PROPOSED STANDARD FOR RESTAURANTS AND FOOD SERVICES, GS-45, 2014

Proposed revisions based on Green Seal's Pilot Standard for Sustainable Chicago Restaurants and Food Services

PROPOSED REVISIONS

PROPOSED REVISIONS:
GREEN SEAL STANDARD FOR HOTELS AND LODGING PROPERTIES, GS-33

OVERVIEW

Green Seal's mission is to advance a green economy by recognizing products and services that demonstrate sustainability leadership in their industry. Our goal is to develop science-based standards that are applicable and appropriate for the relevant industry, with criteria that are unequivocal and accessible. These criteria and the specific requirements for conformance should be clear in advance to all applicants for certification.

Green Seal's Standard for Restaurants and Food Services, GS-46, developed in 2009, established leadership criteria for environmentally-preferable food service operations. Despite the public stakeholder involvement in its development, the interest in certification to this standard has been limited.

Green Seal partnered with the Green Restaurant Research Team at the University of Chicago and the Green Chicago Restaurant Coalition to review GS-46, for its applicability, feasibility, and environmental leadership. This evaluation included environmental, policy, and economic aspects of GS-46. With this information, Green Seal developed the Pilot Standard for Sustainable Chicago Restaurants and Food Services, specifically to be achievable by restaurants and food services nationwide. The Pilot was implemented with participating Chicago restaurants, providing a practical evaluation of the new requirements for restaurants.

This pilot program provides practical information to support a proposed revised Standard for Restaurants and Food Services, GS-45. The proposed GS-45 will be applicable to restaurants and food services nationwide. GS-45 has been given a separate number in order to distinguish it from the current ANSI-approved American National Standard, GS-46. The numbers are also close enough to allow for association, without being repetitive.

GS-45 has been developed so that consumers can readily identify those restaurants and food services providing leadership in protection of environment and human health. GS-45 provides the industry with a benchmark that reflects the current state of the industry, and guidance for developing their environmental efforts. As a whole, the requirements proposed in this standard create a comprehensive and focused set of practices that food service operations can implement in order to decrease their environmental impacts.

These revisions are proposed in order to ensure that the requirements address the most significant life cycle impacts of the restaurant industry, and that they are clear and equitable to all applicants, defined adequately in order to minimize the need for interpretation, and practical to review and enforce.

The Proposed Standard includes the following changes from the Pilot Standard:

- Organized criteria by order of greatest life cycle impacts

PROPOSED REVISIONS

- Clarified requirements for food and beverage purchases with an explanation of how the required percentages are calculated and the addition of a definition for environmentally preferable vendors
- Specified that purchases shall be evaluated annually to ensure that they comply with the purchasing policy
- Modified or deleted criteria and definitions that were superfluous, did not have significant impacts on food services, or were not applicable to the industry

The scope of the standard has been clarified to specifically include food service operations or restaurant chains that have a number of locations may apply for certification to this standard for the entire organization, as long as the requirements are met at each location. These locations may also be certified separately.

We are proposing to retire Green Seal's original Standard for Restaurants and Food Services, GS-46, because its requirements do not reflect the level of environmental leadership that is feasible and applicable for the current industry. Future revisions to the proposed Standard for Restaurants and Food Services, GS-45, may incorporate criteria from GS-46 for higher levels of certification for GS-45.

PROPOSED REVISIONS

PROPOSED REVISIONS FROM THE CHICAGO PILOT STANDARD

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS 4
1.0 SCOPE 5
2.0 ENVIRONMENTAL REQUIREMENTS....6
3.0 MANAGEMENT OF RESOURCES: WASTE, ENERGY, AND WATER 20
4.0 TRAINING AND COMMUNICATION REQUIREMENTS....21
5.0 CONTINUOUS IMPROVEMENT 23
6.0 CERTIFICATION AND LABELING REQUIREMENTS....23
ANNEX A – DEFINITIONS 25
ANNEX B – ENVIRONMENTALLY PREFERABLE VENDOR 28
APPENDIX 1 – SCOPE....29
APPENDIX 2 – EXAMPLES OF ENERGY-EFFICIENT APPLIANCES 30
APPENDIX 3 – EXAMPLES OF ENERGY-EFFICIENT LIGHTS....32
APPENDIX 4 – EPA'S COMPREHENSIVE PROCUREMENT GUIDELINES FOR SANITARY PAPER 34

ACRONYMS AND ABBREVIATIONS

ARI. Air-Conditioning and Refrigeration Institute
CEE. Consortium for Energy Efficiency
CFL. Compact Fluorescent Lamp
EPA. United States Environmental Protection Agency
EPEAT. Electronic Products Environmental Assessment Tool
GPF. Gallon per Flush
GPM. Gallon per Minute
HVAC. Heating, Ventilation, and Air Conditioning
IEEE. Iinstitute of Electrical and Electronics Engineers
ISO. International Organization of Standardization
MSC. Marine Stewardship Council
PG&E. Pacific Gas and Electric Company
USDA. United States Department of Agriculture

PROPOSED REVISIONS

GREEN SEAL STANDARD FOR RESTAURANTS AND FOOD SERVICES

1.0 SCOPE

This standard establishes environmental requirements for restaurants and food service operations, whose primary business is preparing and serving food. This standard includes commercial, non-commercial, full-service, limited-service, ~~catering operations,~~ and lodging-property food services. This standard does not include bars, vending machines, grocery stores, or convenience stores.

Restaurants or food services that have multiple locations are included in this standard, as long as each location meets the requirements specified in this standard. In such cases, the organization shall implement a system ensuring that each location conforms to this standard.

The terms "restaurant" and "food service operation(s)" are used interchangeably in this standard, and are intended to refer to all of the services included in the scope.

The requirements specified in this standard are mandatory for all restaurants, unless specifically noted or shown to be not applicable or not available. If the requirements are not under the direct control of the restaurant, it shall demonstrate that it has made reasonable efforts to meet the requirements. Where criteria conflict with local code or regulations, the latter shall be given precedence.

PROPOSED REVISIONS

2.0 ENVIRONMENTAL REQUIREMENTS

2.1 Purchases of Environmentally Responsible Food & Beverages.

A restaurant must purchase a minimum amount of its food from sustainable sources, as detailed in the following subsections. This amount shall be calculated as a percentage of the total cost of food or beverage purchases of that type[1].

Note: When food is purchased from an *environmentally-preferable food supplier*, the invoice for that entire purchase may be counted. Suppliers that are not considered environmentally-preferable will have each item on their invoices evaluated.

Current Criterion:

3.1.1 Environmentally-Preferable Food Purchases - *Mandatory*. The percentage of total food purchased, based on cost by vendor[2], shall be:

CERTIFIED
15% environmentally-preferable, local, or a combination thereof, where seasonality allows

Proposed Criterion:

2.1.1 Food Purchases.

15% of food purchases shall be *environmentally-preferable* or *local*.

