UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

EPP Update

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ENVIRONMENTALLY PREFERABLE PURCHASING

At Last! A Guide for Writing Green Construction Specifications

After extensive outreach to and input from industry and environmental stakeholders, EPA and its partners—the Federal Environmental Executive and the *Whole Building Design Guide*—released the *Federal Green Construction Guide for Specifiers* in April 2006.

Written in the language of architects and building contractors—CSI MasterFormat™—the guide includes model green language for more than 60 types of specifications—from concrete to coatings to commissioning.

The guide was developed to help federal agencies holistically address the myriad of construction-related environmental goals and mandates, including:

- The Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding.
- EPA's Final Guidance on Environmentally Preferable Purchasing.
- Greening of the Government Executive Orders.
- EPA's Comprehensive Procurement Guidelines for recovered content.
- USDA's Biobased Purchasing Program.
- ENERGY STAR® and the Department of Energy Federal Energy Management Program (FEMP) Product Efficiency Recommendations.
- The Energy Policy Act of 2005.
- ASTM International standards, Leadership in Energy and Environmental Design (LEED®), Green Globes™, and other rating systems and standards.
- Other "best practices" as determined by industry and public comment.

In the spirit of continual improvement, near-term expansion plans for the guide include new sections covering: Commercial Kitchen Equipment; Stormwater Management with Compost; Rainwater Harvesting; Vegetative Roof Systems; Constructed Wetlands; Integrated Pest Management; Structural Steel; and Indoor Air Quality Management-Moisture Control. In addition, guidance for utilizing environmental management systems in construction projects and for building on environmentally sensitive sites are being developed.

The guide is a living document; therefore, comments are welcome at any time. To review and comment on the guide, go to <http://fedgreenspecs.wbdg.org> and click on the "comments" button at the bottom of each page.

For more information, contact EPA's Alison Kinn Bennett at <Kinn.Alison@epa.gov>.

The new version of the guide reflects more than 100 public comments received from July 27, 2004, through January 14, 2005. The comments can be viewed at <www.regulations.gov> (Advanced Search: Document Search: EPA-HQ-OPPT-2004-0092).

The July 2006 quarterly release of the Unified Facilities Guide Specifications (UFGS)—used by the Navy, Army, NASA, and other federal agencies to develop their project-specific construction specifications—includes updates of more than 50 specifications based on the sustainability approaches in the *Federal Green Construction Guide for Specifiers*. To view the new, "greener" UFGS visit <www.wbdg.org/ccb/browse_org.php?o=70>.

Highlights

BEES 4.0

White House Summit

Sustainable Building Standards Update

U.S. Green Building Council Federal Summit

Green Cleaning Specifications

Buying Green with EPEAT

New EPP Guides Released

If you choose to print this newsletter, please print it on paper containing at least 50 percent postconsumer fiber.

BEES Impacts

Human Health Protection
- Indoor Air Quality
- Human Health Toxicity
- Criteria Air Pollutants

Natural Environmental Protection
- Global Warming
- Acidification
- Eutrophication
- Ecological Toxicology
- Ozone Depletion
- Smog Formation

Natural Resource Use
- Fossil Fuel Depletion
- Habitat Alteration
- Water Intake

NIST Stakeholder Panel Develops New Weighting Scheme for BEES 4.0

On May 5, 2006, the National Institute of Standards and Technology (NIST) brought together a stakeholder panel of industry, government, academia, and nonprofit participants to develop a new environmental impact weighting scheme option for the soon-to-be-released update of the Building for Environmental and Economic Sustainability (BEES) software.

BEES implements a life-cycle approach, based on consensus standards, for selecting building products that achieve the most appropriate balance between environmental and economic performance based on the decisionmaker's values. As such, the BEES software incorporates the optional life-cycle assessment step of weighting to allow decisionmakers to synthesize science-based scores for 12 environmental impacts into an overall environmental performance score for comparison against competing products.

Currently, there are three sets of weights available to the software user: EPA Science Advisory Board's priorities, a Harvard University study's findings, or equal weighting among all impacts—representing a spectrum of ways in which people value diverse aspects of the environment. The stakeholder panel employed the Analytic Hierarchy Process (AHP) to develop the new, fourth set of weights for BEES 4.0. The AHP is a decisionmaking methodology that has been in use for approximately 35 years. It is a systematic approach to finding the priorities within a range of decision criteria, and then measuring the contribution of potential solutions to those criteria.

