



Maryland Green Purchasing Committee Approved Specification – Lighting Products

How to use this document:

This document sets the minimum standard for lighting products procured by the State of Maryland. Vendors are required to follow and when possible, go beyond these standards in their product offerings to the maximum extent practicable when such products are cost competitive and meet form, function and utility requirements.

For State procurement officers, this document outlines the legislation, statutes, and regulations that guide State purchasing practices for lighting products. The document also provides boilerplate language to be included in State procurement contracts associated with lighting products.

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1. Environmentally Preferable Purchasing Legislation, Statutes, and Regulations

For Procurement Officers and Agencies

Environmentally Preferable Purchasing (COMAR: [21.11.07.09\(A\)](#))

“All procurement agencies shall purchase environmentally preferable products and services unless purchasing environmentally preferable products and services would limit or supersede any requirements under any provision of law or result in the purchase of products and services that:

- (1) Do not perform adequately for the intended use;
- (2) Exclude adequate competition; or
- (3) Are not available at a reasonable price in a reasonable period of time.”

Mercury and Products that Contain Mercury (COMAR: [21.11.07.07\(A\)](#))

“All procurement agencies shall give a preference under this regulation to procuring products and equipment that are mercury-free. If mercury-free products and equipment that meet the agency's product performance requirements are not commercially available, the procurement agency shall give preference under this regulation to products containing the least amount of mercury necessary to meet performance requirements.”

ENERGY STAR® Purchase Requirement ([Executive Order 01.01.2001.02\(C\)\(3\)](#), *Effective date: March 13, 2001 (28:7 Md. R. 675)*)

Efficient Product Purchase Goal: “The State shall purchase Energy Star products when purchasing energy-using products, including computers, printers, copiers and other office equipment, or shall purchase products in the top 25% in energy efficiency for products where labels are not available.”

Responsible Recycling of Electronic Products (State Finance and Procurement Article [§14-415\(b\)](#))

“When awarding a procurement contract for services to recycle electronic products, a State unit shall award the contract to a recycler of electronic products that:

- (1) Is R2 or e-Stewards certified; **or**
- (2) Meets nationally recognized and consensus-based guidelines, standards, and systems for recycling that are approved by the Department of the Environment in consultation with the Department of General Services.

For Vendors, Bidders, and Offerors

Verifying Environmental Claims (State Finance and Procurement Article [§14-410\(g\)](#))

“A bidder or offeror for a procurement contract shall certify in writing that any claims of environmental attributes made relating to a product or service are consistent with the Federal Trade Commission’s Guidelines for the Use of Environmental Marketing Terms.”

Energy Efficient Outdoor Lighting Fixtures (COMAR: [21.11.07.11\(A\)](#))

“If State funds are used to install or replace a permanent outdoor luminaire for lighting on the grounds of any building or facility owned or leased by the State or a unit of the State, procurement specifications shall require that:

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- (1) Design of the luminaire maximizes energy conservation and minimizes light pollution, glare, and light trespass;
- (2) Illumination produced by the luminaire is the minimum illumination necessary for the intended purpose of the lighting; and
- (3) For a luminaire with an output of more than 1,800 lumens, the luminaire is a restricted uplight luminaire.”

Mercury-Added Fluorescent Lamps: Labeling and Disposal (Environment Article: [§6-905](#), [§6-905.4](#))

§6-905

“‘Mercury-added product’ means any of the following products if containing elemental mercury or a mercury compound that has been added to the product for any reason:...Fluorescent lamps.”

§6-905.4

(a) “This section does not apply to: Products that contain mercury-added products [fluorescent lamps] that are labeled in accordance with this section.”

(b)(1) “On or after April 1, 2006, unless the product is labeled in accordance with subsection (c) of this section and the regulations adopted by the Department under this section, a manufacturer or wholesaler may not sell a mercury-added product:(i) At retail in the State; or (ii) To a retailer in the State. “

(b)(2) “On or after April 1, 2006, unless the product is labeled in accordance with subsection (c) of this section and the regulations adopted by the Department under this section, a retailer may not knowingly sell a new mercury-added product in the State.”

