

Custodial Service Operations **Green Cleaning Program**

Our Standard Cleaning Service

The CSO Green Cleaning Program is now being implemented and will be the standard work practice for our department. While customer requested deviation from this approach will certainly be considered, we encourage customers to adhere to Green Cleaning principles. Our program will be a continuous improvement effort as we strive to become as Green Seal compliant as possible.

Missouri S&T CSO Green Cleaning Approach

Phased Implementation

While the Green Cleaning program itself can be largely cost-neutral (excluding paper products), purchasing all new products and equipment at start-up can be expensive. Therefore, a phased implementation is sometimes more realistic. We will begin by converting the Butler Carlton Building. We will use up excess older products in the remaining buildings. We currently purchase Environmentally Friendly and Green Cleaning Chemicals and products. A combination of approaches may be required depending on the part of the plan being converted. The phased approach is clearly the more cost effective to manage.

Green Cleaning Defined

Green Cleaning is defined as “cleaning to protect health without harming the environment” (*Ashkin, July 2004 Cleaning and Maintenance Management*) through implementing procedures and products that contribute to healthy surroundings for building occupants and cleaning staff (i.e., Cleaning for Health), and minimize the impact of cleaning operations on the environment (i.e., Environmentally Preferable). By implementing product substitutions and procedural changes, Green Cleaning eliminates or reduces possible toxins and carcinogens present in some cleaning products, and minimize resource consumption. Building cleanliness is not solely evaluated on appearance. Instead, an equal emphasis is placed on the environmental sustainability of cleaning operations and overall building health.

Green Seal

Green Seal (www.greenseal.org) is the most widely respected and utilized product and services certification organization. Green Seal's mission is:

“To achieve a more sustainable world by promoting environmentally responsible production, purchasing, and products.”

Green Seal defines itself as:

an independent, non-profit organization that strives to achieve a healthier and cleaner environment by identifying and promoting products and services that cause less toxic pollution and waste, conserve resources and habitats, and minimize global warming and ozone depletion. Green Seal has no financial interest in the products that it certifies or recommends or in any manufacturer or company. Green Seal's evaluations are based on state-of-the-art science and information using internationally recognized methods and procedures. Thus, Green Seal provides credible, objective, and unbiased information whose only purpose is to direct the purchaser to environmentally responsible products and services.

Green Seal principles, certifications and recommendations will be a minimum product selection standard for the CSO Green Cleaning Program. In addition, the *Green Seal Standard for Cleaning Services (GS-42)* will be used as a guide for providing cleaning services. All CSO custodians will be trained in green cleaning procedures and the GS-42 specification. CSO plans to become GS-42 certified.

Cleaning Chemicals and Dilution Control Systems

CSO currently utilizes dilution control systems, which are equipped with unalterable proportioning system with required backflow protection. CSO has initially selected and tested Hillyard® products, which are available in dilution control systems

Chemicals will be Green Seal™ certified or Green Seal™ recommended. If a Green Seal™ certified or recommended is not available, then a product will be selected where possible, that is “Environmentally Preferable” (GS-42) product will be selected, or that does not contain carcinogens and other hazardous Chemical compounds, or contain the least amount of these hazardous compounds.

If a green product does not exist in a given product category, then product will be minimized or eliminated. Evaluation of future developed product options will continue in the identified category.

Currently, CSO purchases approximately 29 different cleaning products used throughout campus. We are evaluating these products in an effort to streamline or eliminate any unneeded chemicals from our cleaning operation. A reduced number of cleaning products will help facilitate training and standardize the cleaning process.

CSO currently utilizes the following Hillyard Green Seal certified products.

- Super Shine-All® (Neutral Floor Cleaner)
- Carpet Pre-Spray & extraction (CRI approved)
- Top Clean® Neutral Floor Cleaner
- Suprox® general cleaner
- Green Select Foam soap (hand soap)

Chemicals purchased from Hillyard are Green Seal certified or Environmentally Preferable.