The stakeholder panel placed an overwhelming emphasis on global warming in the new set of weights, distantly followed by fossil fuel depletion and criteria air pollutants. Water intake, cancerous effects, and ecological toxicity were next on the list, followed by the remaining seven criteria.

With more than 20,000 users, BEES is the most popular tool in the world for selecting environmentally preferable products. BEES 4.0 is scheduled for release in Fall 2006.

For more information, contact NIST's Bobbie Lippiatt at <blippiatt@nist.gov>.

White House Turns Green at Recent Summit

The Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding (MOU) was signed by 17 federal agencies during the first White House Summit on Sustainable Federal Buildings on January 24, 2006. Currently, 19 federal agencies, controlling more than 80 percent of the total federal facility square footage, have pledged to reduce the environmental footprint of their buildings.

The MOU is the flagship federal effort to define guiding principles of green building and provide leadership in the design, construction, and operation of high-performance and sustainable buildings. The signatory agencies (see sidebar) have committed to implementing common strategies for planning, acquiring, siting, designing, building, operating, and maintaining the buildings, as well as coordinating between the public and private sectors.

MOU Commitments

- Integrated Design
- Commissioning
- Energy Efficiency
- Measurement & Verification
- Indoor Water
- Outdoor Water
- Ventilation & Thermal Comfort
- Moisture Control
- Daylighting
- Low-Emitting Materials
- Indoor Air Quality During Construction
- Recycled Content
- Biobased Content
- Ozone Depleting Compounds

Agencies are currently working to incorporate and adopt the guiding principles that accompany the MOU, which include:

- Employing integrated design principles.
- Optimizing energy performance.
- Protecting and conserving water.
- Enhancing indoor environmental quality.
- Reducing environmental impact of materials.

Technical guidance, developed by the Interagency Sustainability Working Group to assist agencies with their implementation efforts, can be found in the *Whole Building Design Guide* at <www.wbdg.org/sustainablemou>. Available resources include information on designing, operating, commissioning, and monitoring sustainable new buildings and renovations, as well as information on specific topics, such as moisture control, creative funding strategies, guidance for vendors, and managing construction waste. The MOU technical guidance also provides: clarification on a number of the MOU commitments; related mandates; and direct links to key model contract and specification language found in the *Federal Green Construction Guide for Specifiers* at <http://fedgreenspecs.wbdg.org>.

Signatory Agencies

- Department of Defense
- Department of Energy
- General Services Administration
- Department of Veteran Affairs
- Department of the Interior
- Department of Justice
- Department of Agriculture
- National Aeronautics and Space Administration
- Department of Homeland Security
- Department of Health and Human Services
- Department of Transportation
- Tennessee Valley Authority
- Environmental Protection Agency
- Department of State
- Department of Housing and Urban Development
- Office of Personnel Management
- Executive Office of the President
- Department of Commerce
- Department of Labor

OMB Scorecard

The Office of Management and Budget's (OMB's) Environmental Scorecard is using the MOU on Sustainable Green Buildings as one of its metrics for scoring agency environmental stewardship in 2006.

Sustainable Building Standards Update

As the green building movement matures, new practices and standards are entering the marketplace. In its role as "facilitative leader," EPA has partnered with organizations such as ASTM International, NSF International, and the Business and Institutional Furniture Manufacturers Association (BIFMA) to encourage sustainable building practices.

ASTM International (formerly American Society for Testing and Materials)

ASTM and EPA's Office of Pollution Prevention and Toxics (OPPT) are co-chairing the first International Symposium on Common Ground, Consensus Building, and Continual Improvement: Standards and Sustainable Buildings. The symposium, to be held in April 2007 at EPA Headquarters, will include papers regarding:

- Use and application of ASTM E2432 *Standard Guide for General Principles of Sustainability Relative to Buildings*.
- Current and developing standards related to sustainability in building.
- Standard development organizations that address sustainability in building.

