



NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

## Diesel Retrofit Program

### Guidance Document

For

## Diesel-Powered Solid Waste Vehicles

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**Appendix 1– Sample of On-Line Initial Inventory/Cost Estimate - BART Form**

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## **A. Purpose**

This document provides general guidance to assist owners of solid waste vehicles in complying with the requirements established in the Diesel Retrofit Program rules at N.J.A.C. 7:27-32 et. seq. This guidance document describes the basic steps to ensure compliance with the regulatory requirements such as the necessary information and forms to be submitted to the Department, submittal timeframes, recordkeeping and reporting, applicable technology to be installed on the vehicle, and vehicle inspection requirements.

## **B. Overview**

The Diesel Retrofit Law (N.J.S.A. 26:2C-8.26) was signed in September 2005 by Governor Richard Codey to protect New Jersey residents from the harmful effects of diesel particulate pollution. Studies have shown that exposure to diesel exhaust can aggravate asthma, contribute to cardiopulmonary distress and result in premature death. The law targets diesel-powered on-road vehicles, such as certain solid waste vehicles, and off-road equipment that regularly expose the public to diesel exhaust. The Diesel Retrofit Law requires solid waste vehicles that are publicly-owned or are under contract with the State or a local government entity to install tailpipe retrofit control devices. The retrofit devices are designed to significantly reduce exhaust emissions of diesel particulates by capturing and/or destroying these particles.

The Diesel Retrofit Law also provides funding for the installation and purchase costs associated with the retrofit devices installed on regulated diesel-powered solid waste vehicles. The retrofit device must be installed by an authorized installer listed on a State Contract specifically issued for the purposes of the Diesel Retrofit Program rules. In accordance with the Diesel Retrofit Program rules at N.J.A.C. 7:27-32.24, the authorized installer of the device will be required to incur these costs and seek reimbursement from the Department after the installation is complete. Therefore there are no initial out-of-pocket costs associated with the device for the vehicle owner. The regulations also include application and installation deadlines to be met by the fleet owner.

## **C. Complying with the Diesel Retrofit Program Rules N.J.A.C. 7:27-32**

The Diesel Retrofit Program rules developed in accordance with the Diesel Retrofit Law require the owner of a regulated vehicle or regulated piece of equipment to install tailpipe retrofit control devices on certain vehicles or equipment. The retrofit device must meet the definition of a Best Available Retrofit Technology (BART) and the minimum BART Levels established at N.J.A.C. 7:27-32.8. To ensure the appropriate BART device is installed on the regulated vehicle, the vehicle owner is required to submit a fleet inventory and BART device information by a regulatory deadline. The Department will review the inventory and cost estimate information for approval. Installation of the BART devices should not begin until the owner receives the following: 1) approval of the inventory and cost estimate information from the Department; and 2) notification from the Department that sufficient funding is available for reimbursement. An installation deadline based on the regulated fleet size in accordance with N.J.A.C. 7:27-32.18 will be provided to the owner with each vehicle approval. The owner must install the approved BART devices by the installation deadlines provided. The owner must notify the Department when each installation is complete on compliance forms provided by the Department. The owner must have the installation verified during the vehicle's annual inspection and provide the

Department with the results of that inspection. Fleet updates must be submitted to the Department on an annual basis.

The deadline for solid waste vehicle owners to submit to the Department the required information for a fleet inventory and any necessary cost estimate information is June 6, 2008.

### **1. Determining if your vehicles are regulated solid waste vehicles**

An owner of a regulated solid waste vehicle must submit the fleet inventory information and BART device information to the Department in accordance with N.J.A.C. 7:27-32.12. The inventory must include vehicle-specific information for each diesel-powered on-road vehicle and off-road equipment within the fleet. An on-road diesel vehicle includes any vehicle other than private passenger automobiles that are driven on the roadways of the State. Off-road diesel equipment includes any equipment or vehicle not commonly operated on a roadway and primarily used for construction, loading and off-road purposes such as scrapers, excavators, and bull dozers. For example, if a fleet consists of diesel-powered school buses, gasoline-powered vans, gasoline-powered solid waste vehicles and diesel-powered solid waste vehicles, then the owner would need to include vehicle information on the inventory for the diesel-powered school buses and the diesel-powered solid waste vehicles.

The next step in the process is to determine which vehicles in the fleet are deemed “regulated solid waste vehicles.” Only those vehicles that meet the criteria for “regulated solid waste vehicle” are required to install BART devices at this time. Please note that other vehicle types within your fleet may be regulated by the Diesel Retrofit Program rules but with a later compliance date. For example, a municipal public works department may also own a diesel-powered dump truck that meets the definition of “regulated on-road diesel vehicle.” Although this vehicle is required to install a BART device, the deadline for the owner to submit the specific BART information is not until September 8, 2011. However, the vehicle must still be included on the inventory submittal by the solid waste vehicle owner by June 6, 2008. Regulated vehicles or equipment with later submittal dates are not required to submit BART-related information, or install the device until the prescribed deadline associated with the vehicle type.

