developed a list of anticipated objections we might hear from current desktop printer owners and responses that supported our reasons for developing a policy.

<i>Possible Objection</i>	<i>Response</i>
It is inconvenient to use the MFPs	When we moved into 1595 Wynkoop, a great deal of thought was put into placement of MFPs for maximum access and convenience.
I have a disability that makes it difficult to get to an MFP or my job duties require special needs that cannot be met by an MFP.	These will be handled on a case-by-case basis but only apply to persons with disabilities, unique office location far from MFP, unique job duties that do not allow person to leave desk, unique printing requirements that are a regular part of the job.
I print a lot of large documents and it is inconvenient for others who need the MFP.	MFPs print much faster than desktop printers. Additionally, large print jobs should be taken to the copy center on the 1 <sup>st</sup> floor. One might also consider saving large print jobs until later in the day when printer use is not in high demand.
I print confidential information or print jobs “disappear” from printers.	PIN printing gives you complete control on when the print job outputs and you are there to retrieve it immediately.
I print a lot of documents for official files.	The Agency has implemented electronic filing systems which reduces the need for printing hard copies.
Union issues/Change in working conditions	The Union has reviewed and provided comments on this policy and they support it.

### **III. Implementation**

#### **Phase I**

The Office of Technical & Management Services sends a letter to each individual who currently has a desktop printer with the following information:

1. Give desktop printer users the opportunity to voluntarily turn in their printer.  
Note: While the initial plan was to offer a “reward” for turning in printers, we learned that we could not give a monetary award related to the turn-in of government owned property. Also, some program managers felt that if program funds were used to purchase the printer, then the printer belongs to the program and it should not be up to the individual in possession of the printer to decide its fate.
2. Provide instructions for using the PIN feature on the MFPs so they understood that they could print secure information to the MFPs.
3. Inform desktop printer owners that ISP would no longer supply color cartridges or color toner for desktop printers.

## Phase II

Finalize and issue a policy stating that ISP does not provide maintenance or repair services for desktop printers. Therefore, once it breaks it will be disposed of and their ability to get a new one will be determined as set forth by criteria in the policy.

## **IV. Conclusion**

We anticipate that the policy will be implemented in January 2011 and our goal is to reduce the number of desktop printers by half in 2 years.