Current Criterion:

3.1.2 Responsible Seafood Purchases, *Where Applies* - *Mandatory*. Fish and seafood purchased, based on cost[3], shall be:

CERTIFIED
80% not on the Monterey Bay Seafood Watch "AVOID" web list OR score RED (1.39 or less) on the Blue Ocean Institute's Guide to Ocean Friendly Seafood.

Proposed Criterion:

[1] The percentage is determined by data from the three months prior to the evaluation.

[3] ~~Percentage is determined from a minimum of three months of data that is concurrent with application for certification or from the past three months.~~

PROPOSED REVISIONS

2.1.2 Seafood.

80% of seafood purchases shall be:

from species that are not listed on one of the following lists:

- the Monterey Bay Seafood Watch[4] "AVOID" list
- the Blue Ocean Institute's Seafood Guide[5] "RED" list

OR

from sources certified by the Marine Stewardship Council[6] or an equivalent *environmentally preferable* program, with documentation that the purchase is only from certified sources.

Current Criterion:

3.1.3 Responsible Coffee and Tea Purchases - *Mandatory*. Coffee purchased, based on cost,[2] that is environmentally-preferable (see Appendix A) or socially-preferable (see Appendix B) shall be:

CERTIFIED
50%

Proposed Criterion:

2.1.3 Coffee and Tea.

50% of coffee and tea shall be *environmentally-preferable* or *socially-preferable*.

Current Criterion:

3.1.4 Responsible Alcoholic Beverage Purchases, *Where Applies – Mandatory.* The operation shall have available one alcoholic beverage option that is locally packaged, or Organic.

Proposed Criterion:

2.1.4 Alcoholic Beverages.

The restaurant shall offer at least one alcoholic beverage that is *organic* or *locally packaged*.

Current Criterion:

3.4.8 Packaged Water.

CERTIFIED
The operation shall have tap water available for customers, as an alternative to bottled water.

Proposed Criterion:

[4] http://www.seafoodwatch.org/cr/SeafoodWatch/web/sfw_factsheet.aspx?gid=49
[5] http://blueocean.org/seafoods/
[6] http://www.msc.org/

PROPOSED REVISIONS

2.1.5 Tap Water.

Tap water shall be available for customers, as an alternative to bottled water.

2.2 Waste Reduction.

Current Criterion:

3.4.2 Total Waste Reduction - *Mandatory*.

CERTIFIED
The operation shall join the EPA Food Recovery Challenge[7] and set a goal of reducing food waste.

Proposed Criterion:

2.2.1 Food Waste Reduction.

The restaurant shall be a registered participant in the EPA Food Recovery Challenge[8] and set a goal of reducing food waste.

Current Criterion:

3.4.6 Solid Waste Recycling - *Mandatory*.

CERTIFIED
The operation shall maintain a recycling program for materials for which recycling is locally available and have clearly marked sorting mechanisms (e.g., bins) in areas waste is collected (both in front of house, where applicable, and back of house). Materials may include, but are not limited to, aluminum, plastic (1-5), steel, glass, cardboard, newspaper, mixed paper, electronics, inkjet and toner cartridges, paint, batteries, and fluorescent lighting like CFLs.

Proposed Criterion:

2.2.2 Solid Waste Recycling.

The restaurant shall recycle all types of materials for which recycling is available locally[9]. Clearly labeled sorting containers shall be placed in prominent locations, in both customer and

PROPOSED REVISIONS

[7] ~~The EPA Food Recovery Challenge is a free program with online resources that helps restaurants and food services track their waste and implement best practices to reduce food waste.~~

[8] The EPA Food Recovery Challenge is a free program with online resources that helps restaurants and food services track their waste and implement best practices to reduce food waste. http://epa.gov/smm/foodrecovery/

[9] The recyclable materials most typical of restaurants include metals, plastics, glass, paper, and paperboard/cardboard. Other materials that should be considered for recycling include electronics, inkjet and toner cartridges, paint, batteries, and fluorescent bulbs.

staff areas, for the collection and storage of these materials.

Current Criterion:

3.4.4 Fat, Oils, and Grease Recycling - *Mandatory*.

BRONZE
Where available, used frying oil and oil from grease recovery devices shall be recycled with proven partnerships for using the oil for biodiesel production or other means of replacing fossil fuel use.

Proposed Criterion:

2.2.3 Fats, Oils, and Grease Recycling.

Used frying oil and oil collected from grease recovery devices shall be recycled through a company that converts food oil and grease into a useful end product[10], where available.

Current Criterion:

3.4.5 Composting - *Mandatory*. Where composting is available, the operation shall have clearly marked sorting mechanisms (e.g., bins) in areas waste is collected and:

CERTIFIED
Compost all pre-consumer food waste.

Proposed Criterion:

2.2.4 Composting.

All pre-consumer food waste shall be composted, where available and *cost-effective*. Clearly labeled sorting containers shall be placed in areas where *compostable* waste is collected and stored[11].

Current Criterion:

3.4.7 Disposable Products - *Mandatory*. The operation shall eliminate non-essential disposable products and shall comply with the following:

CERTIFIED
• Polystyrene packaging and cups shall not be used. • All takeaways products shall be compostable, recycled-content, and/or recyclable.

[10] *e.g.*, biodiesel or food additives.

[11] *e.g.*, kitchen, employee areas, operational areas.

PROPOSED REVISIONS

- Except for trash can liners, plastic bags shall not be used.
- Disposable paper and tissue products shall be environmentally-preferable (see Appendix A); 100% recovered content, the minimum amount of post-consumer content outlined in the EPA Comprehensive Procurement Guidelines, and processed chlorine free; Or 100% agricultural residue fiber.
- Full-service operations shall not use disposable or single-use utensils or serving ware: an exception is permitted for take-out food.
- Portion-controlled condiments and disposable napkins, utensils, and straws shall be provided upon customer request or with single-serve dispensers, where applies.
- Operations shall not procure waxed cardboard packaging for use in operations.
- Operations shall use reusable transport packaging instead of one-time (or limited-use): an exception is permitted for packages directly containing food for delivery or drop-off service.