Pursuant to the definitions in the regulation, a “regulated solid waste vehicle” is one that is registered in New Jersey, is powered by a diesel engine, has a gross vehicle weight rating in excess of 14,000 pounds, and is publicly-owned or privately-owned but used in a contract with the State or a local government entity for the collection of residential or commercial (non-industrial) solid waste. Examples of regulated solid waste vehicles include, but are not limited to, open boxes, compactors, solid waste single-unit and solid waste cabs. Solid waste cabs are considered any vehicle to which a solid waste trailer can be attached for transporting solid waste, excluding hazardous waste, off-site by roadway. Solid waste cab includes, but is not limited to, the tractor portion of an articulated vehicle.

Determining whether a privately-owned solid waste cab needs to comply is dependent on the contracting relationship with the issuer of the contract. Contracted vehicles are considered regulated solid waste vehicles only if they are engaged in providing municipal solid waste services with the vehicle. This means that the vehicle is regulated only if the vehicle is directly involved in providing solid waste removal or transportation services. Vehicles collecting solid

waste as a secondary task, such as those that are picking up at a transfer station where the receiving vehicle is not engaged in performance of a government contract, would not be covered by the definition of a “regulated solid waste vehicle.” However, if the transfer station is owned and operated by a public entity who issues the contracts for transporting waste from the facility, the vehicle is considered to be regulated since it is providing solid waste services to the publicly-operated entity pursuant to a government contract.

A solid waste bodied-vehicle operated solely for the collection of recyclable materials is not considered a regulated solid waste vehicle under the Diesel Retrofit Program rules because recyclable materials are not considered solid waste as defined by the Solid Waste regulations at N.J.A.C. 7:26-1.6. However, any diesel-powered recycling truck that is owned by a public entity is deemed a “regulated on-road diesel vehicle” with a compliance date of September 8, 2011. Again, although compliance is required at a later date for regulated on-road diesel vehicles, inventory information for this vehicle is still required to be submitted by June 6, 2008.

Another example of a solid waste vehicle that is not regulated within the solid waste vehicle category is a dump truck or similar heavy-duty vehicle that is not typically a solid waste-bodied vehicle and is normally used for other tasks. These vehicles may occasionally be used for special services such as “bulk pickup days” in a municipality, but are primarily designed and used for other purposes. If this vehicle is publicly-owned, then it would classify as a regulated on-road diesel vehicle with a compliance deadline of September 8, 2011.

Privately-owned construction trucks contracted for use in public construction projects where waste removal is included as part of the contracted scope of work are not considered regulated solid waste vehicles. Removing solid waste from highway construction projects is a typical task assigned to dump trucks. However, the intent of the Diesel Retrofit Law was to target solid waste vehicles primarily used to collect and transport solid waste on regular routes within neighborhoods where the public would be exposed to the diesel exhaust on a regular basis. Dump trucks used to collect and transport construction and demolition waste on a limited basis as part of a construction contract, where waste removal is not the primary design or use of the vehicle, are therefore not considered to be a “regulated solid waste vehicle.”

Some solid waste vehicles may be exempt from certain requirements of the rules based on criteria other than use. Any regulated solid waste vehicle that meets the following criteria is not required to install a BART device but may still be subject to other requirements within the rule.

- a. In accordance with N.J.A.C. 7:27-32.3(c), a regulated solid waste vehicle with a diesel engine that is certified by the U.S. Environmental Protection Agency (USEPA) or the California Air Resources Board to meet a particulate emissions standard of 0.01 grams per brake-horsepower hour is not required to be retrofit. In this instance, vehicle-specific information would be provided on the inventory but no additional information is required.
- b. Regulated solid waste vehicles that are already equipped with a tailpipe-based emission control device as original equipment or an aftermarket retrofit installation performed under a New Jersey Department of Environmental Protection or USEPA grant program

will not be required to install a BART device. However, vehicle specific information and BART information must be supplied to the Department as detailed in the following sections.

Please note that a regulated solid waste vehicle equipped with an after-market retrofit device does not exempt the vehicle from the BART installation requirements of the Diesel Retrofit Program rules. Any retrofit device that was NOT installed under a USEPA or New Jersey Department of Environmental Protection grant program must proceed with the submittal process described herein for review and approval by the Department. If the installed device does not meet the BART level prescribed by the Department, then the Department may take steps to ensure the BART level is met. These steps may include replacement of the existing device with one that meets the prescribed BART level to ensure that the necessary reductions are achieved.

