



Massachusetts Department of Environmental Protection  
*MassCleanDiesel: Clean Markets Program*  
Round II

## Program Guidance

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### Introduction

The Massachusetts Department of Environmental Protection (MassDEP) is providing funding assistance through the MassCleanDiesel: Clean Markets Program for the purchase and installation of diesel emission reduction technologies. Eligible applicants under Round II of this grant program are owners of diesel-powered trucks and trailer-mounted diesel transportation refrigeration units operating at and/or delivering goods to wholesale markets, warehouses, and distribution centers in Massachusetts. The purpose of the *MassCleanDiesel: Clean Markets Program* is to reduce public and worker exposure to diesel emissions in and around these facilities.

The total available funding for technologies under Round II of the *MassCleanDiesel: Clean Markets Program* is approximately \$275,000 and is provided by the federal Diesel Emissions Reduction Act (DERA) and other sources. MassDEP will award grants subject to the availability of funds and the quality of applications received.

### Application Deadline

**Applications for this funding opportunity are due Friday, May 16, 2014. Only hardcopy applications with original signatures will be accepted.** Completed applications should be submitted to: Susan Lyon, Diesel Emissions Reductions Grant Coordinator, MassDEP, One Winter Street, 6<sup>th</sup> Floor, Boston, MA 02108.

## Technologies Offered

MassDEP will subsidize all or part of the costs involved with the purchase and installation of the approved technologies described below:

- **Auxiliary Power Units (APUs):** Small, 20-horsepower diesel engines installed on the side rail of a truck's chassis or directly behind the truck cab, APUs provide cooling, heating, and electrical power. Instead of idling the main engine to power these services, truck owners can use the APU. By shifting the truck's power source to a smaller engine during long idling periods, APUs help reduce air pollution, fuel consumption, and wear and tear on the main engine. *APUs may only be installed on a diesel-powered Class 8 long-haul truck weighing 33,001 pounds or more with a cab that contains sleeping quarters for the driver.*
- **Electric Transportation Refrigeration Units (eTRUs):** eTRUs are powered by land-based electricity rather than diesel engines. eTRUs funded by this program would replace diesel TRUs currently mounted on detached, semi-stationary, or stationary trailers in active service. By using electricity, the eTRU eliminates diesel fuel use and its associated emissions. Applicants seeking this technology must demonstrate that adequate electrical power to support a funded eTRU either currently exists or will exist. In addition, applicants receiving this technology must render the diesel engine of the original TRU permanently inoperable (i.e., scrap it) by drilling a hole in the engine block.<sup>1</sup>
- **Retrofit Devices:** Also known as exhaust after-treatment technologies, retrofit devices are installed in place of or in-line with a diesel vehicle's existing muffler. MassDEP will fund two types of retrofits: 1) *active or passive diesel particulate filters (DPFs)*, which reduce particulate matter (PM) by 85% or more; and 2) *diesel oxidation catalysts (DOCs)*, which reduce PM by 20% or more. Passive DPFs require a minimum exhaust temperature to periodically reactivate exhaust substrate from the filter. Vendors must determine whether this temperature can be reached by analyzing ("data logging") the truck's regular duty cycle. Active DPFs and DOCs do not require a minimum exhaust temperature or data logging. Grant recipients must also clean the filters of both types of DPFs periodically to remove accumulated ash deposits. *Only medium-duty (14,001-26,000 lbs.) and heavy-duty (26,001 lbs. and over) diesel on-road trucks with model year engines from 1990 to 2006 for DOCs and 1994 to 2006 for DPFs may apply for retrofits alone. If applicants want an APU and a retrofit then the vehicle weight requirements for APUs apply.*

*Particulate matter (PM) is a criteria pollutant regulated under the National Ambient Air Quality Standards. Exposure to diesel PM 2.5 micrometers or smaller in diameter is associated with a range of health effects, from difficulty breathing to lung cancer.*

For more information on these technologies, see the *MassCleanDiesel: Clean Markets Technology Guide*.

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<sup>1</sup> These services may be offered by the selected eTRU vendor at low cost.

## Funding Levels and Cost-Share Requirements

Table 1 shows the funding levels MassDEP will provide for each technology and the engine owner’s cost-share, if applicable. Grant allocations will cover equipment, installation, mileage, and, if required, data-logging for DPFs.

Table 1: Program Cost Share Requirements

| Technology            | Program Financing Structure |                      |
|-----------------------|-----------------------------|----------------------|
|                       | MassDEP Grant Allocation    | Applicant Cost Share |
| APU + Retrofit Device | 100%                        | 0%                   |
| Retrofit Device Alone | 100%                        | 0%                   |
| eTRU                  | 75%                         | 25%                  |

MassDEP will **not** fund costs associated with the following:

- Destruction and scrappage of the trailer’s existing diesel TRU;
- Installation or upgrade of electrical infrastructure to support eTRUs and active DPFs requiring regeneration panels (see *Technology Guide* for explanation);
- Operation and maintenance costs of the technologies, including cleaning the DPF filter; or
- Fees of a third-party consultant or dealer hired by the grant recipient to administer the grant-funded activities, including submission of reports to MassDEP from the grant recipient.

## Applicant Eligibility

The following criteria must be met by applicants for the three technologies offered:

- ✓ **Ownership.** Applicants must own the vehicle or trailer on which a technology will be installed. Leased and rented vehicles and trailers are not eligible for grants.
- ✓ **Registration.** The vehicle upon which the technology is installed must be registered for use in Massachusetts.
- ✓ **Service Area.** The vehicle or trailer receiving a technology must operate at or service a wholesale market, warehouse, or distribution center located in Massachusetts.
- ✓ **Length of Ownership.** Applicants must operate and retain the technology and the vehicle/trailer receiving the technology for a minimum of **two years** after the technology is installed. *Grant recipients are responsible for the pro-rated cost of the technology and its installation if the technology(s), vehicle or trailer on which it is installed is sold, discontinued from use, or used exclusively in another state before the end of the two-year period.*

MassDEP retains the authority to inspect the vehicles and/or eTRUs at any time during the two-year period.