Proposed Criterion:

2.2.5 Disposable Products. The operation shall eliminate the use of non-essential disposable products and shall comply with the following:

- Polystyrene packaging and cups shall not be used.
- All takeaway items shall be
  - made with *recovered-content*

  OR
  - recyclable,

  OR
  - *compostable* where composting is available.
- Except for trash can liners, plastic bags shall not be used.
- Full-service operations shall not use disposable or single-use utensils or serving ware: an exception is permitted for take-out food.
- Portion-controlled condiments and disposable napkins, utensils, and straws shall be provided upon customer request or with single-serve dispensers, where applicable.
- Restaurants shall not purchase waxed cardboard packaging for use in operations, unless it is accepted by a local composting service.
- Packaging for transport of food shall be reusable, rather than single-use. An exception is permitted for food packaging for delivery or drop-off services.
- Disposable paper products (excluding sanitary paper[12]) shall be:
  - *environmentally-preferable*;

  OR
  - 100% *recovered content*, the minimum amount of *post-consumer content* outlined in the EPA Comprehensive Procurement Guidelines[13], and *processed without chlorine*;

  OR
  - 100% *agricultural residue* fiber.

[12] Requirements for sanitary paper are specified in section 2.3.3

[13] http://www.epa.gov/epawaste/conserve/tools/cpg/pdf/paper.pdf

PROPOSED REVISIONS

Current Criterion:

3.4.3 Food Donations - *Mandatory*.

CERTIFIED
Where available, food donations shall be done on a regular basis. Priority shall be to donations for human consumption (not including employee meals), followed by animal feed. Food that can be donated should not be composted or sent to the landfill.

Proposed Criterion:

2.2.6 Food Donations.

Food shall be donated on a regular basis, where local food donation programs are available. Food that can be donated should not be composted or disposed of as solid waste. Priority shall be given to donations for human consumption, followed by animal feed.

The donations shall comply with the requirements of the food donation program and measures shall be taken to prevent food contamination.

2.3 ~~Environmentally and Socially Sensitive~~ PURCHASING OF PRODUCTS, SUPPLIES, AND SERVICE.

Current Criterion:

3.7.1 Environmentally and Socially Sensitive Purchasing Policy – *Mandatory*.

CERTIFIED
The operation shall implement the following: • When available, environmentally-preferable products should be used. • Annual evaluation of purchases to help ensure maximum benefit (including checking most recent fish/seafood lists and availability of responsible food options).

Proposed Criterion:

2.3.1 Environmentally Responsible Purchasing Policy. The restaurant shall establish and implement an environmental purchasing policy, which specifies the following requirements.

• *Environmentally-preferable* products shall be purchased, when available. • Purchases shall be evaluated annually to ensure that they comply with this purchasing policy. • The availability of responsible food options shall be reviewed annually for updates.

PROPOSED REVISIONS

- The most current seafood lists (Section 2.1.2) shall be reviewed semi-annually for updates.

Current Criterion:

3.2.6 Energy-Efficient Appliances - *Mandatory*. The operation shall have:

CERTIFIED
All new and replacement kitchen appliances shall be energy-efficient using qualifying options (see Appendix C).

3.7.5 Office Electronics – *Mandatory.*

CERTIFIED
• Printers and copiers replaced or purchased shall have the ability to print double-sided. • Computers or monitors replaced or purchased shall be Bronze registered or higher under EPEAT (in compliance with the IEEE Standard 1680 for the Environmental Assessment of Personal Computer Products), or equivalent. Office printers, copiers, fax machines, and scanners replaced or purchased shall be ENERGY STAR compliant, or equivalent.

Proposed Criterion:

2.3.2 Energy-Consuming Devices.

2.3.2.1 Purchases of kitchen appliances shall all be of *energy-efficient appliances*.

2.3.2.2 Office Electronics:

- Printers and copiers shall have double-sided printing capabilities.
- Computers or monitors shall be registered under EPEAT[14], or equivalent.
- Office printers, copiers, fax machines, and scanners shall be ENERGY STAR compliant, or equivalent.

Current Criterion:

3.7.2 Sanitary Paper Products – *Mandatory*.

CERTIFIED
Sanitary paper products (such as restroom towels, napkins, bathroom tissue, and facial tissue) shall be environmentally-preferable (see Appendix A), or contain 100% recovered content, processed chlorine free, and the minimum amount of post-consumer content outlined in the EPA Comprehensive Procurement Guidelines.

Proposed Criterion:

2.3.3 Sanitary Paper Products.

[14] in compliance with the IEEE Standard 1680 for the Environmental Assessment of Personal Computer Products

PROPOSED REVISIONS

Sanitary paper products[15] shall be • *environmentally-preferable* OR • *processed without chlorine*, and contain 100% *recovered content* and the minimum amount of *post-consumer content* outlined in the EPA Comprehensive Procurement Guidelines[16] (see Appendix 4)

Current Criterion:

3.7.3 Printing and Writing Paper – *Mandatory.*

CERTIFIED
Paper menus shall be printed on and office paper shall be environmentally preferable (see Appendix A); Or contain 100% post-consumer material and processed chlorine free; Or made from 100% agricultural residue fiber.

Proposed Criterion:

2.3.4 Printing and Writing Paper.

Paper used for menus and office paper shall be • *environmentally-preferable* OR • contain 100% *post-consumer content* and be *processed without chlorine* OR • made from 100% *agricultural residue* fiber.

Current Criterion:

3.7.6 Paint – *Mandatory*.

CERTIFIED
Paint used for architectural surfaces shall be environmentally-preferable (Appendix A).

Proposed Criterion: (no significant changes from original)

2.3.5 Paint.

Paint used for architectural surfaces[17] shall be *environmentally-preferable*.

Current Criterion:

3.7.7 Linen and Uniform Cleaning, *Where Applies – Mandatory.*

PROPOSED REVISIONS

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[15] e.g., restroom towels, napkins, bathroom tissue, and facial tissue

[16] http://www.epa.gov/epawaste/conserve/tools/cpg/pdf/paper.pdf

[17] *e.g.*, wall paints, anti-corrosive and reflective coatings, floor paints, primers, and undercoats.

CERTIFIED
Linen and uniform cleaning shall be performed without using perchloroethylene, where practicable.

Proposed Criterion: (no significant changes from original)
2.3.6 Linen and Uniform Cleaning.

Linen and uniforms shall be cleaned without perchloroethylene, where practicable.

2.4 POLICIES AND PROCEDURES

Current Criterion:
3.6.1 Cleaning - *Mandatory*. For non-food contact surfaces, the operation shall:

CERTFIED
• Use cleaning concentrates and dilution control systems to minimize chemical use, when possible. • Use durable, reusable cloths and mops. • Use environmentally-preferable products for glass cleaners, floor cleaners, toilet and restroom cleaners, and general purpose cleaners. • Use environmentally-preferable hand cleaners that are not antibacterial in customer restrooms, when they are separate from employee restrooms.

3.6.2 Cleaning Tools – *Mandatory*.

CERTIFIED		
The operation shall use separate cleaning tools (cloths, mops, etc.) for restrooms and the rest of facility.		

Proposed Criterion:
2.4.1 Cleaning Procedures.

