

The Hanford Site responds to the 2001 energy crisis

Conservation contest energizes POC employees

Deborah Dunn, FH

Energy-saving ideas are being sparked by a contest in Fluor Hanford's Project Operations Center. The contest is building unity in the recently formed organization as well as promoting the 10-percent energy conservation goal Fluor Hanford shares with the Department of Energy Richland Operations Office and the Bonneville Power Administration.

The energy conservation contest coincides with the Project Operations Center's final implementation activities. Established in the October 2000 contract between DOE-RL and Fluor Hanford, the POC is designed to better employ Fluor's commercially based project execution methods at Hanford.

Recently, more than 400 employees were reassigned to three of the organization's groups — Central Engineering, Project and Construction Management, and Project Control and Estimating — and have been trained in the POC's new and modified procedures.

"In a new organization, a contest is a good way to build team identity," said Jim Leak, Fluor Hanford chief engineer in the POC Central Engineering group and originator of the energy-saving contest. "With the current focus on energy conservation, this is a great time to get ideas. We've been really pleased with the response. Although the contest is just for our employees, we want the ideas to benefit the whole site."

Winning ideas are being publicized on the Project Operations Center Web page, in employee messages and in site publications. Contest outcomes are coordinated with the Fluor Hanford Energy Management Program. Leak said the POC hopes to inspire other Hanford organizations to promote their own approaches to energy savings.

Eighty ideas were submitted by about 40 POC members during the first week of the six-week contest. A committee identifies the top 10. Then the top two or three emerge from a second review process. Research is done to determine potential energy and cost savings if these finalists' ideas are adopted.

Practical ideas sought

The POC contest entries may consider all savings — not just electrical — and they'll be judged on creative thinking and whether there's any added cost to achieve the savings.

Contest ideas should have general applications at Hanford. "We want to be good citizens in the community and not be wasteful," Leak said. "We'd like to see these ideas used at home where practical." Ideas specific to a project or facility are directed there, in accordance with the principle of continuous performance improvement.

Each week's submissions are to be made before a Thursday deadline. After the winning ideas are chosen, the entries are scrutinized to see if the same idea was sent by more than one person. If two people submit the same idea, they can choose to divide the \$100 prize or draw straws for it.

Continued on page 12.

Conservation contest energizes POC employees, cont.

If more than two send the same winning idea, a drawing determines the prize winner. After the six weeks, “the best of the best” will be chosen and a grand prize awarded. Each contestant will receive a certificate of participation.

“We want to recognize and show appreciation for everyone who participates,” Leak said. “After six weeks, we will have many ideas to develop for the future and include these ideas in our overall energy program.”

Looking ahead

Other Project Operations Center energy conservation efforts include the development of an energy audit and checklist, engineering support for conservation measures, and evaluations of ways to save energy.

Hanford pays energy and demand charges for its electricity. Conservation now can reduce the demand for higher-priced electricity in October.

Another approach is to spread out energy use over the course of a day, avoiding the times of peak power demand. The Project Operations Center is investigating possibilities along this line for Hanford. Methods could include changes in the timing of certain activities and installing new devices like small on-demand water heaters that heat water as it’s used instead of heating large amounts continuously.

Conservation ideas from other areas contribute overall. The POC is considering ways to conserve gasoline and water too. “It’s like an ecosystem,” Leak said. “Reducing the demand on fossil fuels and being mindful of the drought will result in an indirect payback.” ♦

POC employees’ winning energy-saving ideas

- *Turn off individual printers each evening, over weekends, during regularly scheduled Fridays off and during facility closure days.*

The most common printers on site, HP LaserJet IIIs, use more than 800 watts while printing and approximately 170 watts in standby mode. It is estimated that turning them off during non-work hours will result in an annual savings of about 800 kilowatt hours per printer.

For every 1,000 of these printers, 800,000 kilowatt hours per year could be saved. The current DOE cost per kilowatt hour is about 4.5 cents, so the cost savings per 1,000 printers would be \$36,000 at today’s electricity price.

- *Reduce the number of refrigerators in kitchen areas where possible. If three are in service, reduce to two; if two are in service, reduce to one.*

The 22-cubic-foot refrigerators use about 750 kilowatt hours per year. Removal of 100 units from service would result in an annual reduction in electricity usage of 75,000 kilowatt hours. At the current DOE cost of 4.5 cents per kWhr, the cost savings would be \$3,375 per 100 units. ♦



Larry Olguin, Fluor Hanford Project Operations Center leader, turns off his office printer before going home, as suggested by a winning idea in the group’s energy conservation contest.