The papers will describe new standards and the standards' development processes and may include information regarding individual materials, products, systems, components, and methods.

ASTM International provides a global forum for the development and publication of voluntary consensus standards. Designed to be applicable industry-wide, standards include guidelines for materials, products, systems, and services. ASTM's Subcommittee E06.71 on Sustainability was formed to handle the growing market demand for green building and sustainable development.

The Office of Pollution Prevention and Toxics (OPPT) is dedicated to pollution prevention, promotion of safer chemicals, risk reduction, and public understanding of risks. Major initiatives include Design for the Environment (DfE), Green Chemistry, and Environmentally Preferable Purchasing (EPP) programs. OPPT chaired the ASTM task groups responsible for developing the *Standard Guide for General Principles of Sustainability Relative to Buildings* and the *Standard Practice for Data Collection for Sustainability Assessment of Building Products* and is currently working on terminology and environmentally preferable purchasing standards.

NSF International

NSF International, with support from the Association for Contract Textiles, Green Blue Institute, and EPA's OPPT, is developing a standard for manufacturing sustainable textiles. The standard will provide:

- Guidelines for assessing environmentally preferable textile products.
- A resource for the textile industry with information about sustainable design and manufacturing.

The standard will have relevant, measurable, and economically feasible metrics formatted in such a way that it can be used for product-to-product comparisons and be ANSI-accredited.

For more information, contact NSF's Jaclyn Bowen at <bowen@nsf.org> or EPA's Jim Darr at <darr.james@epa.gov>.

NSF and the Business and Institutional Furniture Manufacturer's Association (BIFMA)

BIFMA is a nonprofit trade association of furniture manufacturers and suppliers that serves as an information resource, industry advocate, and trade development facilitator.

In December 2005, BIFMA's Sustainability Subcommittee members

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met with OPPT's DfE and EPP programs, as well as members of EPA's Office of Solid Waste Product Stewardship Program, to kick off the development of a voluntary consensus standard for sustainable furniture. The standard development process is being managed by NSF, although BIFMA will retain ownership of the ANSI-accredited standard. It is being developed with the help of BIFMA members, as well as designers, specifiers, end users, government agency partners, and nongovernmental organizations.

By establishing performance criteria that address environmental, economic, and social aspects throughout the supply chain, the standard will provide measurable market-based definitions of progressively more sustainable furniture. The standard will apply to suppliers and manufacturers of all commercial office furniture, including moveable walls, systems furniture, desks, case goods, tables, seating, and accessories. The effort has set out to address product-based aspects in the general areas of human and ecosystem health, use of renewable energy and energy efficiency, use of materials and materials reutilization, water management, economics and cost, and social responsibility.

In an effort to continuously improve the standard, it will be updated as technological opportunities evolve. Organizations that use the standard will see continuous improvements in their sustainable practices and benefits such as year-over-year improvements in energy efficiency.

Anyone interested in helping to develop the sustainable furniture standard should contact BIFMA at <email@bifma.org> or Jaclyn Bowen at <bowen@nsf.org>.

U.S. Green Building Council 2006 Federal Summit

The recent U.S. Green Building Council (USGBC) 2006 Federal Summit explored opportunities and challenges for green building in the federal government. The one-day summit featured keynote speaker Bob Fox, of Cook + Fox architects, and offered nine workshops (see box). A leader in sustainability, Fox designed the Bank of America Tower at One Bryant Park in New York City, which is currently seeking Leadership in Energy and Environmental Design (LEED®) Platinum certification. The summit provided the opportunity for the attendees to learn how LEED and other tools can be used to meet federal green building goals and mandates. It also encouraged sharing of success stories and lessons learned among federal facilities managers.

The workshop presentations from the Summit are available at <www.usgbc.org/federalsummit>.

To stay current with green building news, please join USGBC's new federal listserv. As a member of the listserv, you will receive periodic updates from USGBC on timely green building topics such as new LEED developments, government LEED adoptions, upcoming events, and GreenBuild activities. To join the listserv, please email Allison Herren at <aherren@usgbc.org>.