(c) “Except as provided in paragraph (2) of this subsection, the label of a mercury-added product shall clearly inform the purchaser or consumer that: (i) Mercury is present in the product; and (ii) The product shall be managed in accordance with federal and State environmental laws to minimize the release of mercury into the environment.”

(e)(1) “In this subsection, “mercury-added fluorescent lamp” means a fluorescent lamp that exhibits the toxicity characteristic for mercury under Title 26, Subtitle 13, Chapter 2 of the Code of Maryland Regulations.”

(e)(2) “...on or after October 1, 2006, a person who, during a calendar year, discards at least the minimum weight or minimum number of mercury-added fluorescent lamps, as established in regulations adopted under subsection (f) of this section, shall arrange for the final reclamation or destination of the lamps at a: (i) Reclamation facility; or (ii) Destination facility, as defined by the Department in regulation.

2. Prohibited* Products

- Any lighting product (lamp, fixture, luminaire, retrofit kit or driver) that does not meet the Required Environmental Specifications for Lighting below.
- Non-LED luminaires or fixtures.
- Any exit sign that is not LED or code-approved photoluminescent.
- General-purpose incandescent lamps, compact fluorescent lamps (CFLs) and halogen lamps, except when an LED alternative is determined to be unavailable. *See list of prohibited incandescent and halogen lamps below.*

PROHIBITED Ballasts:

- Magnetic fluorescent ballasts.
- Mercury vapor and low-pressure sodium HID ballasts.
- Probe-start metal halide HID ballasts (except for those designed to power lamps over 1000 watts).

PROHIBITED Fluorescent Lamps:

- Fluorescent lamps that do not comply with Environment Article §6–905, §6–905.4, Annotated Code of Maryland (referenced above).
- Fluorescent lamps with a Color Rendering Index (CRI) of less than 80.

PROHIBITED Halogen and Incandescent Lamps:

- Exit sign lamps
- Lamps with a medium screw base except appliance, stage and studio, miniature, decorative, and clear light bulbs needed for historic fixtures.
- All A19, A21 and PAR38 lamps except clear light bulbs needed for historic fixtures.
- MR16 lamps, except those that use halogen infrared (HIR) technology.
- Other types of lamps identified by the MD GPC based on energy efficiency or toxicity concerns.

PROHIBITED High-Intensity Discharge Lamps:

- Mercury vapor and low-pressure sodium (all wattages)
- Probe start metal halides (except wattages above 1000 watts).

* Exceptions may be granted by the Maryland Green Purchasing Committee (GPC) where circumstances of an extreme nature are encountered. Thorough justification of an exception request, including energy usage, performance information, life-cycle costing, and pricing that compares all available alternatives, must be provided with the request.

3. Required Environmental Specifications for Lighting Products

The following specifications support the purchase of lighting equipment products that are energy-efficient, have a long rated life, and are low in toxicity.

A. LIGHT-EMITTING DIODES (LEDs)

LEDs are the preferred lighting technology and are recommended over other lighting products.

1. All LED lamps, retrofit kits, luminaires, and fixtures (except miniature LEDs and LED exit signs) must be :
 - On the US Department of Energy and Environmental Protection Agency's criteria for use of the ENERGY STAR® trademark label; ENERGY STAR® Program certification list can be accessed at https://www.energystar.gov/products/lighting_fans
 - OR
 - On the DesignLights Consortium® (DLC) Qualified Products List (QPL), which can be accessed at <https://www.designlights.org/search/?search=>. *Products listed DLC Premium are preferred.*

The Maryland Green Purchasing Committee recommends replacing an old fixture with a new fixture, whenever possible. Use of an LED retrofit kit* is recommended as a secondary option. Installation of tubular LEDs (TLEDs) and other types of LED replacement lamps in an existing non-LED fixture is recommended only when the first two options are not technically feasible.

*A retrofit of existing equipment is any application that makes use of the existing luminaire housing as aligned by DLC Primary Use Designation. Retrofit kits and lamps must be listed under DLC Primary Use Designation to qualify for a corresponding measure code.

2. All exterior LED luminaires shall be fully shielded to minimize light pollution.
 - a. **Additional Desirable Attribute:** Products that are approved by the International Dark Sky Association (IDA) are preferred. A list of IDA-approved products can be found at <http://www.darksky.org/fsa/fsa-products/>.
3. All LED drivers must have a minimum rated life of 50,000 hours and comply with the EU's Restriction of Hazardous Substances (RoHS) Directive.