- ✓ **Electrical Service.** For eTRU applicants only, applicants must provide an adequate electrical supply for the eTRU and should be prepared to submit a copy of a written cost estimate by a licensed electrician to install a new or upgrade the company’s electricity supply. Electricity supply installation or upgrade costs are not funded by this grant program.

## Vehicle and Trailer Eligibility

The three technologies have different vehicle and trailer eligibility requirements:

- ✓ **Eligible Trailers for eTRUs** must be: 1) detached; 2) stationary or semi-stationary; 3) range in length from 10 feet to 53 feet; and, 4) be used for the storage of perishable items.
- ✓ **Eligible Vehicles for Retrofits Alone** must: 1) be medium-duty (14,001-26,000 lbs.) and heavy-duty (26,001 lbs. and over) trucks powered by diesel fuel; 2) operate on a MY 1990 through 2006 engine for a DOC or a MY 1994 through 2006 engine for an active or passive DPF; and, 3) must not be manufactured with a pre-existing exhaust after-treatment device.
- ✓ **Eligible Vehicles for APUs and Retrofits** must: 1) be Class 8, diesel long-haul trucks weighing 33,001 lbs. or more; 2) have sleeping quarters for the driver; 3) operate on a MY 1990 to 2006 engine for a DOC or a MY 1994 through 2006 engine for active or passive DPF.

Table 2 summarizes the requirements for retrofit technologies, either alone or in conjunction with APUs.

Table 2. Vehicle Eligibility Requirements for Retrofits Alone or with APUs

| Technology          | GVW                  | Engine Model Years                            | Other  |
|---------------------|----------------------|---|--|
| DOC (Alone)         | 14,001 lbs. and over | 1990-2006                                     | Must not have a pre-existing exhaust after-treatment device in place |
| Active DPF (Alone)  | 14,001 lbs. and over | 1994-2006                                     |  |
| Passive DPF (Alone) | 14,001 lbs. and over | 1994-2006                                     |  |
| APU & Retrofit      | 33,001 lbs. and over | 1990-2006 or 1994-2006, depending on retrofit |  |

## Vendors

Applicants must use the six vendors under contract with MassDEP to supply and install the technologies offered in this program. A list of the vendors is included in the *MassCleanDiesel: Clean Markets Technology Guide* and on the *Contact List for Vendors*. Not all vendors offer the same type of technology. **Due to the complexity of the application, applicants are strongly encouraged to use a pre-qualified technology vendor to help complete the application.** Applicants who do not know which vendor to use should contact MassDEP before submitting an application. MassDEP staff will assign a vendor to the applicant, depending on the applicant’s preferred technology.

## Award Process and End-User Agreement

Funding will be competitively awarded based on the applications received. If grant applications exceed available funding, MassDEP will give priority to applicants with fleets operating in or close to areas of high population density, elevated incidences of pediatric asthma, and environmental justice as defined by the Executive Office of Energy and Environmental Affairs.

Following the grant awards, MassDEP will send each grant recipient an End-User Agreement that, upon execution, binds the grant recipient to all applicable federal and state requirements associated with the grant award. *Grant recipients who do not comply with the terms of the End-User Agreement may be subject to enforcement action by MassDEP.*

## Technology Order and Installation Process

After signing the End-User Agreement, grant recipients will work with their technology vendor to complete an Equipment Reservation Form. This form will serve as the purchase order for the technology or technologies. The vendor will then coordinate the delivery and installation of the technologies directly with each grant recipient. After completing the installation, the vendor will submit a Payment Form to MassDEP. MassDEP will then send a Certification Form to the grant recipient, who will confirm that the equipment was received and installed on the vehicle and/or trailer.

## Payment Process

Vendors will submit a Payment Form to MassDEP for all or part of the costs, depending on the technology installed. MassDEP will pay the vendor directly for its required portion; the grant recipient will not be involved in this part of the financial transaction. *If a cost-share is required (for eTRUs only), vendors will issue an invoice separately to the grant recipient for his or her cost share portion of the technology, including any required state taxes.* Two scenarios illustrate these processes:

1. **eTRU:** In this scenario the total estimated cost of an eTRU is \$15,000 (\$14,400 for the equipment and \$600 for labor). There are no other costs incurred by the vendor. At a 75% grant funding level for eTRUs, MassDEP would pay the vendor \$11,250 directly. The grant recipient, responsible for the remaining 25% of the eTRU's cost, would pay the remaining amount of \$3,750 plus state sales taxes on the \$3,750 to the vendor directly.
2. **Retrofit Device:** In this scenario, the total cost of a DOC is \$2,650 (\$2,200 for the device, \$250 for labor, and \$200 for mileage). At a 100% grant funding level for a retrofit device alone, MassDEP would pay the vendor \$2,650 directly. The grant recipient has no cost share requirement and does not need to make a payment to the vendor.

Until MassDEP approves the vendor's Payment Form, all costs, including equipment, labor, and mileage, are estimates.

## MassDEP Contact Information

For questions contact Susan Lyon, Diesel Emissions Reductions Grant Coordinator, at (617) 556-1101 or [susan.lyon@state.ma.us](mailto:susan.lyon@state.ma.us).