



# Energizing EPA

Office of Administration and Resources Management's Newsletter on Energy Conservation and Sustainable Facilities

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EPA received a *White House Closing the Circle Award for Green Purchasing* from the Office of the Federal Environmental Executive on April 7, 2005, for its Agencywide Blanket Purchase Agreement (BPA) with Corporate Express for "green" office products. The BPA, which became mandatory on May 1, 2005, creates a one-stop shop for office supplies, with a special emphasis on products that fulfill the Comprehensive Procurement Guidelines for buying recycled-content products, the Executive Order 13101 mandate to purchase environmentally preferable office supplies, and Green Seal's *Choose Green Report on Office Supplies*. More information on the BPA can be found at [www.epasupplies.com](http://www.epasupplies.com).



## Savings Flood Region 10 Laboratory

Employees at EPA's Region 10 Laboratory in Port Orchard, Washington, have found a way to reduce both energy and water use by revisiting the way the lab operates sterilization equipment.

Autoclaves—devices that use steam to sterilize equipment and inactivate bacteria, viruses, fungi, and spores—use a significant amount of water and energy. Energy is used to make steam for sterilization, which condenses in the autoclave and forms a very hot water discharge. The hot water cannot be discharged to the plumbing system at such high temperatures, so it is mixed with cooling water. Until mid-2003, one of the Region 10 lab's autoclaves was automatically programmed to run from 7:15 a.m. to 5:20 p.m., Monday through Friday, regardless of holidays. By the end of the year, the autoclave had been powered for more than 2,500 hours and was wasting nearly 80,000 gallons of potable (drinkable) cooling water. In an effort to reduce water and energy usage, employees suggested utilizing the unit's standby function. The standby function allows the unit to remain in sleep mode when not in use, requiring no water and only a minimal amount of energy for lighting the display panel.

In fiscal year (FY) 2004, during which the standby function was utilized, the autoclave was powered for approximately 665 hours, a reduction of nearly 2,000 hours from previous years. The amount of wasted water was also drastically reduced. Since less than 20,000 gallons of water were needed to cool the steam condensate, nearly 60,000 gallons of



EPA's Region 10 Laboratory reduced water use by 60,000 gallons between FY 2003 and FY 2004.

water were saved. This is equivalent to the amount of water necessary for all 72 employees within the facility to drink two quarts of drinking water per day for the next four and a half years. On top of the resource conservation benefits, the laboratory is also saving about \$250 in avoided water charges and \$390 in sewer savings per year.

Inspired by these savings, employees have researched further water conservation measures for the lab, including installing water-reducing valves on each autoclave. "In the past, the focus has been on water quality; it's time for quantity to become an issue as well," said Stephanie Bailey, a microbiologist and the facility's recycling coordinator. Studies on autoclaves by the University of Washington show that for approximately \$1,000 per unit, the lab could reduce the amount of cooling water each autoclave uses by 50 to 90 percent. These valves are scheduled to be installed in the laboratory within the next few months.

For more information on the Region 10 Laboratory's water saving measures, contact Stephanie Bailey at (360) 871-8739 or [bailey.stephanie@epa.gov](mailto:bailey.stephanie@epa.gov).



## Btu Busters, H<sub>2</sub>Overachievers, P2 Performer Honored

EPA recognized nine outstanding employees for their resource-saving accomplishments in FY 2004 at the Buildings and Facilities Conference in Philadelphia, Pennsylvania, this March.

- Research Triangle Park (RTP), North Carolina, energy manager James White received EPA's Energy Partner of the Year award for continuous leadership in improving the energy performance of RTP's New Main, National Computer Center, Human Studies, and Research Toxicology facilities. Because of the large size of these facilities, energy efficiency improvements in RTP will have the greatest impact on EPA's overall environmental performance of any current Agency projects.
- For selfless, dependable, and friendly support of EPA sustainable facilities activities and effectively and efficiently keeping the SFPB staff moving forward in all their endeavors, Steve Hinz of Washington, D.C., was named Energy Partner of the Year at Headquarters.
- Russ Ahlgren and Mark Tagliabue of EPA's Atlantic Ecology Division Labora-

tory in Narragansett, Rhode Island, were each honored with Btu Buster awards for implementing mechanical engineering upgrades that reduced energy use at the laboratory by more than 10 percent annually, improving the working conditions of laboratory occupants, re-investing utility cost savings in green power, and leading the way in sustainable site planning.

- Stephanie Bailey received an H<sub>2</sub>Overachiever award for helping the Agency save an estimated 60,000 gallons of water per autoclave unit by reducing the use and water consumption of the autoclaves at EPA's Region 10 Laboratory in Seattle, Washington. (See related article on page 1.)
- Jay Gile of the Western Ecology Division Laboratory in Corvallis, Oregon, won two awards. A Leading Edge award recognized Mr. Gile for conceiving, acquiring funding for, and managing the construction of a 9.5 kilowatt photovoltaic roof system that generates renewable power with zero emissions. Mr. Gile also received an H<sub>2</sub>Overachiever award for helping the laboratory save approximately

5 million gallons of water annually by installing a closed-loop glycol cooling system, autoclave control valves, waterless urinals, and flow restrictors on plumbing fixtures.