B. EXIT SIGNS

1. All exit signs must be:
 - LED (Light Emitting Diode) lamps;
 - OR
 - Code-approved photo-luminescent (non-power using)

4. Required Environmental Specifications for Limited Use Lighting Products

Fluorescent lamps, HID lamps, and ballasts are considered to be limited use lighting products and shall only be used when LED equipment is not yet a practical solution or LED replacements do not exist.

Vendors must only offer limited use lighting products that meet the following minimum requirements.

A. FLUORESCENT LAMPS

1. All fluorescent lamps must have a color rendering index (CRI) of 80 or higher.
2. Four-foot linear T8 fluorescent lamps must have a minimum rated life of 24,000 hours when tested on instant start ballasts with 3-hour starts.
3. All other T8 lamps must have a minimum rated life of 18,000 hours when tested on instant start ballasts with 3-hour starts.
4. All T5 fluorescent lamps must have a minimum rated life of 30,000 hours when tested on programmed start ballasts with 3-hour starts.
5. Fluorescent lamps that are labeled TLCP-compliant (e.g., ECO) or RoHS-compliant are preferred.

Many fluorescent lamps (including fluorescent tube lamps and compact fluorescent lamps) can be cost-effectively replaced by LED lamps, retrofit kits or luminaires. Compared to fluorescent lamps, LEDs are more energy-efficient, longer lasting, and free of toxic mercury.

B. HIGH-INTENSITY DISCHARGE (HID) LAMPS

1. All HID lamps must be either metal halide (ceramic metal halides preferred) or high-pressure sodium (HPS).
2. HID lamps that are labeled TCLP-compliant (e.g., ECO) or RoHS-compliant are preferred.

Many HID lamps can be cost-effectively replaced by LED lamps, retrofit kits or luminaires. Compared to HID lamps (such as high-pressure sodium and metal halides), LEDs are more energy efficient, longer lasting, and free of toxic mercury.

C. BALLASTS

1. All fluorescent ballasts must be electronic.
2. All electronic ballasts must be RoHS-compliant.
3. All HID ballasts must be designed to operate either metal halide lamps or high-pressure sodium (HPS) lamps. Probe-start ballasts are allowed only when they are designed to operate metal halide lamps over 1000 watts. Ballasts designed to operate lower-wattage metal halide lamps must use pulse start technology, which is more energy efficient.

Many fluorescent and HID ballasts (and accompanying lamps) can be cost-effectively replaced with LED drivers (and LED lamps). When fluorescent and HID ballasts reach the end of their useful life, they must be replaced with LED luminaires, LED retrofit kits, or LED drivers and lamps.

5. End-of-Life Management

All lighting equipment recycled under this contract shall be managed by an authorized lamp, ballast or electronic waste recycling company.

Pursuant to State Finance and Procurement Article §14–415 of the Annotated Code of Maryland, contractors shall use recyclers that are certified by either **e-Stewards** (<http://e-stewards.org/>) or **R2** (<https://sustainableelectronics.org/recyclers>).

Mercury-Added Fluorescent and HID Lamps

Mercury-added fluorescent and HID lamps shall be managed in accordance with U.S. EPA standards and State environmental laws to minimize the release of mercury into the environment.

Mercury-added fluorescent and HID lamps that have been replaced shall not be installed or retrofitted in another location for reuse.

More information on EPA guidelines on proper disposal can be found here:

[Hazardous Waste - Universal Waste | US EPA](#)

6. Utility Energy Efficiency Rebate Programs

Vendors are strongly encouraged to promote the purchase of LED lighting products that are eligible for utility energy-efficiency rebates. These programs incentivize lighting products that are listed on the ENERGY STAR Certification List or the DesignLights Consortium (DLC) Qualified Product List (QPL).

Financial incentives provided by the utility companies are an important instrument for increasing the use of energy-efficient technologies in State buildings and facilities. Taking advantage of utility financial incentives can help contract users overcome market barriers by lowering inhibitive upfront costs. Financial incentives also complement other energy-efficiency policies such as appliance standards and energy codes.