All vehicle-specific information, applicable retrofit device identification and associated cost estimates must be supplied on the Initial Inventory/Cost Estimate- BART form supplied by the Department by June 6, 2008. Guidance for completing this submittal is provided at section 4 in this document. However, the form cannot be completed without first determining the BART devices to be installed on the regulated solid waste vehicles.

## **2. Selecting a Best Available Retrofit Technology**

In simple terms a retrofit device is an aftermarket device that reduces the particulate emissions contained in diesel exhaust. There are many types of retrofit devices for use on a variety of vehicles and equipment at varying levels of control efficiency. For a retrofit technology to be deemed a Best Available Retrofit Technology, or BART, it must meet the following criteria:

- a. Verified as a diesel emissions control strategy by either the United States Environmental Protection Agency via verification letter or the California Air Resources Board via Executive Order;
- b. Certified by the retrofit device manufacturer that the use and installation will not impact the original engine warranty in effect at the time of installation or use of the device; and
- c. On a State Contract issued for the purposes of the Diesel Retrofit Program rules at N.J.A.C. 7:27-32 et seq.

Any retrofit device installed on a regulated vehicle that does not meet the above criteria will not be deemed compliant with the Diesel Retrofit Program rules. Additionally, any BART installed on a regulated vehicle must meet the minimum control efficiency levels prescribed at N.J.A.C. 7:27-32.8. The BART levels indicate the minimum required amount of particulate matter reduction achieved by the retrofit device. There are currently three levels of efficiency defined as BART 1, BART 2, and BART 3. A BART 1 device must be verified to reduce particulate emissions by 25 percent or greater, a BART 2 device must be verified to reduce particulate emissions by 50 percent or more, and BART 3 to 85 percent or more. Examples of BART 1 devices include diesel oxidation catalysts. BART 2 devices consist of flow-thru filters, and BART 3 devices include actively- and passively-regenerated diesel particulate filters.

The specific BART level that must be met by the fleet owner is dependent on the vehicle/equipment type and the engine model year and is listed in Table 1 at N.J.A.C. 7:27-32.8. A solid waste vehicle with a model year from 1988 to 2006 must install a BART 2 device, or a retrofit device verified with a control efficiency of at least 50 percent reduction of fine particulate matter. Regulated solid waste vehicles with an engine model year of 1987 or older must install a BART 1 device with a minimum control efficiency of 25 percent. A summary of the levels is listed below. Remember, diesel engines certified to meet a particulate emission standard of 0.01 grams per brake-horsepower hour is not required to be retrofit.

<b>Engine Model Year</b>	<b>Minimum BART Level</b>	<b>Minimum control efficiency (particulate emission reduction by weight)</b>
2007 and newer	N/A	Not applicable
1988-2006	BART 2	50%
1987 & older	BART 1	25%

Some criteria for determining compatibility of BART devices with a particular vehicle may include engine brake horsepower, exhaust temperature profiles, exhaust back pressure and vehicle usage. With some BART devices, there will be associated maintenance requirements such as filter regeneration and ash disposal, and filter replacement. The solid waste vehicle owner may want to consider the costs associated with the required maintenance needs since this is not a reimbursable cost. Other criteria for consideration may include the generic availability of filter and parts replacement, and any regular maintenance and monitoring needs.

Pursuant to N.J.A.C. 7:27-32.7(e) each BART device must be installed by an authorized installer that is listed on the State Contract awarded specifically for the purposes of the Diesel Retrofit Program rule. A copy of the contract and the authorized installers can be found at <http://www.state.nj.us/cgi-bin/treas/purchase/awards.pl>. Please note that more than one authorized installer may need to be used to ensure each regulated solid waste vehicle in the fleet has a BART device installed on it. Therefore, if one authorized installer does not have a suitable BART device for a particular vehicle, the fleet owner must determine if another BART is feasible by contacting the other available authorized installers.

It is the responsibility of the solid waste vehicle owners to determine the appropriate BART device for each regulated solid waste vehicle in the fleet based on the regulatory minimum BART. However, the owner should consult with an authorized installer listed on the State Contract and/or the vehicle's engine manufacturer. The vehicle owner should evaluate operational needs as well when determining the best BART retrofit device for each vehicle. The owner can conduct some general research to ascertain the appropriate device, such as obtaining information from the authorized installers' websites for the BART products offered or contacting each authorized installer directly. Additional information can also be obtained by reviewing information for the verified products on the CARB or USEPA websites at [www.arb.ca.gov/diesel/verdev/verdev.htm](http://www.arb.ca.gov/diesel/verdev/verdev.htm) and <http://www.epa.gov/otaq/retrofit/verif-list.htm>, respectively. Please note that these sites may contain more products than listed on the State Contract. Only those retrofit devices and authorized installers listed on the State Contract may be used for compliance with the Diesel Retrofit Program rules.