- Cynthia Greene received a Leading Edge award for aggressively and intelligently pursuing environmental performance improvements in all facets of the design and operation of the new Boston Regional Office.
- Jan Hemingway of EPA's Region 10 Laboratory in Port Orchard, Washington, won Reporter of the Year for timely and accurate energy and water reporting for a complex facility.
- Region 8's Kim Bartels received a Pollution Prevention (P2) Performer of the Year award for her campaign to collect recyclables at the Denver Regional Office. A recent floor-by-floor competition recycled 10,922 pounds of paper. (See related article on page 4.)

For more information on this year's winners, or to view past award winners, visit [www.epa.gov/greeningepa/champions/index.htm](http://www.epa.gov/greeningepa/champions/index.htm).

### Lowering the Impact at Headquarters

EPA, in collaboration with the U.S. General Services Administration, has undertaken a low impact development (LID) and sustainable stormwater management demonstration project through a landscaping renovation at its Federal Triangle Headquarters campus in Washington, D.C. Stormwater is rainwater and melted snow that runs off streets, lawns, farms, and construction and industrial sites. As it makes its way to storm drains and sewers, stormwater runoff picks up fertilizers, dirt, pesticides, oil, grease, and other pollutants, creating the most common cause of



water pollution. Stormwater management attempts to address these concerns through a variety of techniques, including strategic site design, measures to control the sources of runoff, and thoughtful landscape planning.

The Agency's LID project will not

only reduce the volume and pollution levels of its stormwater runoff, but also demonstrate that sustainable design and LID can be used on a larger scale in high profile, urban sites. Pictured at left is the installation of a 1,200-gallon underground cistern (water storage tank), which will collect and redistribute stormwater runoff from the porous paving and rain gardens located in EPA's Ariel Rios South Building courtyard. The water will be used to irrigate the planting beds. For more information, visit [www.epa.gov/greeningepa/stormwater/hq\\_lid.htm](http://www.epa.gov/greeningepa/stormwater/hq_lid.htm).



# AIA, EPA Build a Green Foundation for the Future

On February 10, 2005, EPA and the American Institute of Architects (AIA) signed a Memorandum of Understanding (MOU) signaling their commitment to work together to improve sustainability in buildings. The two groups agreed to collaborate in the areas of outreach and education and to pursue research and development opportunities related to green building and sustainable development.

Green, or sustainable, building design incorporates practices and products that create healthier, more resource-efficient buildings. To improve a building's environmental performance, architects and other building professionals can implement green building features, such as the use of natural light, low-flow plumbing fixtures, and recycled-content materials. Incorporating environmentally responsible features into the construction or renovation of a building protects both the environment around the

## Working Together

EPA's Green Building Workgroup is a unique, cross-office group consisting of representatives from programs across the Agency related to green building issues, such as ENERGY STAR®, Greening EPA, Indoor Environments, Smart Growth, and Environmentally Preferable Purchasing. The Workgroup's goal is to lessen the impact that buildings have on

the environment and public health.

AIA's Committee on the Environment coordinates the architecture profession's involvement in environmental and energy-related issues to improve the quality of the built environment. The committee's goal is to make environmental considerations and sustainable design integral to the architecture field.

building—including the water, soil, and air—and the indoor environment where people work and live.

EPA and AIA's relationship began 15 years ago with the development of the *Environmental Resource Guide*, a groundbreaking project that assessed the environmental impact of building materials, products, and systems. The new, five-year MOU formalizes the relationship between EPA's Green Building Work-

group and AIA's Committee on the Environment and defines areas where EPA and AIA can join forces to improve education and outreach and explore research opportunities.

"The MOU emphasizes the organizations' commitment to raise public and industry awareness about green building, share knowledge and tools through university courses and continuing education, and coordinate best practices case studies," Green Building Workgroup Co-Chair Ken Sandler said. "By developing a research agenda for green building, EPA and AIA will also be able to identify gaps in research where new technologies or processes are needed."

EPA benefits from this alliance by being able to educate architects—a primary profession involved in implementing green building practices—about the Agency's priorities, rules, and resources. The relationship also provides an avenue for outreach to the public, as well as the opportunity to conduct pilot projects on sustainable buildings.

"The public benefits when you have organizations working together rather than stepping on each other's toes," Sandler said.

EPA's Green Building Workgroup will continue to identify opportunities to raise public and industry awareness of sustainable design issues and to implement best practices in the field.

For more information about green buildings and programs at EPA, visit [www.epa.gov/greenbuilding](http://www.epa.gov/greenbuilding).

## Be Nice to Spiders...and Other IPM Tips

With the arrival of summer, many employees head outdoors to care for their lawns and gardens. This summer, before you reach for the weed-killer or poison pellets, try removing pests with integrated pest management (IPM), an environmentally preferable pest control system that reduces chemical and water use.

