



MR CREDIT 4: SUSTAINABLE PURCHASING REDUCED MERCURY IN LAMPS

All fields and uploads are required unless otherwise noted.

This static sample form has been modified for offline access. All sections of the form are visible. Sample forms are for reference only.

Performance period start:

Invalid Date range: The performance period must be between 89 and 731 days, and must end within 90 days of the overall project performance period given in PI Form 4.

Performance period end:

During the performance period, the project team implemented a lighting purchasing plan that specifies maximum levels of mercury permitted in mercury-containing lamps (plus high-efficiency mercury-free counterparts) purchased for the building and associated grounds.

The plan meets the following requirements:

- ☐ It specifies a target of 90 picograms per lumen-hour or less for the overall average of mercury content in such lamps.
- ☐ It includes lamps for both indoor and outdoor fixtures, as well as both hard-wired (built-in) and portable fixtures.
- ☐ It requires that at least 90% of all such lamps purchased for the project building and associated grounds (as measured by the number of lamps) comply with the overall average mercury content target.

The rated technical specifications for all lamp data entered in Table. Lamp Purchasing Plan and Table. Performance Period Lamp Purchasing conform to the following industry standard criteria:

- ☐ Life of bulb: 3 hours on/20 minutes off for fluorescent bulbs; 11 hours on for HID lamps.
- ☐ Light output of bulb: fluorescent bulbs measured with an instant-start ballast having a ballast factor of 1.0 (exception: T-5 bulbs are measured using program-start ballasts), as measured at 40% of bulb life.
- ☐ Mercury content of bulb: if the manufacturer or supplier documentation shows a range in milligrams, the project team used the highest value in the range.
- ☐ The number of mercury-containing lamps (or high-efficiency mercury-free counterparts) entered in the table below and in the associated purchasing plan includes all screw-based, integral compact fluorescent lamps presently installed in the project building and associated grounds, except those that comply with the voluntary guidelines for maximum mercury content, published by the National Electrical Manufacturers Association (NEMA), as described on the NEMA web site (www.nema.org/gov/ehs/committees/lamps).

Total number of mercury-containing lamps (plus high-efficiency mercury-free counterparts) presently installed in the project building and on the associated grounds:

lamps

Table MRc4-1. Lamp Purchasing Plan.

Fill out the table below using the data in the purchasing plan, including at least 90% of the lamps claimed above.

Bulb General Type	Bulb Specific Description or Code	Quantity of Specific Bulb Type	Mercury Content per Bulb ¹ (mg)	Total Mercury Content per Bulb Type (mg)	Mean Light Output per Bulb (lumens)	Rated Life per Bulb (hrs)	Total Lumen Hours per Bulb Type
Total							
Percentage of total installed lamps (%)							
Building average (picograms/lumen-hr)							

¹ Successfully completing the picogram per lumen hour calculations requires information about the mercury content in milligrams per bulb for each type of mercury-containing bulb in the building. This information should be obtained from MSDSs or other public literature from the manufacturer, or by directly contacting the manufacturer/vendor and requesting a written statement reporting mercury content values. Mercury values generated by TCLP (Toxicity Characteristic Leaching Procedure) tests are measured in mg per liter of test solution, and *do not* reflect total mercury content or mercury concentration in the bulb, and therefore are not appropriate for use in the LEED-EB: O&M calculations. These values cannot be converted to total mercury content through calculations. Only the following ranges of values for mercury content are valid in the table below: less than 0.001 mg, or between 0.5 mg and 300 mg.

Select one of the following:

- ☐ Compact fluorescent lamps were excluded in the table above because of NEMA compliance.
- ☐ No compact fluorescent lamps were excluded.

Upload MRc4-1. For each lamp type of any compact fluorescent lamps excluded, provide a declaration, current sales brochure, cut sheet, or other documentation from the product manufacturer or supplier to verify NEMA compliance.

Select one of the following:

- ☐ Mercury-free lamps were included in the table above.
- ☐ Mercury-free lamps were not included in the table above.

Upload MRc4-2. For any mercury-free lamp types included, provide product manufacturer or supplier documentation verifying that they are at least as energy efficient (lumens/watt) as their mercury-containing alternatives.

Table MRc4-2. Performance Period Lamp Purchasing

Fill out the table below using the data representing lamp purchases during the performance period.