If a vehicle owner is unable to find an applicable device at the prescribed BART Level, the owner should assess the verified retrofit devices included in the higher BART Levels. For example, a 1987 solid waste cab must install a BART 1 device at a minimum to be in compliance with the Diesel Retrofit Program rules. If no compatible device can be found at BART 1 then the vehicle owner may consider retrofit devices verified at BART Levels 2 and 3 to meet the minimum control efficiency requirement. Likewise, a 2001 solid waste compactor has BART 2 and 3 devices available for consideration in meeting the requirements of the rule.

### **3. Alternative Compliance Methods to Best Available Retrofit Technology**

There may be unique cases where a vehicle owner is unable to find a feasible BART device that meets the minimum BART Level prescribed. In these instances, the owner has several alternative compliance options for meeting the requirements of the regulations. These options are classified as a “Fleet Plan” and would require the vehicle owner to submit additional information depending on the option to be implemented. In rare cases a fleet owner may find that no verified retrofit technologies exist for installation on the specific regulated vehicle. In all of these instances, the vehicle owner can request from the Department approval to use an alternative compliance method via a Fleet Plan, which is described in Section 4.a of this document.

A fleet plan requires a greater amount of reporting, documentation and approval from the Department than compared to directly complying with the BART Levels prescribed. For all fleet plan requests, the owner must submit justification for why a BART device at the prescribed level cannot be installed on the vehicle. All Fleet Plans are required to be reviewed and approved by the Department. Alternative compliance methods include the installation of a BART device at a lesser BART Level, repowering or rebuilding of an engine, early retirement of the vehicle and an exemption request.

a. Lesser BART Level: Although there are many retrofit devices verified and available for use on many different vehicle types and model years, there are some retrofit devices that require specific conditions to be met in order to operate effectively. For example, some diesel particulate filters require a minimum engine exhaust temperature in order to achieve the verified emissions reduction level. If a vehicle does not meet this minimum temperature, then this may limit the number of retrofit devices available for installation. The Department recognizes this situation and allows for vehicle owners to look at the next lower BART Level for a retrofit device when no feasible device exists at the prescribed level. The owner must continue to look at the “drop down” BART levels until a feasible device is found for the regulated vehicle. If a regulated vehicle is required to install a BART 2 device but is unable to find a compatible device that meets a minimum reduction of 50 percent (i.e. BART 2 or BART 3 retrofit devices) then the vehicle owner must drop down to BART 1 for a retrofit device. The owner must continue to drop down to the next lesser BART Level until an appropriate device is found. If no feasible device can be found, then the owner must submit an exemption request to the Department with documentation proving why no BART device can be installed on the particular vehicle.

b. Repower or Rebuilt Engine: The fleet owner may choose to repower or rebuild the engine of a regulated vehicle as a compliance method in lieu of installing a BART device in accordance with N.J.A.C. 7:27-32.8(b). Repowering consists of replacing the engine of the vehicle with a

remanufactured engine whereas rebuilding occurs when the existing engine is restored to a different engine configuration. An existing engine can be repowered or rebuilt to meet a more stringent emission standard. For compliance with the Diesel Retrofit Program rules, the rebuilt or repowered engine must achieve at least the same particulate emission reduction by weight as the applicable BART Level for the regulated vehicle. If the owner chooses to repower an engine, then the removed engine must be permanently placed out of service. In addition, the manufacturer's brake horsepower rating for the repowered or rebuilt engine must not be greater than 10 percent of the brake horsepower rating of the existing engine.

c. Retirement: An owner may also consider retiring the vehicle through reduced usage or by removing the regulated solid waste vehicle from service. All retired vehicles are limited to 1,000 miles per year of service.

d. Exemption Request: If no device exists to install on the regulated vehicle then the owner may request an exemption from the Department or choose another alternative compliance method described in this section.

IMPORTANT NOTE: Costs that are eligible for reimbursement are listed at N.J.A.C. 7:27-32.11. Fuels, fuel additives and items not needed for the daily operation of the retrofit device such as periodic maintenance costs, external regeneration systems and facility upgrades are not reimbursable costs. The fleet owner should be aware of these costs when considering BART options and alternatives. For example, some of the eligible authorized installers offer fuel catalysts as a BART 1 option. Although a fuel catalyst meets the definition of BART, it is not eligible for reimbursement under the Diesel Retrofit Program rules and therefore the fleet owner would incur all costs associated with this option.

#### **4. Initial Inventory/Cost Estimate-BART Form**

Once the Fleet owner has determined how each regulated solid waste vehicle will comply with the Diesel Retrofit Program rules, either by selecting the BART device to be installed, opting for an alternative compliance method, or determining non-applicability, then the owner must supply a fleet inventory for all diesel vehicles and equipment, identify the method for compliance for all regulated solid waste vehicles and provide the cost estimates associated with the BART devices to be installed. This information must be provided electronically on the Department's "Initial Inventory/Cost Estimate-BART" form and submitted to the Department for review and approval by June 6, 2008 before any installation can occur.

