SUMMARY

The U.S. Department of Energy, Sandia National Laboratories (SNL), New Mexico quantified the costs associated with individual desktop printing devices, for comparison with costs associated with using networked copiers as printers.

DESKTOP PRINTER COST EVALUATION

SNL has a variety of drivers for investigating a replacement for the use of individual desktop printers, including: spending over $1.5 million on printing supplies annually; and striving to meet the Executive Order 13423 and 13514 mandates for sustainable environmental practices in electronics stewardship.

The solution identified by SNL Computer Support Services (CSS) was to reduce the use of desktop printing devices in favor of networked copier devices. It was suggested that the reduction in costs achieved by using networked copiers as primary printing devices would translate directly into decreased purchase of toner and ink supplies as well as reduced energy consumption and waste generation of used printing devices.

SNL completed an evaluation project in order to support this effort by establishing an annual cost for desktop printer ownership that could be compared to costs associated with network copier operation.

INTRODUCTION TO EVALUATION PROJECT

The evaluation project quantified costs associated with select groups using both shared network and desktop printers. The groups examined have varying numbers of desktop and shared printers in use and comparisons were made primarily on the basis of desktop printers/person in the group. In some areas there are desktop printers on nearly every desk. Other groups have begun eliminating desktop printers as they identified added expense and waste the machines represent. Certain managers have gone so far as to mandate that all employees with desktop printers excess them as soon as network copiers are made available for printing. The groups included in the project span all of the above situations.

METHOD OF EVALUATION

Five OAAs (office administrative assistants) were contacted by Pollution Prevention to assist in gathering of information on printer related expenses with respect to number of supported personnel ("the group"). Each OAA was interviewed to establish the number of individuals supported as well as the number of desktop printers owned by those individuals. The groups varied in size between 4 and 80 personnel and were labeled with one of three size categories: small for 1-5 people, medium for 6-25, and large for 25 and over. One group was dropped from evaluation as it had no printing related expenses during the year examined.

Comparisons were made on the basis of the OAA's supported personnel and a count of desktop printers owned by those personnel. In this case "supported" means any individual for which the OAA would order printing supplies or service for. Next, each OAA's purchase records were gathered for a period of one year. Data was filtered for all imaging equipment and printing related expenses, with the exception of paper. This included toner supplies, ink supplies, repair orders, and miscellaneous machine parts such as imaging drums and fuser kits. Costs for the period were totaled and divided by the personnel supported count for each group to arrive at a cost per individual for imaging equipment in that group.