Whenever possible, the CSO is adopting the standard practice of using a vinegar and water mixture to clean various surfaces.

Cold water will be used when mixing chemicals. Adequate dwell time (in accordance with product specifications) for chemicals is required to maximize product efficiency and minimize product use.

Cleaning will first be attempted without chemicals when appropriate (i.e. with microfiber wipers) before cleaning chemicals are used.

CSO has recently purchased steam cleaner units. This equipment eliminates the need for harsh chemicals thus reducing human and environmental exposure.

The use of disinfectant has been minimized and used only as needed at primary contact points (i.e. bathroom sinks and toilets).

Currently there are not any Green Seal Certified disinfectants registered by the EPA.

Floor Care Systems

Floor sealers, finishes, strippers and maintainers generally need to be used as a complete system for maximum effectiveness. Restorative floor care operations are completed on an as-needed basis, not on a predetermined schedule. Green Seal certified product systems (*Green Seal Environmental Standard for Industrial and Institutional Floor Care Products, GS-40*) will be utilized.

In addition, the following options will guide the CSO Green Cleaning Program in hard surface floor care:

1. When possible, CSO will not seal or finish floors (i.e. natural stone floors, concrete, etc.). Unfinished floors do not require stripping and re-application of sealer or finish, which eliminates the need for costly maintenance procedures, and are typically more slip-resistant.
2. If finish is required (i.e. floor type, floor protection, appearance), then a Green Seal certified system will be considered. CSO is currently testing Green Select floor stripper and Zinc-free floor polish. Since removal of all previous products is required prior to application, which means disposing of all the generated waste, it is best to exhaust the life cycle of the currently applied product and only then replace with an environmentally preferred product if acceptable. CSO will continue to evaluate new Green Seal certified floor care systems as they become available.
3. If performance of the environmentally preferred floor care systems is not acceptable, then conventional finish and sealer will be used and maintenance procedures that extend the product life cycle to minimize the frequency of stripping operations will be implemented.
4. The use of a dust collection mechanism high speed burnishers will be considered in future equipment purchases.
5. CSO will work closely with building occupants when scheduling restorative maintenance projects.
6. Restorative maintenance operations will occur during times of minimum building occupancy.
7. Auto scrubber or mop-on restoration products are used in lieu of spray chemicals.
8. Equipment will be selected and utilized properly to minimize water use. Staff will be trained in these procedures
9. CSO will be researching and testing orbital scrubbing/stripping machines that do not require the use of a chemical stripper and minimize water use.

Wipers, Dusters and Mops – Microfiber Technology

CSO utilizes re-useable, launderable, cotton and micro fiber cloths. Chemically Treated Dust Cloths are not used. When possible and effective, microfiber cloths and mops will replace other disposable cleaning tools (i.e. sponges, scrub pads, cloth rags, cloth mops, dusters) with shorter life cycles to minimize waste. When possible, microfiber cloths will be used without chemical cleaning agents to minimize chemical use. Microfiber dry mops or reusable untreated dry mops are used in place of chemically treated dry mops. Microfiber wet damp mopping systems will be used when possible.

Vacuums and Carpet Care

All vacuums will meet or exceed Carpet and Rug Institute (CRI) requirements for efficiency (*CRI Green Label Testing*). HEPA or high-filtration systems will be required to adequately contain particulate matter and maintain indoor air quality at recommended levels. CSO is currently testing several vacuum brands, including ProTeam backpack and upright vacuums (*ProTeam American Lung Association Partnership*).

Notice of restorative maintenance operations (extraction) will be given to building occupants. Restorative maintenance operations occur during times of minimum building occupancy. Staff have been trained in ways to conserve water and low-water usage carpet extractors will be utilized if possible. Carpet cleaning will be conducted so that carpets dry within 12 hours to protect against mold and mildew.

Entrance Matting Systems

Entrance matting systems will be reviewed to ensure maximum soil containment, consistent with GS-42. Less soil entering the building will require less cleaning, and provide better indoor air quality for occupants. The purchase of matting products made from environmentally preferable materials (i.e. rubber) and recycled materials, matting that can be recycled, and matting manufactured in an environmentally-friendly manner is recommended.