A cost estimate must be obtained from the authorized installer of each selected BART device for each vehicle. If the owner chooses one of the non-retrofit alternative compliance methods stated previously, like repower, rebuild, retirement or exemption, then no cost estimates are needed.

a. Submittal Type

To complete the “Initial Inventory/Cost Estimate-BART” form, the fleet owner will need to determine the type of submittal to be completed based on the compliance method chosen for each regulated vehicle within the fleet. In accordance with N.J.A.C. 7:27-32.12(a)2, there are several different types of submittals that a fleet owner can submit to the Department: Notice of Intent to Comply, Fleet Plan, Combined Fleet Plan, Fleet Averaging Plan and Combined Fleet Averaging Plan.

- i) **Notice of Intent to Comply** - A Notice of Intent to Comply (NIC) submittal indicates that each regulated solid waste vehicle within the inventory has chosen “Notice of Intent to Comply” as its compliance method. A Notice of Intent to Comply is chosen as a compliance method when the regulated vehicle will be retrofitted using a BART device meeting the required minimum emission reduction level. There should be no alternative methods for compliance in a NIC or any BART devices at a lower level than the prescribed minimum.
- ii) **Fleet Retrofit Plan** - If one or more vehicles in the fleet cannot be retrofitted to the required minimum BART level, then a ‘Fleet Plan’ is indicated as the submittal type. A fleet plan submittal may include a combination of compliance methods since the compliance methods are indicated at the vehicle level. For example, a fleet owner may find that only one vehicle in the fleet must install a BART device at a level lower than mandated in the rules. The owner would therefore indicate “Fleet Plan” as the submittal type. Within the inventory, the fleet owner would indicate “Notice of Intent to Comply” as the compliance method for each vehicle meeting the regulatory minimum BART requirements, and “fleet plan” for the vehicle installing the lower level BART device. For the fleet plan vehicle, the owner must also submit support documentation detailing why the vehicle cannot install the minimum prescribed BART device. If an alternative compliance method is also chosen for one or more vehicles, then the owner must submit support documentation. For example, if “Engine Rebuild” is chosen, then additional documentation would include certification proving that the rebuilt engine meets the necessary reduction levels.
- iii) **Fleet Averaging Plan** – As an alternative to the Fleet Plan, an owner may choose to submit a Fleet Averaging Plan if the fleet consists of 75 or more regulated vehicles. The Fleet Averaging Plan allows the owner to meet the requirements of the rule by assessing fleet wide reductions through a combination of various emission reduction opportunities for use on both the regulated and non-regulated vehicles and equipment within the fleet. The emission reduction opportunities include retrofit devices, as well as, other methods such as early retirement and engine rebuild or re-power as a means of achieving the required diesel emissions reduction. The emissions reductions are calculated based on the entire fleets’ performance. Essentially, the fleet owner must show that the net emissions reduction achieved through a fleet averaging plan is the same or greater than the net percent reductions that would have been achieved through the implementation of a fleet retrofit plan. The fleet owner must provide calculations that compare emissions before any reduction opportunities are used with the reductions achieved after the implementation of the control measures for both the fleet averaging plan proposal, as well as, the fleet plan proposal. This calculation

must be performed using the most recent guidance from the USEPA for quantifying the benefits of diesel retrofits. If a Fleet Averaging Plan is proposed, the following items must be submitted to the Department for review and approval: an inventory of all vehicles and equipment; the measures taken to reduce diesel particulate emissions on each vehicle and equipment to be included in the fleet averaging plan; a list identifying which vehicles cannot be retrofitted with the prescribed BART device and why the retrofit is not feasible; all emissions calculations demonstrating the fleet averaging plan will achieve a greater or equal diesel particulate emission reduction at an equal or lower cost in place of a fleet retrofit plan; and a remedial measures plan committing to additional emission reduction measures if the fleet averaging plan goals are not achieved. If the Department does not approve the submitted Fleet Averaging Plan, then the fleet owner may be required to comply with an approved Fleet Plan. While this general discussion can guide an owner in determining whether to pursue a fleet averaging plan submittal, an owner should consult with the regulations specific to fleet averaging plan submittals at N.J.A.C. 7:27-32.15 and 32.16.