LMSI urges us to 'Power down at the end of the day'

Mike Coons, LMSI

The American workplace has become so dependent on computing resources that we now take them for granted. In almost every aspect of our daily professional lives, we've become accustomed to leveraging our tasks with computers and nearly instant messaging.

As computer products have become more commonplace, our awareness of their potential drain on other resources has waned. By simply turning printers off at the end of the day, very real power savings can be achieved. But who knew how substantial the savings could be?

With the recent energy shortfalls and increasing costs, it's prudent to re-familiarize ourselves with our computing devices and think of ways to operate them more efficiently — particularly during the summer months. Every machine generates heat that adds to the air-conditioning load, and machines that are not being actively used generate extra heat while consuming electricity.

Use LPS feature

Many computer users are aware of Energy Star, an Environmental Protection Agency initiative aimed at making computers operate more efficiently. All modern computing devices incorporate features that will cycle to a low-power state (LPS) after periods of inactivity. The systems reactivate themselves when an external action (such as a mouse move) is initiated.

The LPS feature operates automatically, requiring no intervention from an operator. There are, however, two disadvantages to this energy-saving feature. One is that, even in the low-power state, the equipment still consumes more power than the full power-off state. It's not a substitute for turning the power off.

The second disadvantage is that the process for "waking up" is not instantaneous, which can be irritating enough that you may be tempted to disable the Energy Star feature entirely.

Here are some practices that will save power without much effect on your operations:

Laser printers

Configure all printers that support Energy Star features (LaserJet 5 and above) to go to the low-power state after 30 minutes of inactivity. Turn them off overnight and on weekends. Hewlett Packard indicates that first-copy delay is nearly the same from a power-off state as from an LPS state. Machines are generally configured this way when they are delivered, and user manuals provide detailed instructions.

LaserJet II, III, and IV printers do not have Energy Star features. If such printers serve as network printers, they should be turned off at the end of the day and on weekends. Personal printers of these types should be turned off if they will not be used for a period of one hour or more. These types of printers are the most power-hungry of the lot because they maintain operating temperatures at all times.

Continued on page 14.

LMSI urges us to 'Power down at the end of the day', cont

Computer systems

Most computer systems have power-management capabilities, but many may be configured so they do not take full advantage of the Energy Star features. The recommended settings for Energy Star features are as follows: shut the monitor down after 20 minutes; shut the disk drive down after 30 minutes. As a general rule, do not use the "hibernate" or "suspend" mode on machines running Windows 9X or Windows NT.

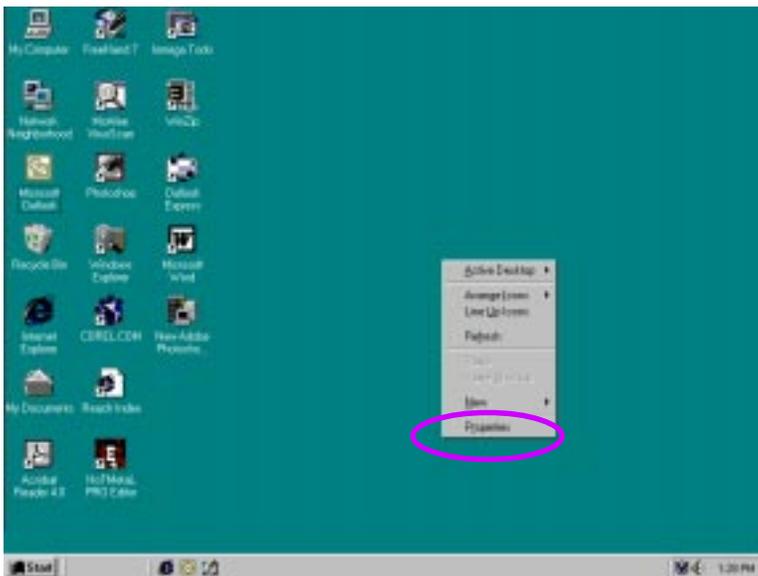
To change the settings for energy conservation, open your computer's control panel (Start; Settings; Control Panel). Double-click the Power/Power Management icon. Ensure that the Power Scheme is set to Home/Office Desk. Set Monitor and Hard drive to recommended settings if they are available on the panel (these may not be there on all systems). Click the "apply" button if you have made any changes, then click OK.