RESULTS OF THE EVALUATION

The following chart illustrates the numbers of personnel and desktop printers within the four groups evaluated. Left to right is: a group with 4 people and 1 printer; a group with 17 people and 14 printers; a group with 10 people and 8 printers; and a group with 83 people and 51 printers.
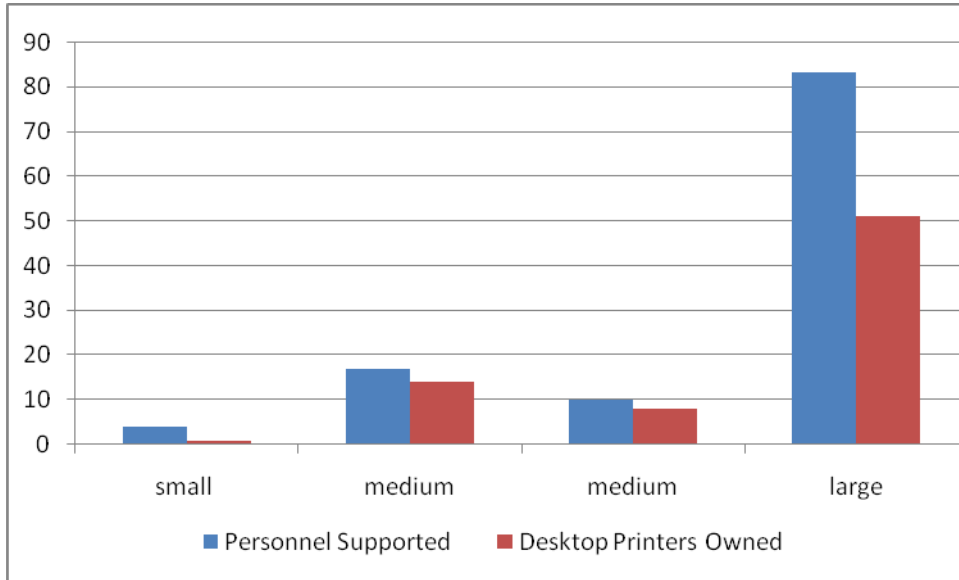
The following chart illustrates cost per person, and printers per person, ratio in each of these groups. Those groups that most closely approach a printer per person ratio of 1, appear to also be approaching an annual cost per person of about $200.
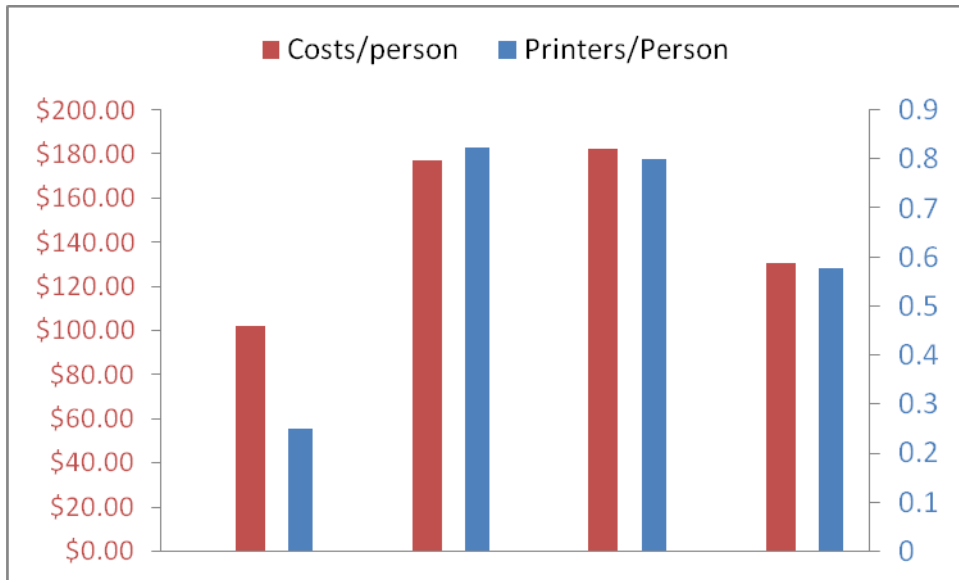
These results indicate that as a 1:1 desktop printer:person ratio is approached, the associated costs approach $200/person/year. For a small group of six people, this represents $1,200 in printer related expenses per year (not including the first costs of purchase or replacement; no new printers were purchased by any of the groups during the periods evaluated). For a larger group, of over 50 people, the

annual costs of operating printers could be over $10,000. Desktop printers represent increased expenses in the form of toner and ink purchases, other replacement parts, time spent by individuals ordering, replacing and repairing parts, as well as the energy used to power them.

CONCLUSION

"Cost per page" is a commonly used measurement for the total cost associated with a printer's production of one printed page. This usually excludes energy and paper costs. The per page cost of networked copiers is substantially lower than that for desktop printers. Current average costs per page on desktop laser printers are in the area of 6 of 8 cents per page for moderate coverage, black and white. In comparison, a black and white page can be printed with similar coverage for less than 1/10 of a cent on a networked copy machine. Reducing the overall number of desktop printers on site, in addition to substituting network printers with fleet copiers, is a means to significant savings for SNL.

REFERENCES

For more information about printer costs per page, please see the Quality Logic website at:
http://www.qualitylogic.com/Contents/Library/Test-Reports/Kodak-MFP-CoIPP-US.aspx

CONTACT INFORMATION

If you have questions related to this resource or need other assistance with the Federal Electronics Challenge, please contact your Regional Champion: http://www2.epa.gov/fec/technical-assistance.

Visit the FEC online: http://www2.epa.gov/fec/

E-mail the FEC: fec@epa.gov