

Energizing EPA

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

March 2003



Serving Up Sustainability at EPA Headquarters

The new cafeteria at EPA Headquarters boasts more than good food—it's a state-of-the-art facility that incorporates "green" features into everything from the coffee cups to the carpeting.

At the grand opening of the new cafeteria at EPA's Federal Triangle complex in January 2003, visitors saw first-hand how functional the following sustainable features can be:

- Furnishings include recycled content, such as chair seat and backs made from soda bottles, table bases made from engine blocks, and carpet containing 25 percent postconsumer recycled materials.
- The cafeteria vendor offers sustainable foods, such as shade-grown and fair-trade coffee.
- Reusable beverage containers will save money and support a healthy environment. The containers are available for purchase in the cafeteria for both coffee and cold drinks. For example, the 20-ounce coffee refill in the reusable container is the same price as a 12-ounce throw-away cup.



EPA Administrator Whitman welcomes patrons to HQ's new cafeteria.



The new cafeteria offers shade-grown coffee.

- Customers are encouraged to dine with real china and utensils, minimizing the use of disposable tableware. Some of the carry-out orders are packaged in biobased, compostable containers. The napkins are chlorine-free with 100 percent recycled content.
- Green cleaning products and services have a reduced impact on both indoor and outdoor environments.
- A recycling program ensures that bottles and cans do not end up in a landfill. EPA is working on a composting pilot program with the Department of Interior and the Office of the Federal Environmental Executive.

In addition to its sustainable features, the cafeteria has a video wall, which displays EPA-related clips and other news, information, and entertainment. An aquarium will be installed in the near future. For more information, contact Brenda Bell at 202 564-4830 or <bell.brenda@epa.gov>.





Environmental Management Systems for EPA

EPA is in the planning stage of implementing an Environmental Management System (EMS) for its employees, operations, and facilities. EMS involves taking a closer look at daily activities—from paper procurement to recycling to transportation—and identifying how these activities impact, or can potentially impact, the environment. Whether focused on reduced air emissions, fuel consumption, energy and water consumption, or waste stream impact, the EMS will allow EPA to manage its environmental performance rather than police compliance.

Part of the motivation for this new effort stems from Executive Order 13148, which requires all federal agencies to implement an EMS by December 31, 2005. Emphasizing long-term strategic planning, this executive order essentially shifts environmental responsibility to the senior management level.

EMS in Progress

On May 17, 2002, Administrator Whitman issued an Agency-wide policy statement indicating full support for the implementation of EMS throughout EPA and directing EPA to provide leadership within the federal community. EPA's Office of Administration Safety, Health and Environmental Management Division has been tasked with assisting the Agency's 36 official EMS reporting locations as they prepare a local EMS policy or letter of commitment from senior management. Each of the locations has already received guidance and support to help address issues specific to their EMS needs.

EPA has elected to follow the International Organization for Standardization (ISO) 14001 EMS format. To achieve this goal, EPA conducted a Gap Analysis, or Agency-wide self assessment, in October 2001 using the standard approach found in the ISO 14001 format. This assessment helped EPA identify three EMS pilot programs, used as stepping stones for the

Agency-wide EMS implementation now taking place. To date, each location has received software tools and reference materials about the essential elements of an effective EMS. EPA has also provided and funded onsite contractor support to assist with each location's EMS implementation.

Throughout 2002, EPA established a process for sharing information and lessons learned from pilot programs and other sources. In addition, training has been an important part of the Agency's EMS implementation efforts. EPA provided an interactive telecast of EMS Basic Awareness Training for all reporting locations last year and prepared a video of the training for further distribution.

For 2003, EPA is designing a four-module video tape series to provide implementation training to the EMS teams. Each tape will be accompanied by a guidance package containing reference information, samples, and templates. EPA is also planning an EMS training program for EPA senior managers, which will also be useful for all federal senior managers, and will be available to the Federal Executive Institute and other departments and agencies.