For surfaces that do not come in contact with food, the restaurant shall use: • cleaning products that are sold in concentrated form and diluted by the end user, or products that are available in portion control systems, when possible. • durable, reusable cloths and mops. • *environmentally-preferable* cleaners for glass, floors, toilets, restrooms, and general purpose cleaning. • *environmentally-preferable* hand cleaners in customer restrooms. • Hand cleaners that are not antibacterial. Tools used to clean the restrooms shall be separate from those used for the rest of the facility.

2.4.2 Maintenance Checklists.

PROPOSED REVISIONS

Current Criterion:

3.2.3 Energy Conservation Maintenance Checklist - *Mandatory*.

CERTIFIED		

The operation shall have a maintenance checklist and records of inspections for lighting, equipment, and other energy-consuming items that includes at least the following:

- The operation shall perform and document manufacturer recommended maintenance to appliances to ensure all equipment is functioning properly and maintaining energy efficiency levels, including an air balance for the kitchen exhaust system.
- Clean lighting fixtures, diffusers, and lamps monthly. Unused ballasts in delamped fixtures shall be disconnected.
- Cracked or worn refrigerator and freezer door gaskets and strip curtains that allow air transmission shall be replaced and doors shall be aligned.
- Clean permanent filters with mild detergents and change replaceable filters according to manufacturer guidelines.
- Check HVAC system each year for coolant and air leaks, clogs, and obstructions of air intake and vents.
- Keep HVAC condenser coils free of dust and lint and evaporator coils free of excess frost.
- Hot water heaters set in accordance with the minimum or recommended supply temperature for the facility's dish machines. In the absence of a dish machine, water temperature shall be set in accordance with minimum health code requirements.
- Monitor refrigerator and freezer temperatures.

Proposed Criterion:

2.4.2.1 Maintenance Checklists for Resource Conservation.

A maintenance checklist and records of inspections shall be maintained for lighting, appliances, and other energy-consuming devices. The checklist shall document all tasks that are necessary to ensure that all equipment is functioning properly and efficiently.

The checklist shall include at least the following:

- Perform and document maintenance of appliances as recommended by the manufacturer.
- Check the kitchen exhaust system to ensure a balanced air flow.
- Clean lighting fixtures, diffusers, and lamps monthly.
- Disconnect lighting fixtures without bulbs from the electrical current.
- Align refrigerator and freezer doors and replace cracked or worn door gaskets and strip curtains.
- Clean permanent filters with mild detergents.
- Change replaceable filters according to manufacturer guidelines.
- Check HVAC system annually for coolant and air leaks, clogs, and obstructions of air intake and vents.
- Clean HVAC condenser coils to remove dust and lint.

PROPOSED REVISIONS

- Check evaporator coils and clean as needed, to prevent the buildup of excess frost.
- Set hot water heaters in accordance with the minimum or recommended supply temperature for the facility's dishwashers. In the absence of a dishwasher, water temperature shall be set in accordance with minimum health code requirements.
- Monitor refrigerator and freezer temperatures.

Current Criterion:

3.3.2 Water Conservation Checklist - *Mandatory*.

CERTIFIED
The operation shall have a water conservation checklist and records of inspections that include at least the following: • Turn off faucets not in use. • Regularly check for and repair all leaks. • Maintain toilets and urinals. • Do not use running water to melt ice in sinks. • Hand-scrape dishes before loading into dishwasher. • Use 1.6 gpm or less pre-rinse spray valve. • Operate dishwashers when full, whenever possible. • Use dry floor and outdoor cleaning methods, followed by damp mopping, rather than spraying or hosing with water. A preference shall be given to spot cleaning when wet cleaning methods are required. • Dishwasher temperature shall be set to the lowest temperature allowed by health regulations and consistent with the type of sanitizing system used.

Proposed Criterion:

2.4.2.2 Water Conservation Checklist.

A water conservation checklist and records of inspections shall be maintained. The checklist shall document all tasks that are necessary in order to ensure that all fixtures and appliances are functioning properly and efficiently.

The checklist shall include at least the following:

- Turn off faucets when not in use.
- Regularly check for and repair all leaks.
- Maintain toilets and urinals.
- Do not use running water to defrost items or melt ice in sinks.
- Hand-scrape dishes before loading into the dishwasher.
- Use a pre-rinse spray valve with a flow rate of 1.6 gpm or less.
- Operate dishwashers when full, when possible.
- Use dry floor and outdoor cleaning methods followed by damp mopping, rather than spraying or hosing with water. A preference shall be given to spot cleaning when wet cleaning methods are required.
- Set dishwasher temperature to the lowest temperature allowed by health regulations

PROPOSED REVISIONS

and consistent with the type of sanitizing system used.

Current Criterion:

3.7.8.1 Fleet Maintenance – *Mandatory*. Where applicable, the operation's vehicles used for direct business shall have documented evidence for the following:

CERTIFIED
Meet the following requirements: • Tires are checked routinely for wear and to maintain proper inflation. • Engine is checked routinely for tuning; filters, fluids, exhaust, and other functioning parts are changed as required by standard maintenance schedules. • Used Parts are recycled, remanufactured, or reused if practicable.

Proposed Criterion:

2.4.2.3 Vehicle Maintenance Checklist.

A maintenance checklist and records of inspections shall be maintained for the vehicles used for the restaurant's *direct business*. The checklist shall include the following: • Tires are checked routinely for wear and proper inflation. • Vehicles are maintained as required by standard maintenance schedules for engine tuning, filters, fluids, exhaust, and other functioning parts.

Current Criterion:

3.7.4 Printing – *Mandatory*. Paper or printed material not covered in 3.7.4 such as printed marketing information, shall be minimized and:

CERTIFIED
The default setting for copying and printing shall be double-sided and paper printed on one side shall be used for internal copies/printouts/notepads, if available.

Proposed Criterion:

2.4.3 Printing.

The default setting for copying and printing shall be double-sided. Paper printed on one side shall be used for internal copies/printouts/notepads, if available.

Current Criterion:

3.2.4 Climate Control - *Mandatory*.

CERTIFIED
A programmable thermostat shall be used and set back at night and at other non-operating hours to cool at 85°F and heat at 62°F. Operations that can demonstrate that these temperatures are not practicable must set non-operating temperatures to a practicable temperature that is as close as possible.

PROPOSED REVISIONS

Proposed Criterion:
2.4.4 Climate Control.

A programmable thermostat shall be used, and set to cool at 85°F or to heat at 62°F during non-operating hours.

If the restaurant can demonstrate that these temperatures are not feasible, temperatures during non-operating hours shall be set to practicable temperatures that are as close as possible to the temperatures specified above.

Current Criterion:
3.2.5 Lighting Controls - *Mandatory*.

CERTIFIED
Whenever possible, lighting controls shall be used such as vacancy sensors, bypass/delay timers, or time clocks in low occupancy areas such as walk-ins, closets, office, and restrooms.