- iv) **Combined Fleet Plan or Combined Fleet Averaging Plan** – Two or more fleet owners may choose to consolidate their efforts by submitting one fleet retrofit plan or one fleet averaging plan that includes all of the vehicles for each owner. These types of submittals are referred to as Combined Fleet Plan or Combined Fleet Averaging Plan. The required information for each is the same as an individual submittal except information for each vehicle owner in the combined plan must be provided. Please note that the combined fleet averaging plan must include 75 or more regulated vehicles. Each owner that enters into the combined fleet plan or combined fleet averaging plan must sign the Joint and Severable Liability Statement. This shared liability agreement binds the individual owner to liability for any violation of the combined plan by the other participant owners.

Please note that any non-regulated vehicle or equipment that will be incorporated into a Fleet Averaging Plan or Combined Fleet Averaging Plan is then deemed regulated and must have a compliance method listed in the “Initial Inventory/Cost Estimate-BART” form. For purposes of completing the spreadsheet, the choices for compliance methods include: Notice of Intent to Comply, Exempt, Fleet Plan, Retirement, Engine Repower, Engine Rebuild, Fleet Averaging Plan, and Non-regulated/Due Later. The instructions provided with the “Initial Inventory/Cost Estimate-BART” form describe each compliance method and its applicability.

b. Inventory Information

The Initial Inventory/Cost Estimate-BART form is provided electronically by the Department. The Initial Inventory/Cost Estimate-BART form, including instructions for completion, is available from the Department’s website at [www.stophesoot.org](http://www.stophesoot.org). A sample of the on-line form can be seen in Appendix 1.

The inventory includes a listing of every diesel powered on-road vehicle and diesel-powered self-propelled off-road equipment owned or operated in the fleet. This inventory includes vehicles and equipment that are regulated by the Diesel Retrofit Program rules as well as those that are not regulated. The information required from the regulated solid waste vehicle owner

consists of identifying information for each vehicle/equipment, information about the selected BART device and its associated cost estimate, method for compliance, and the authorized installer to perform the installation.

Cost estimate information required on the form includes the estimated costs provided by the authorized installer such as labor rate, device and hardware costs, as well as estimated hours to install.

Many fleet owners may already manage some of this information on a similar spreadsheet. The Initial Inventory/Cost Estimate-BART form was specifically designed to accommodate the copying and pasting of data from multiple versions of Microsoft Excel, including Excel '97, 2000 and 2003. Additionally, some fleet management software is designed to export to spreadsheets such as Excel. If you use fleet management software, consider exporting data to a blank copy of Excel to prepare it for pasting into the Initial Inventory/Cost Estimate-BART form spreadsheet.

When completing the form online, please note the following:

- i) Indicate “exempt” as the “Compliance Method” on the form for a vehicle that may have an existing exhaust emissions retrofit device already installed.
- ii) If it is not possible to install any retrofit device on the regulated vehicle due to mechanical incompatibility, the owner must submit an exemption request to the Department for approval, and provide hardcopies of the supporting documentation. Approval of an exemption is subject to the Department’s review.
- iii) Any regulated vehicle that will be retired through reduced usage must indicate the annual vehicle mileage.

Please note that poor engine condition due to inadequate maintenance does not constitute a reason for an exemption. The owner must repair the regulated vehicle to a condition where the BART device can be successfully installed and effectively operated.

c. Submitting Information to the Department

Once the form is completed it must be submitted to the Department through online services at the New Jersey Department of Environmental Protection's Online Business Portal at <http://www.nj.gov/dep/online/>. This site provides many enhancements for regulated entities to best manage their business with the State. This site includes specific directions to establish a myNJ Portal account in order to access the Department's online services. Directions may also be found at [www.stopthesoot.org](http://www.stopthesoot.org).

d. Department Review

Upon receipt of the Initial Inventory/Cost Estimate-BART form the Department will conduct an administrative and technical review for completeness. An administrative review ensures that all the necessary information has been submitted and that the form has been signed and certified by the responsible party. A technical review by the Department includes, but is not limited to, ensuring the reasonableness of the cost estimates in comparison to the State Contract prices. Any final determination by the Department will be made in writing. The Department will make determinations on a vehicle-by vehicle basis. Once a cost estimate is approved the owner may

initiate the installation of the BART device. Therefore, although a particular vehicle's cost estimate, fleet plan or fleet averaging plan may be rejected within a fleet, it will not hold up the installation of retrofit devices on those vehicles with approved cost estimates.

For those vehicles that are rejected, the Department will provide in writing an explanation of any deficiencies and make recommendations to resolve the discrepancies. The owner must submit a revised inventory/cost estimate addressing the deficiencies to the Department within 60 days of the rejection letter. If any further changes are needed the Department will negotiate with the owner(s) to assist the owner in obtaining compliance within 30 days of receiving the revisions.

e. Compliance Form and Installation Process

In addition to identifying approved vehicles and certifying available funds, the approval letter will also notify fleet owner of the availability of Compliance Forms for each approved vehicle and impose a deadline for completing retrofit installations.