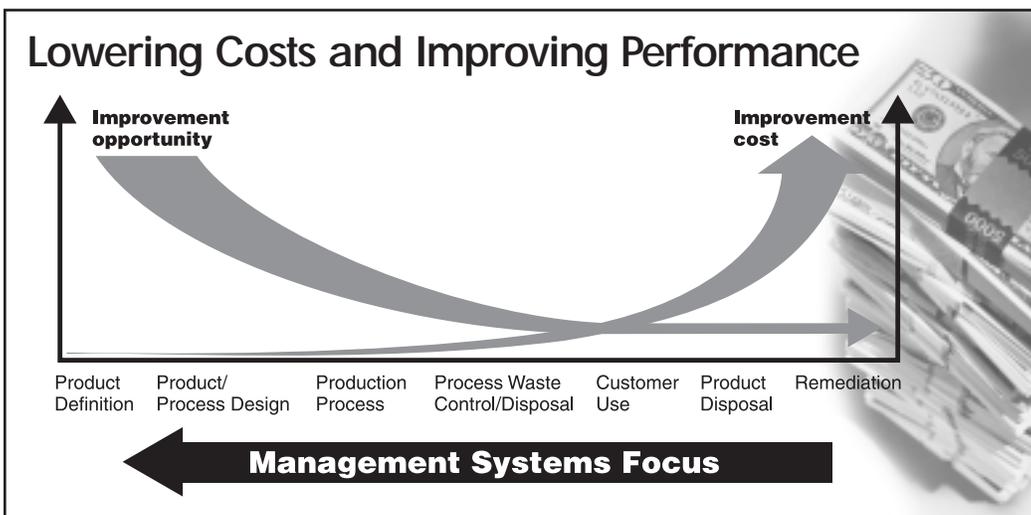
The Future of EMS at EPA

EPA's 36 EMS reporting locations continue to work toward the implementation of EMS. For the first time, a comprehensive inventory of EPA's significant environmental aspects will be available to assist the Agency's decision-making process in establishing EMS priorities. EPA is soliciting this information from all reporting locations and will use this information to create an Agency-wide database.

EPA plans to produce an annual report to provide a comprehensive look at all aspects required under Executive Order 13148. The report will identify significant achievements related to environmental management Agency-wide. In October

2004, EPA will repeat its self-assessment to identify special emphasis areas for 2005. Using the information collected, EPA hopes to have a fully implemented EMS per Executive Order 13148 by December 2005.

For more information, contact Russelle R. McCollough, 202 564-1287 or <mccollough.russelle@epa.gov>.



EPA Sets Goals for its Facilities' Future

Change is inevitable and this reality affects everything in our lives, including our buildings. Over time, a building's uses, occupants, and internal structure can change and expand drastically, which can be resource-intensive and costly. To prepare for such changes, EPA creates master plans when developing a new office space or laboratory. These plans initially focused on factors such as a building's future space requirements and potential architectural modifications, but EPA is now incorporating energy considerations into the plans as well.

Called energy/engineering master plans, this process was initiated to identify long-term opportunities to improve the energy efficiency of EPA's HVAC systems and to ensure that short-term mechanical system projects fit into a long-term vision for the facility. The goals for energy/engineering master plans quickly broadened to help the Agency better evaluate and implement building system needs and upgrades.

"Integrating these energy/engineering plans into the Agency's architectural master plans will provide a more holistic view of EPA facilities," said Abbas H. Keshavarz, project manager at EPA. The plans provide a time frame for evaluating building systems, including energy efficiency, the comfort and safety of building occupants, and when to make system improvements or perform routine maintenance.

Three EPA laboratories—the Western Ecology Division Laboratory (WEDL) in Corvallis, Oregon; the Environmental Research Laboratory (ERL) in Narragansett, Rhode Island; and the Andrew W. Breidenbach Environmental Research Center (AWBERC) in Cincinnati, Ohio—are developing energy/engineering plans that will be integrated into the respective buildings' architectural master plans.

EPA's energy plans for the three facilities will provide recommendations for new systems that meet the appropriate criteria (see sidebar). For example, the plans may call for evaluating boilers and resizing distribution piping and pumps to accommodate future expansion. Additionally, the plans may require evaluating electrical systems, such as exterior lighting, the emergency power system, and power distribution equipment.