Proposed Criterion:
2.4.5 Lighting Controls.

Lighting controls[18] shall be used in low occupancy areas, such as walk-ins, closets, office, and restrooms.

Current Criterion:
3.2.7 Energy-Efficient Lighting. - *Mandatory*. The operation shall have:

CERTIFIED
Energy-efficient lighting (see Appendix D) shall be used in areas where lights are on for 4+ hours (e.g., exit signs, kitchen, seating area, restrooms, staff offices, etc.) OR on a 2-year schedule for replacement for energy-efficient lighting. Specialty light fixtures (e.g., display or accent lighting) may be exempt from this requirement if compatible options are not available. T-12 fluorescent lighting shall not be used.

Proposed Criterion:
2.4.6 Energy-Efficient Lighting.

In areas where lights are on for 4+ hours/day[19] the restaurant shall • use *energy-efficient* lighting (see Appendix 3) OR • be on a schedule for replacement with *energy-efficient* lighting, to be completed within

[18] e.g., vacancy and occupancy sensors, bypass/delay timers, or time clocks.
[19] *e.g.*, exit signs, kitchen, seating area, restrooms, staff offices, etc.

PROPOSED REVISIONS

2 years from the first date of certification to this standard.

The restaurant shall maintain records of lights that are not *energy-efficient* and their scheduled replacement with *energy-efficient* replacements.

Lighting fixtures that are clearly historic in nature, specialty light fixtures (e.g., display or accent lighting), or dimmable lighting may be exempt from this requirement if the restaurant can demonstrate that the available options are not compatible, not *cost-effective*, or do not provide satisfactory performance.

Current Criterion:

3.3.3 Water-Efficiency - *Mandatory*. The operation shall have water fixtures that meet the specifications outlined below. Any existing toilets and urinals that exceed the required pressure or flow rates shall be on a schedule for replacement within two years. An exception is permitted if the plumbing infrastructure will not adequately function with lower flow rates.

CERTIFIED		
• 2.2 gpm or less for kitchen faucet • 0.5 gpm or less for lavatory and kitchen hand sink faucets • 1.6 gpf or less for toilets • 1. 0 gallon or less or waterless for urinals		

Proposed Criterion:

2.4.7 Water-Efficient Fixtures.

Water fixtures shall be WaterSense®[20] labeled or have flow rates that do not exceed the following specifications:

- 2.2 gpm or less for kitchen faucet
- 0.5 gpm or less for lavatory and kitchen hand sink faucets
- 1.6 gpf or less for toilets
- 1. 0 gallon or less or waterless for urinals

Any existing toilets and urinals that exceed the required pressure or flow rates shall be on a schedule for replacement within 2 years from the date of initial certification to this standard.

An exception may be permitted for fixtures where water volume is more important than water force (*e.g.*, faucets intended to fill sinks, pots, tubs, etc.), or if the plumbing infrastructure will not adequately function for toilets or fixtures with lower flow rates.

Current Criterion:

3.5.1 Smoking - *Mandatory*.

[20] http://www.epa.gov/watersense/

PROPOSED REVISIONS

CERTIFIED
The operation shall not allow smoking at its facilities or within 25 feet of its entries, outdoor air intakes, or operable windows where regulations allow or where applies.

Proposed Criterion:
2.4.8 Smoking Prohibition.

Smoking shall be prohibited at the restaurant's facilities and within 25 feet of its entries, outdoor air intakes, and operable windows.

3.0 MANAGEMENT OF RESOURCES: WASTE, ENERGY, AND WATER

Current Criterion:
3.4.1 Total Waste Audit - *Mandatory*. The operation shall track pre-consumer waste normalized to sales volume. The operation shall maintain records on amount (e.g., pounds) and type (e.g., food, recyclable material, solid waste, etc.) over a period of at least three days of normal operations; tracking shall be conducted at the following frequency:

CERTIFIED		
Pre-consumer at least quarterly.		

Proposed Criterion:
3.1 Waste Audit.

The restaurant shall conduct a quarterly audit for the total pre-consumer waste. This audit will consist of recording the amounts and types[21] of pre-consumer waste, normalized to sales volume, over at least three days of normal operation. These results shall be benchmarked relative to past performance (normalized for sales volume).

Current Criterion:
3.2.2 Energy Use and Conservation Tracking - *Mandatory*.

CERTIFIED
Monitor energy bills monthly with the ENERGY STAR portfolio manager[22] or an equivalent energy management or documentation system (e.g., utility's software or Excel spreadsheet) that: tracks utilization, EUI (e.g., BTU/sq ft), and costs; benchmarks these factors relative to

[21] *e.g.*, food, recyclable material, solid waste, etc.

PROPOSED REVISIONS

past performance (normalized for sales volume); and determines percent improvement or energy savings.

3.3.1 Water Use Tracking - *Mandatory*.

CERTIFIED
The operation shall monitor water bills monthly with the ENERGY STAR portfolio manager[23] or an equivalent utility management or documentation system (e.g., utility's software or Excel spreadsheet) that tracks utilization and costs, benchmarks these factors relative to past performance (normalized to sales volume), and determines percent improvement or savings.

Proposed Criterion:

3.2 Tracking of Energy and Water Use.

The restaurant shall monitor its monthly energy and water bills, using a resource management system, such as the ENERGY STAR Portfolio Manager,[24] or an equivalent system (e.g., a utility's software or an Excel spreadsheet). The resource management system shall be used to: 1. track costs and use of energy and water 2. benchmark these factors relative to past performance (normalized for sales volume); 3. determine savings in cost and percent improvement in use for energy and water

Current Criterion:

3.2.1 Energy Equipment Inventory - *Mandatory*.

CERTIFIED
The operation shall make an inventory of energy-consuming equipment, including kitchen appliances, lighting, computer, and office electronics.

Proposed Criterion:

3.3 Inventory of Energy-Consuming Devices.

The restaurant shall maintain an inventory of all energy-consuming devices, including kitchen appliances, lighting, HVAC, computers, and office electronics[25].

4.0 TRAINING AND COMMUNICATION REQUIREMENTS

[24] https://portfoliomanager.energystar.gov/pm
[25] Major appliances shall be listed individually

PROPOSED REVISIONS

Current Criterion:

4.1 Environmental and Social Responsibility Training - *Mandatory*.

CERTIFIED
Operation shall train all employees, including new hires when they start, on environmentally-preferable operating procedures and hold annual training for all employees to review and update these procedures.

Proposed Criterion:

4.1 Employee Training.

CERTIFIED
The restaurant shall train all employees on the operating procedures in this standard. These procedures shall be reviewed for relevance, feasibility, and effectiveness during annual training, and updated as necessary. New hires shall be trained on these procedures as part of their initial training.