Bulb General Type	Bulb Specific Description or Code	Quantity of Specific Bulb Type	Mercury Content per Bulb ¹ (mg)	Total Mercury Content per Bulb Type (mg)	Mean Light Output Per Bulb (lumens)	Rated Life Per Bulb (hrs)	Total Lumen Hours per Bulb Type
Total							
Building average (picograms/lumen-hr)							

¹ Successfully completing the picogram per lumen hour calculations requires information about the mercury content in milligrams per bulb for each type of mercury-containing bulb in the building. This information should be obtained from MSDSs or other public literature from the manufacturer, or by directly contacting the manufacturer/vendor and requesting a written statement reporting mercury content values. Mercury values generated by TCLP (Toxicity Characteristic Leaching Procedure) tests are measured in mg per liter of test solution, and *do not* reflect total mercury content or mercury concentration in the bulb, and therefore are not appropriate for use in the LEED-EB: O&M calculations. These values cannot be converted to total mercury content through calculations. Only the following ranges of values for mercury content are valid in table below: less than 0.001 mg, or between 0.5 mg and 300 mg.

The lamp purchases listed above include:

- ☐ All mercury-containing lamps (or high-efficiency mercury-free counterparts) listed in the purchasing plan that were purchased for the project building and associated grounds during the performance period
- ☐ All screw-based, integral compact fluorescent lamps purchased during the performance period, except those that comply with the voluntary guidelines for maximum mercury content published by the National Electrical Manufacturers Association (NEMA), as described on the NEMA website

Upload MRc4-3. Provide cut sheets or similar supporting documentation from product manufacturers or suppliers that verify either of the following:

1. Rated picogram/lumen-hour.
 2. Rated mercury content, lumen output, and lamp life.
- ☐ The uploaded documentation covers at least 20% of the number of lamps listed in Table. Performance Period Lamp Purchasing above. Documentation is also provided for lamps that individually have a mercury performance of 90 picograms/lumen-hour or less (e.g., If 100 lamps are reported in the table, manufacturer documentation must be provided representing at least 20 of those lamps which individually perform at 90 picograms/lumen-hour or less).

Select one of the following:

- ☐ The project building is a single management/control building, pursuing no tenant-related exemptions and needs no tenant-related special calculations.
- ☐ The project building is a multi-tenant building.

MULTI-TENANT BUILDING

Select one of the following:

- ☐ **Whole building:** The entries in Table. Lamp Purchasing Plan and Table. Performance Period Lamp Purchasing are based on the actual bulb data for the entire project building and for the associated grounds over the performance period. All tenants have provided actual totals to the project team.
- ☐ **Exempting floor area:** Because of the occupancy/management composition of the project building, the project team is exempting up to 10% of the floor area for this credit. The above declarations pertaining to bulb data are based on actual data collected for the remaining spaces and associated grounds over the performance period. For these spaces, all tenants have provided actual data to the project team.

EXEMPTED FLOOR AREA

Gross square footage of the project building(s):

sf

Table L-1. Space Usage Type

Enter information for all usage types within the project building; group spaces with similar characteristics.

Space Usage Type	Space Name / Description (Optional)	Gross Area (sf)	Owned or Leased	Lease Type	Regularly Occupied Gross Area (sf)	Unconditioned Gross Area (sf)	Prerequisites/ Credits From Which Space is Excluded
Total gross area (sf)							
Total leased gross area (sf)							
Percentage leased gross area (%)							
Total regularly occupied gross area (sf)							
Total unconditioned gross area (sf)							

For all spaces exempted from MR Credit 4, describe the reason for the exemption and efforts made to acquire information related to MR Credit 4 documentation.

ADDITIONAL DETAILS

- ☐ Special circumstances preclude documentation of credit compliance with the submittal requirements outlined in this form.

SPECIAL CIRCUMSTANCES

Describe the circumstances limiting the project team's ability to provide the submittals required in this form. Be sure to reference what additional documentation has been provided, if any. Non-standard documentation will be considered upon its merits.

Upload MRc4-SC. Provide any additional documentation that supports the claim to special circumstances. (Optional)

- ☐ The project team is using an alternative compliance approach in lieu of standard submittal paths and/or documentation.

ALTERNATIVE COMPLIANCE PATH

Describe the alternative compliance path used by the project team. Include justification that this path meets the credit intent and requirements. Be sure to reference what additional documentation has been provided, if any. Non-standard documentation will be considered upon its merits.

Upload MRc4-ACP. Provide any additional documents that support the alternative compliance path approach. (Optional)

- ☐ The project team is using the above alternative compliance path to document exemplary performance of MRc4.

SUMMARY

MR Credit 4: Sustainable Purchasing - Reduced Mercury in Lamps Points Documented:

MR Credit 4: Sustainable Purchasing - Reduced Mercury in Lamps Exemplary Performance Points Documented:

- ☐ The project team reserves one point in the Innovation in Operations credit category for exemplary performance in MR Credit 4.