At the end of the workday, your final task should be turning off our computer. *Power down at the end of the day.*

The key to all conservation is to take what you need and use all that you take. If we observe the practices discussed above, taking full advantage of the automatic features of the Energy Star program, we will have taken a giant step toward achieving this ideal. We can all contribute just a little and collectively make a significant contribution. ♦

How to change your computer's settings

To set your computer up to turn the monitor off when the computer has been inactive for a specified period of time, follow these steps:

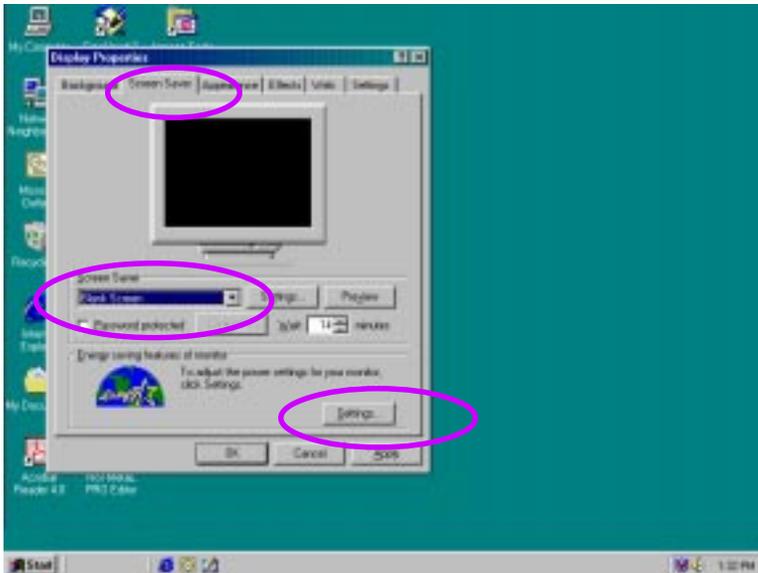


- 1) Right-click (select) your Windows Desktop
- 2) Select Properties

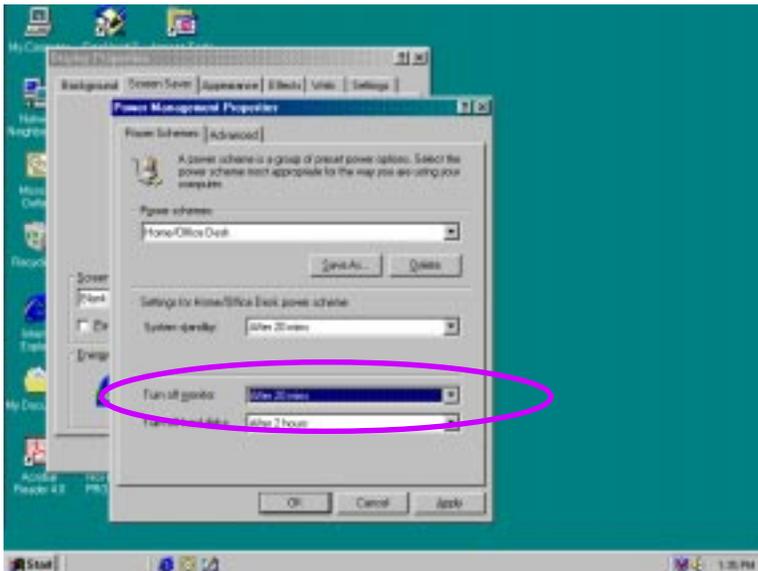
Continued on page 15.

LMSI urges us to 'Power down at the end of the day', cont

Where to find help online



- 3) Select the Screensaver Tab
- 4) Set screensaver to Blank screen (recommended)
- 5) On the lower half of the dialog box select Settings



- 6) In the "turn monitor off" box, select an appropriate amount of time (15-20 minutes is recommended)
- 7) In the "turn off hard disks" box, select a long period of time or never. **Hard disks should not be turned off and on repetitively.**
- 8) Select OK.

- DOE energy info:
<http://www.energy.gov/>
- Energy-saving tips:
<http://www.bpa.gov/corporate/kc/energytips/home.shtml>
- Equipment control:
<http://www.bayviewtech.com/html/products.html>
- Compact fluorescent bulbs (to replace incandescent bulbs):
<http://www.bpa.gov/Energy/N/projects/cfl/>
- Instant hot water (vendor):
<http://www.eemaxinc.com/>
- Turning lights on and off:
http://www.bayviewtech.com/downloads/fluorescent_lamps.pdf