The Compliance Form is used to notify the Department when the installation is complete and as part of the One Time Compliance Inspection of the retrofit device. The owner will be able to download and print the form from his or her computer. The owner must complete and submit the form to the Department within 5 business days of completion of the installation. Please see Appendix 2 to view the Compliance Form.

The vehicle owner must write the date that the retrofit installation was completed and certify the form by signing in the appropriate area. This document should be present at the completion of the installation. One Compliance Form must be completed for each regulated vehicle within the fleet. A copy of the most updated Compliance Form is to be retained on the vehicle for the vehicle's lifetime.

For exempt vehicles, the Department will issue the Compliance Form to the owner indicating the exemption on the form. For vehicles with an approved exemption, the Compliance Form does not need to be signed and returned to the Department.

Please note that there are two separate occasions when the owner is responsible for submitting the compliance form to the Department in accordance with N.J.A.C. 7-27-20. The first timeframe occurs 5 days after installation of the retrofit device as stated herein. The second submittal date is contingent on completion of the one-time compliance inspection as described in Section 6 of this document.

All approved vehicles must install the retrofit device by the deadline provided in the approval letter. The deadlines for retrofit installations are based on regulated fleet size in accordance with N.J.A.C. 7:27-32.18. For example, if a regulated fleet size of 20 vehicles receives approval, then the owner must complete all retrofit installations within 120 days of the approval of the retrofit devices and certification of available funds. There may be times where vehicles may be approved but no funding is available for reimbursement. In this instance, the installation deadline will be contingent on the date that the certification of funding occurs. Thus, if vehicle approval occurs on April 1, 2008 but funds are not certified until June 1, 2008, then the

installation deadline becomes 120 days after the later of the two dates, which is June 1, 2008. Therefore, the installations must be completed by October 1, 2008.

#### 5. Reimbursement Process

In accordance with N.J.A.C. 7:27-32.24(b), an authorized installer of a retrofit device is responsible for incurring the costs associated with the purchase and installation of the device, and therefore, is responsible for seeking reimbursement of these costs. Likewise, N.J.A.C. 7:27-32.3(d) requires that any authorized installer wishing to seek reimbursement of these costs must be on a state contract specifically for such a purpose. Any public entity may also seek to be an authorized installer to perform installations on their fleet. In this instance, the public entity must have a grant agreement in place with the Department for reimbursing costs associated with complying with N.J.A.C. 7:27-32 et seq. See Section D of this document for details on performing self-installation of retrofit devices.

An authorized installer may seek reimbursement for the purchase and installation of a retrofit device once the installation is complete. The authorized installer must complete and submit to the Department a Reimbursement Application and provide proof of the purchase and completed work. A portion of that supporting documentation includes written authorization from the vehicle owner to perform the retrofit installations.

The authorized installer on the State Contract will request reimbursement from the State and provide information identifying the retrofitted vehicles associated with the invoice. The State will directly reimburse the authorized installer through payment procedures established within the State Contract. Vehicle owners will not pay for the retrofit installation and therefore do not receive any reimbursement.

#### 6. One Time Compliance Inspection and Compliance Form

After the installation is completed, a one-time compliance inspection (OTCI) of the retrofit device on each vehicle must be performed at the next regularly scheduled annual periodic inspection by a Diesel Emissions Inspection Center (DEIC). The vehicle owner must present the compliance form to the DEIC inspector and identify the corresponding vehicles.

The DEIC inspector will ensure that the Vehicle Identification Number (VIN) and the retrofit device family name listed on the compliance form match the vehicle and the installed retrofit device, respectively. Upon the completion of the OTCI, the inspector will sign the compliance form and indicate whether the retrofit device was verified or not. If the inspector cannot verify that the retrofit device listed on the Compliance Form was installed on the vehicle, he or she will not sign the form. Reasons for not signing the form may include that the VIN on the form did not match the VIN on the vehicle being inspected.

Once the inspector has completed and certified the Compliance Form, the owner must complete and submit the updated compliance form to Department within 30 days of the OTCI. A copy of the updated Compliance Form must be kept in the vehicle for which it was issued. The original updated compliance forms shall be kept in one location at the owner's place of business.

**D. A Special Case: Fleet Self-Installers**

Public owners of solid waste vehicles, such as State, County, or Municipal entities or political subdivisions thereof, may wish to perform their own retrofit installations and seek reimbursement for the associated labor costs. In this instance, the public entity must become an authorized installer as defined at N.J.A.C. 7:27-32.1 for each type of retrofit to be installed; as well as have a written grant agreement with the Department specifically for reimbursement of costs associated with complying with N.J.A.C. 7:27-32. The retrofit device must be obtained from the State Contract, where the hardware costs are directly reimbursed through the contract. Self-installers must be authorized by the manufacturer of the retrofit device and are subject to providing the warranty requirements at N.J.A.C. 7:27-32.9 et seq. The State lacks authority to provide a reimbursement grant to a private owner outside of the State contract mechanism.