Mastering Energy/Engineering Master Plans

Energy/engineering plans include, but are not limited to:

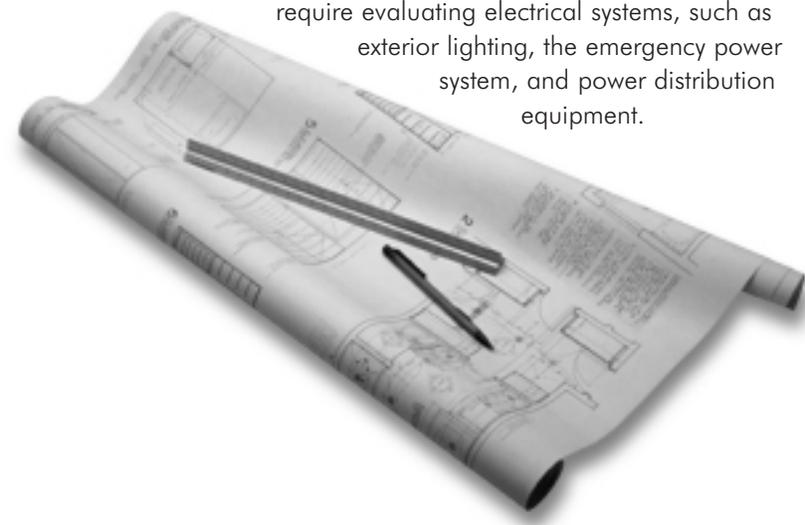
- A long-term vision for a building's mechanical systems, performance, and energy use.
- Evaluating life cycle costs of mechanical systems.
- Evaluating the energy consumption of mechanical systems.
- Providing a safe and comfortable environment for building occupants.
- Researching and obtaining state-of-the-art technology.
- Implementing or acquiring mechanical systems that have sustainable design features.



Environmental Research Center (AWBERC) in Cincinnati, Ohio.

At the Cincinnati AWBERC, where the basic mechanical systems are more than 30 years old, the energy/engineering master plan process produced some significant results. The process vetted key engineering assumptions (i.e. the percentage of lab and office space) to ensure long-term flexibility of use, preferred mechanical system approaches over the long term to obtain long-term energy savings, and infrastructure replacement sequencing issues to identify and reduce research interruptions. Implementation of the plan will produce a more reliable, safe, and energy-efficient laboratory.

"Identifying the future needs of our facilities will help us not only reduce the energy consumption of facilities, but also the time and effort of upgrading and replacing building systems," Keshavarz said. For more information, contact Abbas Keshavarz at 202 564-5075 or <keshavarz.abbas@epa.gov>.





RTP Receives Recognition for Sustainability

Incorporating innovative site design and landscaping, alternative energy technologies, and water and energy conservation measures into new research and administration facilities is no easy task. It's therefore no wonder that EPA's Research Triangle Park (RTP), North Carolina, campus received two prestigious sustainable design awards in 2002.

The American Institute of Architects' Washington, DC, chapter (AIA DC) awarded its Presidential Citation for Sustainable Design to the architecture firm Hellmuth, Obata + Kassabaum, Inc. for its role in designing the state-of-the-art RTP campus. Specifically, the award recognizes contributions to environmental balance, appropriate land use, energy efficiency, minimal ecological impact, reuse of existing buildings or facilities, use of recycled or renewable materials, and integration of sustainable concepts with traditional design requirements. AIA DC's president awarded the citation and proclaimed the building a "new landmark for innovation in sustainable design."

Similarly, the U.S. General Services Administration's (GSA's) Design Awards Program recognized EPA with a Citation for Sustainable Design for its innovative RTP facilities. The criteria for this award—given every two years to honor federal projects designed and constructed by GSA—include success in meeting GSA project

Project Details

The RTP campus is the largest facility ever designed and built by EPA. Using substantially less energy than standard new construction, the campus's energy-efficient measures include nighttime fumehood setbacks, a rooftop photovoltaic system, and solar street lights.

The campus also features low-flow toilet fixtures and bioretention ponds for treating stormwater runoff.



objectives and requirements, consistency with GSA environmental goals and policies, originality, innovation in devising solutions or meeting specific needs, technical and functional proficiency, cost efficiency on a lifecycle basis, and serving as a model for others. The RTP project will be featured at an exhibition of the winning projects at the National Building Museum in Washington, DC.

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