Workshops Offered at the Summit

- Energy Workshop: Implementing EPAct
- Federal Agency Green Building Activities Panel
- OBM Management Scorecards on Energy, Transportation, and Environmental Stewardship
- Implementing the Federal Leadership in High Performance and Sustainable Buildings MOU
- Energy Workshop: Existing Buildings
- Using the LEED Online Tool
- Using the Federal Green Construction Guide for Specifiers
- Green Building Research

What Is Green Cleaning?

Green cleaning is a new approach to janitorial services that offers better environmental performance and improved worker health and safety, while retaining the same sanitation quality as other more chemical-intensive methods. When correctly employed, no "cleaning power" is sacrificed through green cleaning practices.

Why Calculate the Benefits of Green Cleaning?

Derive statistics to evaluate a janitorial program's environmental performance.

Derive data for performance-based contracts.

Derive data to promote the program.

A New Way to Calculate the Benefits of Green Cleaning

A new tool is now available to help federal purchasers of janitorial products and services quantify the benefits of using green cleaning products and methods. The tool, EPA's Green Cleaning Pollution Prevention Calculator, is applicable to typical office cleaning scenarios and excludes pest control, landscaping, and building maintenance applications. The calculator is targeted towards federal environmental, health, and safety managers; sustainability coordinators; facility supervisors; and office managers.

A user can input the following information into the calculator: estimate of carpeted area of the building, estimate of hard floor area, types and annual amounts of cleaning products currently used (in pounds), current cleaning product handling and mixing practices, and changes to janitorial product use and cleaning practices that have been made or could be made. It also has default settings that can be used if specific building data are unavailable. The calculator estimates reductions in total product use and hazardous chemical use associated with each specified scenario.

For more information about the Green Cleaning Pollution Prevention Calculator, please visit <www.ofee.gov/whats/greenclean_calc.htm> or contact EPA's Jim Darr at <darr.james@epa.gov>.

New ANSI Standard for Cleaning Products Published

EPA's Pollution Prevention Division (PPD) staff and other stakeholders from government, industry, and nongovernmental organizations recently teamed up with the independent standard-setting organization, NSF International, to publish the new voluntary consensus standard, NSF/ANSI 143-2006, Environmentally Preferable Products-Hard Surface Cleaners. The standard provides a management strategy guide for manufacturers to follow when designing, developing, and marketing environmentally preferable hard surface cleaners.

The standard establishes requirements for a Product Development Process-Environmental Management System (PDP-EMS), a tool that enables companies to achieve and systematically control the level of each product's environmental performance. The standard does not set, but rather suggests, specific environmental performance criteria for hard surface cleaners and their development process. A manufacturer's compliance with an implemented PDP-EMS results in improved environmental performance, such as reduced water use, smog formation, and human health risks.

In addition, the standard provides a consistent approach to EPP design and development, while encouraging continuous improvement of environmental performance. It addresses the ethics of pollution prevention and responsible energy use throughout the entire product life cycle, as well as the biodegradability and identification of chemicals that may potentially persist, bioaccumulate, and be toxic in the environment.

NSF/ANSI 143-2006 is available for purchase on the NSF Bookstore Web site at <www.techstreet.com/cgi-bin/detail?product_id=126430>.

EPEAT Makes Buying Green Easy

A new tool recently became available to aid corporate and government consumers in purchasing environmentally preferable electronics. The Electronic Product Environmental Assessment Tool (EPEAT), developed jointly by EPA and Zero Waste Alliance, evaluates desktop computers, laptops, and monitors based on how well they meet the Institute of Electrical and Electronics Engineers (IEEE) standard for the Environmental Assessment of Personal Computer Products (P1680). Organizations can purchase these EPEAT-registered machines to help "green" their offices and reduce energy usage.

EPEAT assesses electronics based on 51 individual criteria in eight different performance categories and awards bronze, silver, and gold ratings. The categories of consideration are: reduction or elimination of environmentally sensitive materials; materials selection; design for end-of-life; product longevity/life-cycle extension; energy conservation; end of life management; corporate performance; and packaging. Each category has one to six required criteria and up to eight optional criteria. Fulfilling only the 23 required criteria earns a bronze rating. Fulfilling 50 percent or more of the 28 optional criteria earns either a silver or gold rating, depending on how many of the criteria are met. Purchasers can access a database detailing all electronics that have been EPEAT-registered at each level. As of July 2006, the database includes more than 60 EPEAT-registered products.