Current Criterion:

4.2 Communication - *Mandatory*.

CERTIFIED
The menu shall identify items that include the responsible food purchases included in 3.1.

Current Criterion:

4.2 Education - *Mandatory*.

CERTIFIED
The operation shall have information accessible (e.g., web site, brochures, etc.) to customers about its environmentally and socially responsible practices in order for customers to learn about the practices that are carried out and the reasons for them.

Proposed Criterion:

4.2 Customer Education. The restaurant shall educate customers about its sustainable practices.

Information about the restaurant's environmentally- and socially-responsible practices shall be available to customers through the web site, brochures, or similar media. The menu shall identify the *environmentally-preferable* items that include the responsible food purchases specified in 2.1, such as seafood, coffee, tea, and alcoholic beverages.

PROPOSED REVISIONS

5.0 CONTINUOUS IMPROVEMENT

Current Criterion:

5.1 Continuous Improvement Plan – *Mandatory*.

CERTIFIED
By the end of the second year after certification, the operation shall demonstrate annual improvement, for normal operating conditions.

Proposed Criterion:

5.1 Continuous Improvement.

By the end of the second year after certification, the restaurant shall demonstrate annual improvement in some of the key sustainability metrics, under normal operating conditions.

- Food Purchases (Section 2.1.1)
- Waste Audit (Section 3.1)
- Purchasing (Section 2.3)
- Energy Use (Section 3.2)
- Water Use (Section 3.2)

In order to evaluate and demonstrate improvement, sustainability metrics shall be defined and tracked from the date of certification.

~~**5.2 Required Improvement Timing – *Mandatory*.**~~

~~CERTIFIED~~
~~Operations at the BRONZE level shall meet SILVER requirements within three years of initial certification.~~

6.0 CERTIFICATION AND LABELING REQUIREMENTS

6.1 CERTIFICATION MARK. The Green Seal® Certification Mark may appear on the certified property and promotional materials, only in conjunction with the certified service, and shall include the level of certification. Use of the Mark must be in accordance with *Rules*

PROPOSED REVISIONS

Governing the Use of the Green Seal Certification Mark[26].

The Green Seal Certification Mark shall not be used in conjunction with any modifying terms, phrases, or graphic images that might mislead consumers as to the extent or nature of the certification.

Green Seal must review all uses of the Certification Mark prior to printing or publishing.

6.2 USE WITH OTHER CLAIMS. The Green Seal Certification Mark shall not appear in conjunction with any human health or environmental claims unless verified and approved in writing by Green Seal.

6.3 STATEMENT OF BASIS FOR CERTIFICATION. Wherever the Green Seal Certification Mark appears, it shall be accompanied by a description of the basis for certification. The description shall be in a location, style, and typeface that are easily readable. If online space is limited, a link to the basis of certification may be used.

The description shall read as follows, unless an alternate version is approved in writing by Green Seal:

> "[Name of restaurant or food service operation] meets Green Seal™ Standard for Restaurants and Food Services based on purchase of sustainably-produced food, waste minimization, purchase of verified environmentally-preferable supplies, and conservation of energy and water. GreenSeal.org"

[26] www.greenseal.org/TrademarkGuidelines

PROPOSED REVISIONS

ANNEX A – DEFINITIONS (Normative)

Agricultural Residue. Material remaining from plants after they were used to produce food or fiber.

Current Definition:
~~**Compostable.** Food or other organic material capable of undergoing biological decomposition in a compost site, such that the material (i.e., feedstock) is not visually distinguishable and breaks down to carbon dioxide, water, inorganic compounds, and biomass, at a rate consistent with known compostable materials. Non-food products claiming to be compostable shall be certified as such by a third-party certification program (see Appendix B for examples of programs).~~

Proposed Definition:
Compostable. Food or other organic material that is accepted for composting by a local industrial-scale composting service, or designated as compostable by a third-party program.

Current Definition:
~~**Cost-Effective.** The least cost alternative means for achieving the same stream of benefits for a given objective. Producing positive results in proportion to the expenditure of resources (e.g., time, money, materials) and having a return on investment period acceptable to the operation (e.g., three to five years).~~

Proposed Definition:
Cost-Effective. Producing positive results relative to the expenditure of resources (e.g., time, money, materials), and having a return on investment period acceptable to the restaurant (e.g., three to five years).

Direct Business. Aspects of the operation that provide greater than 50% of the revenue.

Current Definition:
~~**Directly-Purchased.** The transaction of procuring food at the farm or farmer's market, or other means where there is no intermediary party needed for the transaction, and the food travels less than 200 miles to the operation. Multiple-component processed food (e.g., tomato sauce) must include at least 75% of the components (by weight) produced and processed from less than 200 miles to the operation.~~

Proposed Definition:
Directly-Purchased. Purchase of food directly from the farm or farmer's market, where no intermediary party is part of the transaction, and the food is produced *locally*. Multiple-component processed food (e.g., tomato sauce) must include at least 75% of the components (by weight) produced or processed *locally*.

Energy-Efficient Appliances. Requiring a minimum amount of energy to produce a maximum amount of work or functionality. In the United States, energy efficient products shall be

PROPOSED REVISIONS

identified as being in the lowest quarter (1/4) of energy used according to the FTC's yellow EnergyGuide labels[27], verified by a third party program (see Annex X), or otherwise demonstrate that they consume significantly less energy when compared with other similar equipment using established, industry-standard testing methods. Appendix 2 provides examples of energy-efficient appliances.

Environmentally-Preferable. A product or service certified as such by a Type 1 (i.e., third-party) environmental label that was developed in accordance with the ISO 14024 Environmental Labeling Standard. Alternatively, a product or service designated as environmentally preferable by an established and legitimate nationally-recognized third-party program developed with the purpose of identifying environmentally preferable products. The program must not have any financial interest or stake in sales of the product or service, or other conflict of interest. The standard must be appropriate, meaningful, and based on the product's life cycle with consideration of human health and safety, ecological toxicity, other environmental impacts, and resource conservation. Criteria must be publically available, developed with stakeholder input, and distinguish market leadership for that product category. Certification must be completed by a third party, include site inspections, and have a monitoring program to verify ongoing compliance.

Environmentally Preferable Food Supplier. A farm or other food supplier that meets the requirements in Annex B – Environmentally Preferable Vendor.

Local. Food grown or livestock raised within a 200 mile radius. For operations located in a climate with a limited growing season in the winter, the radius is extended to 400 miles during these months. ~~within the normal growing cycle of the operation's agricultural geographic location (e.g., excludes hot house production)~~

Current Definition:

~~**Locally Packaged.** Ready-to-drink beverages prepared and packaged by businesses with cultural ties to the geographic region of the food service operation. The packaged beverages are transported no more than 100 miles to the operation.~~

Proposed Definition:

Locally Packaged. Ready-to-drink beverages transported no more than 100 miles from the location where they are packaged to the restaurant.