Automatic Aerosol Deodorizers, Urinal Blocks, and Treated Dust Cloths

Automatic Aerosol Deodorizers will not be purchased by CSO because they are aerosol products which contain high levels of Volatile Organic Compounds (VOCs)

Aerosol products are being phased out; they are no longer purchased and will be completely removed from CSO inventories in the future.

Urinal blocks are not recommended, as many contain hazardous materials. Urinal screens without deodorizer blocks can be substituted. If blocks are necessary, then products will be selected that contain the least amount of hazardous materials.

Hand Soap

A Green Seal certified hand soap is required (*Green Seal Standard for Industrial and Institutional Hand Cleaners, GS-41*). CSO will be using a Green Seal Certified foaming hand soap. The use of antimicrobial hand products will be minimized.

Paper Products

CSO has been phasing in paper products that are Green Seal certified (*Green Seal Standard for Tissue Paper, GS-01 and Green Seal Standard for Paper Towels and Paper Napkins, GS-09*). Product characteristics such as forestry practices and appropriate certifications, whitening and/or bleaching processes, recycled content, post-consumer waste recycled content. Post-industrial and pre-consumer waste recycled content, generated packaging waste and controlled-use dispensing efficiency will be considered in future purchases.

Plastic Bags

Standard trash collection procedures will be by emptying the trash out of the liner into the collection container instead of throwing away liners each day. Only soiled liners will be replaced.

Communication**Employee Training**

CSO employee training procedures will require minimal changes from the current systems. Training will be visual, hands-on and conducted in small groups when possible. Training will include health benefits to CSO employees and building occupants, environmental safety, and any changes in traditional cleaning procedures. CSO will use a combination of our own internally developed training program along with a working knowledge of GS-42.

Building Occupant Education

In many cases, building occupants will not notice any difference in how their building is being cleaned. To the extent that occupants do notice, it will be important to communicate to them the health and environmental benefits to switching to a Green Cleaning program, and some of the things they may notice (i.e. minimal product fragrance, brown paper towels, new dispensers, unfinished stone floors, etc.).

Customer awareness can be easily communicated through contacts in the department and the Missouri S&T E-connection.

Future Program Development

The Green Cleaning movement is constantly evolving and the CSO Green Cleaning Program will undergo constant evaluation as well. New products, tools and procedures will be continually evaluated, tested and implemented. CSO will rely on Green Seal™, various industry trade associations, product distributors, product manufacturers, and other industry colleagues for cutting-edge information. In addition, CSO will continue to evaluate building appearances as a measure of cleanliness.

Sources

1. *EPA Environmentally Preferable Purchasing Guide* <http://www.epa.gov/oppt/epp/ppg/>
2. *Carpet and Rug Institute (CRI) Green Label Testing*
http://www.carpet-rug.com/drill_down_2.cfm?page=8&sub=6
3. *Green Seal Industrial and Institutional Cleaners, GS-37*
<http://www.greenseal.org/standards/industrialcleaners.htm>
4. *Green Seal Recommended Cleaners*
<http://www.greenseal.org/certproducts.htm#cleaners>
5. *Green Seal Environmental Standard for Floor Care Products*
<http://www.greenseal.org/standards/g40.pdf>, GS-40
6. *Green Seal Report on Floor Care Products*
http://www.greenseal.org/recommendations/CGR_floorcare.pdf
7. *Green Seal March 2004 Report on Bathroom Tissue and Paper Towels*
http://www.greenseal.org/recommendations/cgr_tissuetowel.pdf
8. *Green Seal Standard for Industrial and Institutional Hand Cleaners, GS-41*
<http://www.greenseal.org/certification/standards/g41-handcleaners.pdf>
9. *Green Seal Standard for Cleaning Services, GS-42*
http://www.greenseal.org/certification/cleaning_services_gs-42.pdf

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