Over the next five years, the purchase and use of EPEAT-registered computers will save organizations more than $51 million in energy costs and more than 600,000 megawatt-hours of electricity, which is enough energy to power 6 million homes. In addition, hazardous waste will be reduced by 13 million pounds and nonhazardous waste by 3 million pounds.

Currently, no plans are in place for manufacturers to make EPEAT-registered electronics available to individual consumers, although as the large purchaser market grows, the demand from individual consumers may rise.

For more information on EPEAT, please visit <www.epeat.net> or contact EPA's Holly Elwood at <elwood.holly@epa.gov>.

Guiding the Way To Environmental Purchasing

EPA's Office of Pollution Prevention and Toxics (OPPT) recently announced the availability of four EPP guides. The guides provide information and resources regarding environmental considerations when purchasing carpet, cleaning products, and copiers, and when arranging conference services. The purpose of the guides is to help federal procurement officials consider environmental impacts—such as pollution, waste, and energy use—in their purchasing decisions, and also to consider products and services in terms of overall best value, performance standards, and regulatory requirements.

Greening Your Purchase of Carpet: A Guide for Federal Purchasers examines the potential health and environmental concerns associated with carpet, including indoor air quality, solid waste generation, and chemical emissions from manufacturing and disposal operations. The guide stresses the overwhelming presence of old carpet in the U.S. waste stream—4 billion pounds are disposed of every year—and recommends considering the life-cycle impacts of carpet before making a decision about purchasing. The guide discusses the materials used in carpet, such as nylon, jute, and polyurethane backing, as well as proper installation and maintenance procedures, reuse options, and state and EPA environmental standards and specifications.

Greening Your Purchase of Cleaning Products: A Guide for Federal Purchasers outlines the benefits of buying green janitorial products, such as reduced packaging, energy use in transportation, and chemical disposal costs. All occupants of a building—including about 2.8 million janitors nationwide—can potentially be exposed to hazardous or toxic components of cleaning products. The guide encourages federal purchasers to choose less hazardous products with positive environmental attributes, such as low toxicity and biodegradability. The guide also outlines product use options, including limiting the use of disinfectants to areas where people are likely to come into contact with contaminated surfaces—such as bathroom fixtures or doorknobs—as well as training employees on the proper use of products.

Greening Your Purchase of Copiers: A Guide for Federal Purchasers encourages federal purchasers to consider a copier's life-cycle attributes, including the materials used to manufacture the copier, energy efficiency, and recycling and disposal issues, before choosing a copier. Copiers made of and packaged in recyclable material and designed for remanufacturing and reuse of parts are some of the greenest models available. In addition, federal consumers should look for copiers capable of powering down—which produces less heat and reduces air conditioning costs—as well as producing double-sided copies—which reduces office paper use. The guide also highlights multi-function machines; these models can print, fax, scan, and copy, thereby lowering office energy consumption.

Each guide encourages product research before making a purchasing decision and supplies several contacts and resources for federal consumers. The purchasing guides can be accessed at <www.epa.gov/oppt/epp/pubs/pfs.htm>.

Greening Your Meetings and Conferences: A Guide for Federal Purchasers recommends careful planning—such as choosing a centralized location, using reusable linens and flatware, and utilizing electronic communication instead of paper—when holding an event. The guide emphasizes the almost limitless opportunities to hold green meetings—those in which impacts on the environment are minimized. Environmental damage such as greenhouse gas emissions from air and ground travel, water usage and material waste from hotel stays, and food service waste can be reduced by considering environmental impacts and implementing certain changes when planning a meeting or conference.

EPA Guiding Principles

Each purchasing guide is based on the five EPP guiding principles:

1) Include environmental factors as well as traditional considerations of price and performance as part of the normal purchasing process.
2) Emphasize pollution prevention early in the purchasing process.
3) Examine multiple environmental attributes throughout a product's or service's life cycle.
4) Compare relative environmental impacts when selecting products and services.
5) Collect accurate and meaningful environmental information about environmental performance of products and services.

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