Organic. Contains at least 95 and 100% USDA certified organic ingredients, as defined by the USDA National Organic Program[28].

Current Definition:

~~**Post-Consumer Material.** Material that would otherwise be destined for solid waste disposal, having served its intended use. Post-consumer material does not include materials and by-products generated from, and commonly reused within, an original manufacturing and fabrication process.~~

[27] http://www.consumer.ftc.gov/articles/0072-shopping-home-appliances-use-energyguide-label
[28] http://www.usda.gov/wps/portal/usda/usdahome?navid=ORGANIC_CERTIFICATIO

PROPOSED REVISIONS

Proposed Definition:

Post-Consumer Content. Material that would otherwise be destined for solid waste disposal, having served its intended use. Refers to materials that were collected after use by consumers and does not include materials and by-products generated from an original manufacturing process.

Pre-Consumer Waste. Items discarded by staff within the control of the foodservice operator. This includes all waste in the back of the house such as overproduction, trim waste, expiration, spoilage, overcooked items, contaminated items, dropped items, packaging, and supplies. This also includes all waste in the front of the house that has remained under the control of the food service operator and have not been received by an individual customer (*e.g.*, items on cafeteria stations, mis-ordered product, expired grab-and-go items, packaging, and unused service ware).

Processed-Without Chlorine. Recycled or recovered content which is manufactured and converted without the use of chlorine or chlorine-containing compounds in any of the processing streams.

Recovered Content. Material that has been recovered or diverted from waste generated by a manufacturing process or by end users. Recovered content may include post-consumer material, cuttings, trimmings, obsolete inventories, and rejected unused stock, but does not include material capable of being re-used within the process that generated it.

Socially-Preferable. A product designated as such by a third-party-program that verifies that the product was produced in a manner that protects worker health and safety, worker compensation, and trade capacity of all sizes of farm operations.

Transport Packaging. Packaging used to carry food from the restaurant to another location. This includes packages in direct contact with the food such as trays or bowls, and packages used to carry such items, such as totes and bags.

PROPOSED REVISIONS

ANNEX B – ENVIRONMENTALLY PREFERABLE VENDOR (Normative)

Farms that are not certified by an *environmentally-preferable* third-party program outlined above may qualify for environmentally-preferable food purchasing if the farm can attest and provide documentation if audited that they meet the sustainable farming practices listed below:

Agriculture

- Water levels and irrigation practices are monitored and managed to take into consideration weather, crop demand or consumptive use, soil moisture testing, soil type and infiltration rates.
- Herbicides that are accepted by the National Organics Program[29].
- Efforts to conserve wildlife habitats are measurable by the presence of vegetative riparian zones, integrated understory cropping, preservation of non-agricultural areas, and nesting areas for birds.
- The potential for runoff contamination is minimized through the implementation of conservation tillage, buffer zones, and hedgerows.
- All fertilizers and pesticides meet requirements outlined in the National List of Allowed and Prohibited Substances and are applied according to soil type, nutrient level of the soil, soil pH, and expected crop yields.
- Seeds and planting stock are not Genetically Modified Organisms.
- Integrated pest management[30] is practiced.
- Crop rotation is applied for controlling soil quality, erosion, and plant biodiversity.

Livestock

- Methods that threaten animal welfare, such as tail-docking, debeaking, and starving chickens for induced molting, are prohibited.
- Animals are not given additional hormones (i.e., growth hormones) nor fed additive antibiotics (i.e., sub-therapeutic).
- Animals are given adequately sized enclosures that allow for exercise, year-round outdoor access, and natural behavior (i.e. bare concrete floors in pig enclosures are prohibited because it inhibits rooting).
- Animal shelters are set at suitable temperatures with ventilation and protection from excess sunlight, rain, and wind.
- Livestock feed complies with the National Organics Program livestock feed standard at 7 C.F.R. § 205.237 Livestock feed.

PROPOSED REVISIONS

[29] http://www.ams.usda.gov/AMSv1.0/nop

[30] The use of the least toxic chemical pesticides and minimum use of chemicals to eradicate pests; chemicals used only in the challenged locations and only for targeted pest species.

APPENDIX 1 – SCOPE (Informative)

Examples of services included in or excluded from the scope of GS-45:

Restaurants and Food Services included in GS-45

- commercial
- non-commercial
- full-service
- limited-service
- lodging-property food services
- restaurants and food services with multiple locations

Services not included in GS-45

- bars
- vending machines
- grocery stores
- convenience stores
-

PROPOSED REVISION

APPENDIX 2 – EXAMPLES OF ENERGY-EFFICIENT APPLIANCES (Informative).

Green Seal has adopted the following examples of energy-efficient appliances from ENERGY STAR[31].

Dishwashing Machine: A machine designed to clean and sanitize plates, glasses, cups, bowls, utensils, and trays by applying sprays of detergent solution (with or without blasting media granules) and a sanitizing final rinse. Energy and water-efficient dishwashers must meet ENERGY STAR guidelines, or equivalent.

Commercial Open, Deep-Fat Fryer: An appliance, including a cooking vessel, in which oil is placed to such a depth that the cooking food is essentially supported by displacement of the cooking fluid rather than by the bottom of the vessel. Heat is delivered to the cooking fluid by means of an immersed electric element or band-wrapped vessel (electric fryers), or by heat transfer from gas burners through either the walls of the fryer or through tubes passing through the cooking fluid (gas fryers). For 15-inch fryers, they must meet ENERGY STAR requirements, or equivalent. For fryers larger than 15-inches, they must be listed with PG&E or CEE, or equivalent.

Griddles:

Single-Sided Commercial Griddle: A commercial appliance designed for cooking food in oil or its own juices by direct contact with either a flat, smooth, hot surface (i.e., flat, steel plate) or a hot channeled cooking surface (i.e., polished steel ½-inch grooved plate) where plate 129 temperature is thermostatically controlled.

Double-Sided Commercial Griddle: A commercial appliance designed for cooking food in oil or its own juices by direct contact with two hot surfaces where temperature is thermostatically controlled. A double-sided griddle has hinged upper griddle plates (platens) that swing down over the food, thereby cooking the food from both sides at once.

Fry-Top Range: A multi-purpose appliance used for surface cooking by direct contact with a heated plate, and may also function as a device for roasting, broiling, grilling or any combination of these methods. A fry-top range may have an oven located beneath the cooktop or shelving or may be mounted on top of a refrigerated base.

To be considered energy-efficient, griddles must meet PG&E's specifications, ENERGY STAR (coming soon), or equivalent.

Commercial Hot Food Holding Cabinet: An appliance that is designed to hold hot food at a specified temperature, which has been cooked using a separate appliance. Energy efficient Hot Food Holding Cabinets must be listed with ENERGY STAR, PG&E, CEE, or equivalent.