More information on utility incentives and eligibility requirements can be found in the Appendix of this document.

7. Additional Contract Language for Environmentally Preferable Purchasing

On Environmentally Preferable Purchasing:

The State of Maryland is committed to purchasing environmentally preferable products and services (EPPs). Maryland’s State Finance & Procurement Article §14-410 defines environmentally preferable purchasing as “the procurement or acquisition of goods and services that have a lesser or reduced effect on human health and the environment when compared with competing goods or services that serve the same purpose.”

Accordingly, Bidders/Offerors are strongly encouraged to offer EPPs to fulfill this contract, to the greatest extent practicable.

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On Maryland's Green Purchasing Reporting Requirements:

The State of Maryland requires from the Contractor, at a minimum, quarterly sales data over the life of this contract per a schedule established and deemed reasonable by both parties, or by request by the Department of General Services.

The report shall include at a minimum:

- Identification of the agencies using the contract
- Total cost of all invoiced purchases for each state agency
- Total cost of all invoiced lighting purchases for each state agency
- Itemized list, invoiced purchases, and total cost by state agency, of all lighting equipment, including an indication of whether the product is an LED luminaire, fixture, retrofit kit, driver or lamp, and whether it is a DesignLights Consortium-qualified or ENERGY STAR®-certified product.

To facilitate consistent reporting on this contract, the Contractor will be provided with a VENDOR GREEN SALES REPORT template from the Green Purchasing Committee (GPC), the Office of State Procurement (OSP) or the Department of General Services (DGS).

This information will enable Maryland State agencies to comply with Md. Code Ann., State Finance & Procurement, §14-405 and COMAR 21.13.01.14, which require Maryland State agencies to report to the Department of General Services their procurement of environmentally preferable products and services.

Appendix

Utility Incentives - Eligibility Requirements

Utility rebate programs incentivize lighting products that are on the ENERGY STAR certification list or DesignLights Consortium (DLC) Qualified Product List (QPL).

Lighting Controls

Lighting controls (e.g., photocells for outdoor lighting, occupancy sensors, daylight sensors, etc.) can provide an average of 30% savings on top of a luminaire or lamp replacement or retrofit. Each utility has requirements for controls on certain fixtures (see below) with extra incentives for networked controls that set lighting schedules and respond to peak demand opportunities. To be eligible for incentives, lighting controls are required to be installed as follows:

- Daylight controls are required to be installed in spaces with a total of more than 150 watts of general lighting within toplight and/or sidelight daylight zones.
- Daylight controls are not required in spaces in health care facilities where patient care is directly provided, dwelling units and sleeping units.
- Occupancy/vacancy controls are required to be installed in the following areas: classrooms/lecture/training rooms, Janitorial closets, Restrooms, Conference/meeting/multipurpose rooms, Locker rooms, Storage rooms, Copy/print rooms, Lounges, Warehouses, Employee lunch and break rooms, Private offices, Other spaces 300 sq. ft. or less that are enclosed by floor-to-ceiling height partitions.
- Lighting controls are not required in the following areas: electrical rooms, areas designated as security or emergency areas that are required to be continuously lit, interior exit stairways, interior exit ramps, and exit passageways, emergency egress lighting that is normally off.
- Space types which fall under the requirements of needing both a daylight and occupancy/vacancy control require a dual daylight and occupancy/vacancy DOS control or a combination of separate daylight and occupancy/vacancy controls (for example, an enclosed office containing windows with luminaires totaling more than 150W within the daylight zone). For combinations of separate control types, only one control incentive will be paid. Spaces with existing control types are not eligible for control incentives.
- Exterior lighting requires a functioning time clock or photocell to qualify for advanced network control and/or occupancy/vacancy control incentives, but are not eligible for daylight control incentives.

For further details, see:

BG&E: [BGE CI Retrofit Lighting Tech Sheet 091217](#)

Delmarva Power: [Lighting Fixtures and Controls Technical Sheet](#)

PEPCO: [Lighting Fixtures and Controls Technical Sheet](#)

Potomac Edison: [Potomac Edison Energy Solutions for Business Lighting Incentives](#)