



LEED BD+C: Core and Shell | v3 - LEED 2009

# Clean construction

SSpc75 | Possible 1 point

Glossary

## Intent

This is a [pilot credit](#). To use any pilot credit on your LEED project, be sure to [register here](#). Documentation requirements and additional questions are listed below.

To minimize the health and climate impacts to local communities from diesel engine emissions associated with construction activities.

## Requirements

Develop and implement a plan to reduce particulate matter (PM) emissions from nonroad and on-road diesel fueled vehicles, construction equipment, and temporary power generation used during construction projects.

The plan should include:

### 1. Nonroad Diesel Engines

For engines used on the jobsite that are 25 horsepower (HP) and greater, meet at least the equivalent of USEPA Tier 2 PM emission standards and the USEPA Tier 4 PM emission standard (or local equivalent for projects outside the U.S.) as listed in the table below for the specified HP rating and during the specified calendar year. The equipment must meet the requirements listed for the current year the equipment is in use on the job site.

Percent of Engines that Must Comply with Tier 4 PM Standard			
Year	25-74hp	75-174hp	175hp and above
2012-2013	0%	25%	50%
2014	25%	50%	95%
2015	50%	95%	95%
2016-2022	95%	95%	95%

Compliance may be met with engines certified to meet the applicable USEPA Tier level, and/or equipment that has been retrofitted with technology verified to reduce particulate emissions to a level at or more stringent than the applicable USEPA Tier level. To the extent that retrofits are used to meet this requirement, the diesel retrofit technology used must be listed on the verified technology list for either the USEPA or the California Air Resources Board (or local equivalent for projects outside the U.S.) current as of the time the equipment is first placed on the jobsite and must be installed and operated as designated by that verified list.

Include measures for proper maintenance of the equipment to ensure continued future compliance with the emission standards.

### 2. On-road Diesel Engines

95% of all diesel engine contractor/ subcontractor vehicles used for the construction project must be:

1. Vehicles that comply with USEPA model year 2007 on-road standards, or local equivalent for projects outside the U.S.

OR

2. Vehicles with older engines that have been retrofitted with technology verified to reduce particulate emissions to a level at or more stringent than the USEPA model year 2007 on-road standards for particulate matter. To the extent that retrofits are used to meet this requirement, the diesel retrofit technology used must be listed on the verified technology list for either the USEPA or the California Air Resources Board (or local equivalent for projects outside the U.S.) current as of the time the vehicle is first placed on the jobsite and must be installed and operated as designated by that verified list.

Include measures for proper maintenance of the vehicles to ensure continued future compliance with the emission standards.

### 3. Idling Limitations

Develop a policy to limit unnecessary vehicle and equipment engine idling to no more than 5 minutes, or in compliance with applicable local, state and national laws, whichever is more stringent. Include signage and operator communications/education.

### 4. Prevention of Indoor Air Pollution

Locate equipment, vehicles, and loading/unloading staging areas away from air intakes or operable openings of adjacent buildings.

### 5. Equipment Information

Include the following information for each piece of equipment, annually:

1. Vehicle type
2. Engine make

3. Engine model number
4. Serial number of engine
5. Engine family name and model year
6. Horse power and/or Kilowatts (for nonroad only)
7. Current Tier level (for nonroad only)
8. Serial number and VIN of vehicle
9. Make and model number of USEPA/CARB verified emission control technology, if applicable (or local equivalent for projects outside the U.S.)
10. Type of fuel used
11. Number of use hours (if available)

## Submittals

### General

[REGISTER FOR THE PILOT CREDIT](#)

- Participate in the [LEEDuser pilot credit forum](#)
- Complete the feedback survey:

[CREDITS 1-14](#)

[CREDITS 15-27](#)

[CREDITS 28-42](#)

[CREDITS 43-56](#)

[CREDITS 57-67](#)

[CREDITS 68-82](#)

[CREDITS 83-103](#)

### Credit specific:

- Copy of the particulate matter emissions reduction plan
- Projects outside the U.S.: describe the equivalent standards used

### Nonroad Diesel Engines

- Horsepower rating, Tier 2 level, Tier 4 level for all equipment
- Retrofitted equipment: describe the technology and methodologies used to reduce particulate emissions to a level at or more stringent than the applicable USEPA Tier level
- Describe equipment maintenance measures that will be used, and how they will ensure continued compliance with the emission standards

### On-Road Diesel Engines

- Estimated number of on-road diesel engine contractor vehicles
- Specifications for 95% of those vehicles that indicate compliance with USEPA model year 2007 on-road standards, or local equivalent
- Retrofitted equipment: describe the technology and methodologies used to reduce particulate emissions to a level at or more stringent than USEPA model year 2007 on-road standards
- Describe equipment maintenance measures that will be used, and how they will ensure continued compliance with the emission standards

### Idling Limitations

- Provide the policy that describes idling time limits; applicable local, state, and national laws; idling signage; and operator education plans

### Prevention of Indoor Air Pollution

- Information (plan or description) on the location of staging areas, air intakes, and operable openings of buildings
- Information on how the location of the equipment staging areas prevents indoor air pollution

### Equipment Information

- Product manuals or specifications for the equipment that depict the characteristics listed in the requirements. Projects should maintain an annual inventory of equipment information.

### Additional questions:

1. The goal of this credit is to minimize particulate matter emissions and impacts from construction equipment. Do you believe that these requirements achieve this intent? Why or why not?
2. Were there barriers to implementing the strategies used in this credit?
3. Did you encounter difficulties in gathering the information for the idling plan implementation? If so, in what ways?
4. For item 2 of the plan, is it feasible to require that on-road trips be tracked rather than on-road vehicles? Would this be difficult to track?
5. How many pieces of equipment were used for this project? How many were owned by the contractor? How many were leased/rented?
6. What was the entire project budget?
7. In order to meet the pilot credit criteria, which actions below were taken above and beyond what would have been taken absent the effort to earn Clean Construction Pilot Credit for LEED?
8. How many pieces of leased/rented equipment were used in each horsepower category? What were the tier levels for each of these?
9. How many pieces of your existing equipment were retrofitted with diesel emissions reduction technology in each horsepower category? What were the tier levels for each of these?
10. How many pieces of new equipment were purchased in each horsepower category? What were the tier levels for each of these?
11. How many pieces of used equipment were purchased in each horsepower category? What were the tier levels for each of these?
12. When were these pieces of equipment slated to be retired in the company's business plan?