Ice Machine: A factory-made assembly (not necessarily shipped in one package) consisting of a condensing unit and ice-making section operating as an integrated unit, with means for making and harvesting ice. It is an assembly that makes up to 4,000 lbs of ice per day at Standard Ratings Conditions, as defined in Section 5.2.1 of ARI Standard 810-2006, and may

[31] http://www.energystar.gov/

also include means for storing or dispensing ice, or both. Energy efficient ice machines must meet ENERGY STAR guidelines, or equivalent.

Solid Door Refrigeration:

Commercial Refrigerator: A cabinet designed for storing food or other perishable items at temperatures above 32 degrees Fahrenheit (F) but no greater than 40 degrees F.

Commercial Freezer: A cabinet designed for storing food or other perishable items at temperatures of 0 degrees F or below.

Commercial Refrigerator-Freezer: A cabinet with two or more compartments, at least one of which is designed for storing food or other perishable items at temperatures above 32 degrees F but no greater than 40 degrees F and at least one of which is designed for storing food or other perishable items at temperatures of 0 degrees F or below.

Commercial Ice Cream Freezer: A cabinet designed for storing food or other perishable items at temperatures of –5 degrees F or below.

Commercial Refrigeration Cabinet: A refrigerator, freezer, or refrigerator-freezer for storing food products or other perishable items at specified temperatures and designed for use by commercial or institutional facilities.

Self-contained Refrigeration Cabinet: A refrigerator, freezer, or refrigerator-freezer which has the condensing unit built into the cabinet.

Must meet ENERGY STAR guidelines or be listed with PG&E or CEE to be considered energy efficient, or equivalent.

Steam Cooker: Also referred to as a “compartment steamer,” a device with one or more food steaming compartments in which the energy in the steam is transferred to the food by direct contact. Models may include countertop models, wall-mounted models, and floor-models mounted on a stand, pedestal or cabinet-style base. Must meet ENERGY STAR, or equivalent, to be considered energy-efficient.

Commercial Oven: A chamber designed for heating, roasting, or baking food by conduction, convection, radiation, or electromagnetic energy. To be considered energy-efficient, griddles must meet PG&E’s specifications, ENERGY STAR (coming soon), or equivalent.

APPENDIX 3 – EXAMPLES OF ENERGY-EFFICIENT LIGHTS (Informative).

The following definitions are adopted from PHOTON-L[32] and Efficiency Maine[33].

Many areas of the country provide rebates for energy-efficient lighting; contact your local utility provider for more information.

Compact Fluorescent Light Bulb (CFL): A compact fluorescent light bulb is a fluorescent lamp compressed into the size of a standard incandescent light bulb. Compact fluorescent lamps use 20%–35% of the energy used by incandescent lamps to provide the same amount of illumination (efficacy of 30–110 lumens per watt). They also last about 10 times longer (6,000–12,000 hours).

Like other fluorescent light sources, the light produced by a CFL is caused by an electric current conducted through mercury and inert gases held in a tube. Fluorescent lamps require a ballast to regulate operating current and provide a high start-up voltage. CFLs sold for use as replacements of standard incandescent light bulbs integrate the ballast and lamp into a single unit that can be installed in a standard light socket. Special ballasts are needed to allow dimming of fluorescent lamps. Examples of energy-efficient CFLs are listed by ENERGY STAR and Green Seal.

Cold Cathode: A cold cathode light is a tubular light that works by passing an electrical current through a gas or vapor. Cold cathode lights can come in many sizes and colors. Cold cathode lights do not get hot and it has one of the longest lives of any lighting fixture at about 50,000 hours. Unlike incandescent bulbs, the longevity of one of these lights is not shortened by the repeated action of turning it off and on.

Light-emitting diodes (LEDs): An LED is a semi-conducting device that produces light when an electrical current flows through it. LEDs were first developed in the 1960s , and recent developments in materials and technology have increased light output. LED lights are available in a wide variety of colors. Examples of energy-efficient LEDs are listed by ENERGY STAR.

Fluorescent Light Fixture (Luminaire): A complete lighting unit consisting of a fluorescent lamp or lamps together with the parts designed to distribute the light, position and protect the lamps, and connect the lamps to the power supply.

Standard (First Generation) T8 Fluorescent Lamps: Over the last few years, T8 lamps have replaced T12s as the standard fluorescent lamp for commercial lighting, as well as some industrial lighting. Compared with T12 lamps, these 1" diameter lamps offer improved performance including higher efficacy, better lumen maintenance and truer color rendering. There is guidance from CEE on energy-efficient versions of T8.

High Performance T8 Fluorescent Systems: Often called “Super T8” these recently developed lamp and ballast systems offer performance levels higher than those achieved by standard T8 systems. The lamps offer higher efficacy levels, longer lamp life, and longer warranties than their

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[32] http://www.photon-l.com/technology/led-basics/glossary-of-led-terms.html
[33] http://www.efficiencymaine.com/docs/LinearFluorescentLighting.pdf

standard counterparts. High performance T8 systems are available in versions that operate at a variety of system wattages, however, they all operate more efficiently than standard T8 systems. Selected carefully, Super T8 systems can provide dramatic savings when compared with other fluorescent technologies.

T5 Fluorescent Systems: T5 fluorescent lamps are 5/8" in diameter. They are constructed in metric lengths (45.2" for a nominal 4' lamp) and therefore not designed to directly replace 4' T12 or T8 lamps. T5 systems are often promoted as being the next step up in efficiency from T8 systems. For most applications, this is not true. T5 systems are no more efficient than standard T8 systems and are less efficient than High Performance T8 systems. However, because of the optical advantages obtained when using smaller diameter lamps, T5 lamps are very effectively used in special fixtures that shape light to deliver it greater distances, or to spread light across a surface (a ceiling, for example).

Note: Halogen lighting and T-12 fluorescent lighting are not considered *energy-efficient.*

APPENDIX 4 – EPA'S COMPREHENSIVE PROCUREMENT GUIDELINES FOR SANITARY PAPER (Informative).

Recommended Content Levels for Commercial Sanitary Tissue Products[34]

PAPER PRODUCT	NOTES	POST-CONSUMER RECOVERED FIBER	TOTAL RECOVERED FIBER
Bathroom Tissue	Used in rolls or sheets	20–60%	20–100%
Paper Towels	Used in rolls or sheets	40–60%	40–100%
Paper Napkins	Used in food service applications	30–60%	30–100%
Facial Tissue	Used for personal care	10–15%	10–100%
General-purpose Industrial Wipers	Used in cleaning and wiping applications	40%	40–100%

[34] http://www.epa.gov/epawaste/conserve/tools/cpg/pdf/paper.pdf