- Mow higher and less often: Taller grasses provide shade that helps soil retain moisture, thus reducing water use. Longer blades also absorb more sunlight, which deepens root growth, a key factor to surviving insect damage or disease. Keeping your grass between 2.5 and 3.5 inches will improve pest-resistance and water retention.
- Use native landscaping: Growing grasses and plants that thrive in your climate will require less water, fertilizers, and pesticides.

- Protect your pest's natural enemies: Predatory insects (e.g., spiders or ladybugs), parasitoids (e.g., miniature wasps), or bacteria can sometimes fill the role of pesticides. Protecting or adding these creatures to your garden could help eliminate pests without pesticides.
- Use pesticides sparingly: Before using pesticides, make sure you have correctly identified the problem, including researching the pest's biology, to see if pesticide use is the only possible solution. When necessary, make sure to use environmentally sensitive chemicals and only apply pesticides to affected areas.

For more information visit [www.epa.gov/greenscapes](http://www.epa.gov/greenscapes), [www.epa.gov/OW-OWM.html/water-efficiency/landtips.htm](http://www.epa.gov/OW-OWM.html/water-efficiency/landtips.htm), or [www.epa.gov/pesticides/controlling/index.htm](http://www.epa.gov/pesticides/controlling/index.htm).



## Waste Reduction Is on the Move in Region 8

The Region 8 Office in Denver, Colorado, and its green and pollution prevention (P2) teams are demonstrating recycling, reuse, and waste reduction for both existing and new offices. In October 2006, employees in EPA's current Denver regional office will move to a new office building down the street. In preparation for the move, Kim Bartels, EPA's Region 8 recycling coordinator, and fellow Green Team members are working to increase employee participation in the recycling program and ensure that this involvement carries over into the new office.

In its current building, EPA shares space with a variety of other tenants. While the building's janitorial contract includes the collection of mixed office paper, aluminum cans, and corrugated cardboard, the building does not have a formal collection system in place for recycling plastic and glass bottles. To fill this void, the P2 team placed separate collection bins for plastic and glass bottles and containers in break rooms on each floor. On a regular basis, employees volunteer to transport the separated plastic and glass from EPA's space down to the building's loading dock, where it is picked up by the building's recycling hauler. To further increase the recycling rate at the regional office, the P2 team incorporated bound publications into its recycling stream. The building's recy-

cling vendor uses a special tool to separate the binding from the publication, enabling them to salvage and recycle the paper. The office's recycling coordinator also works with the local phone company to limit the number of new phone books delivered to the office each year.

In other efforts, a group of P2 and Green Team members held an office-wide "Clean-up Campaign" this past winter, designed to encourage employees to get a jump-start in cleaning out their offices, file rooms, and storage areas in preparation for the office move. The organizers designated several recycling locations on each floor for the collection of reusable office supplies, videos, CDs, diskettes, batteries, phone books, and unwanted items from individuals' cubicles and offices, such as coffee mugs and artwork.

To advertise the cleanup and recycling effort, the team posted numerous signs, delivered an all-hands e-mail, broadcasted employee voice mails, and gave briefings at several management meetings. To add an element of friendly competition, the P2 team also tracked the amount of per capita mixed paper collected on each floor. At the end of the six-week campaign, the employees on the floor that recycled the most mixed paper were awarded a cake and the "EPA Region 8 Cleanin' House Award." As a result of overwhelming participation in the campaign, employees collectively recycled approximately 11,000 pounds of mixed paper.

Bartels attributes the campaign's success to the fact that it was convenient and fun. "The extra bins we set out made it easy for people to participate. Instead of bringing reusable office supplies to the supply room, employees could recycle these items on their floor in the labeled collection bins. Also, the friendly competition provided extra motivation for individuals to do their part in

recycling." To build on the success of the first cleanup and recycling effort and further prepare for the office move, a second Clean-up Campaign has been scheduled for this summer.

For more information about Region 8's P2 program and recycling efforts, visit <[www.epa.gov/region8/conservation\\_recycling/recycling.html](http://www.epa.gov/region8/conservation_recycling/recycling.html)>, or contact Kim Bartels at (303) 312-6346 or <[bartels.kim@epa.gov](mailto:bartels.kim@epa.gov)>.



An example of a labeled collection container for recycling at the Region 8 Office.

### Events Not to Miss!

#### Laboratories for the 21st Century 2005 Annual Conference

October 18-20, 2005

Portland, Oregon

Registration Opens July 11!

For more information and to register, visit <[www.labs21century.gov](http://www.labs21century.gov)>.

#### Energy 2005: The Solutions Network

August 14-17, 2005

Long Beach, California

For more information and to register, visit <[www.energy2005.ee.doe.gov](http://www.energy2005.ee.doe.gov)>.

#### National Recycling Coalition Congress

August 28-31, 2005

Minneapolis, Minnesota

For more information and to register, visit <[www.nrc-recycle.org/congress](http://www.nrc-recycle.org/congress)>.

### Contact Us

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