**E. Maintenance of Retrofit Device**

The owner is responsible for maintaining the retrofit device in accordance with the retrofit manufacturer’s specifications. Maintaining the retrofit device will depend on the manufacturer and the type of device installed. Owners should consider this aspect when choosing the devices for their vehicles. For instance, some filters must be removed from the vehicle to clean the substrate of ash deposits whereas other filters depend on a high exhaust temperature to operate properly. Owner’s manuals will assist the owner in ensuring that the retrofits will operate effectively with their vehicle type without compromising the warranty.

**F. Warranty**

Under the Diesel Retrofit Program rules, all BART devices installed must be covered by a warranty from the manufacturer and the authorized installer for the following:

- 1) Full repair and replacement cost, including parts and labor if the retrofit device fails to perform as verified;
- 2) Full repair and replacement cost, including parts and labor if the retrofit device contains defects in material or workmanship;
- 3) The cost to repair or replace engine components if the retrofit device causes damage to the engine so as to return the engine to the condition it was in prior to the damage caused by the retrofit device.

This warranty is required to be effective for a minimum period as shown in Table 1 below. The retrofit device manufacturer and the authorized installer must provide to the owner a manual that provides a detailed description of the warranty including any exclusion due to abuse, neglect, or improper maintenance.

**Table 1-Warranty Periods**

Engine Size & Vehicle Use (HP = Horsepower)	Minimum Warranty Period
70-170 HP; GVWR < 19,500 pounds	Five years or 60,000 miles
170-250 HP; GVWR ≥19,500 pounds and ≤33,000 pounds	Five years or 100,000 miles
>250 HP; GVWR >33,000 pounds	Five years or 150,000 miles
>250 HP; GVWR >33,000 pounds; typically driven >100,000 miles per year, and; <300,000 miles on odometer at time of installation	Two years, unlimited mileage

### **G. Annual Supplements and Annual Modifications**

The owner must report any fleet inventory changes to the Department on an annual basis in accordance with N.J.A.C. 7:27-32.19. Changes to a fleet over the course of a year may include the purchase of new vehicles, or the selling or retirement of existing vehicles. In some cases, the newly acquired vehicles may need to be retrofitted or may impact the emissions reductions associated with a Fleet Averaging Plan. The vehicle owner may find that no changes occurred to their fleet. Regardless, the owner must provide fleet updates to the Department through either an annual supplement if a Notice of Intent to Comply, Fleet Plan, or Combined Fleet Plan was submitted, or through an annual modification for Fleet Averaging Plan or Combined Fleet Averaging Plan.

Information must be provided to the Department for any changes to the fleet inventory. Therefore, if no changes to the inventory occurred, then the owner must simply indicate so to comply. If vehicles were removed or added to the fleet, then the owner must submit inventory data for the new vehicles and update the data for the existing vehicles indicating the information that changed. For example, if a vehicle was sold over the course of the year, then the owner must indicate in the supplement that the vehicle was sold and is no longer used in the fleet. If a new vehicle is added to the fleet then the vehicle owner must determine if it is regulated by the Diesel Retrofit Program rules. If the vehicle is not regulated then the owner must supply vehicle information only in the annual supplement. If the vehicle is regulated, then the owner must follow the steps for compliance described in this document, and provide BART device and cost estimate information in the supplement. If the owner is unable to submit a Notice of Intent to Comply for the new vehicle, then a fleet plan for the vehicle must be submitted as described in this document.

The annual modification associated with a fleet averaging plan may require the owner to resubmit calculations depending on the type of changes that occur to the fleet. If a new vehicle is acquired and the owner will install a BART device that meets the minimum BART level then no modifications to the fleet averaging plan will occur. However, if the vehicle owner is installing a retrofit device at a lower level than prescribed in the regulations, then this may affect the fleet averaging plan reductions included in the initial submittal. Therefore, the owner must resubmit the emissions reductions calculations to demonstrate that the modified fleet averaging plan meets the requirements of the rule.

All supplements and modifications are subject to the Department's review and approval. The Department will notify the owner in writing of any rejections and provide recommendations for remedying any deficiencies. The owner will have specific timeframes to resolve any discrepancies, but the Department may work with the owner to approve the supplement.

The annual supplement or modification must be submitted to the Department within one year of the anniversary date for the fleet. If a Notice of Intent to Comply was submitted for all the vehicles in the fleet, then the anniversary date is one year after the Department received the submittal. If the submittal was a fleet plan, fleet averaging plan, combined fleet plan, or combined fleet averaging plan then the anniversary date is one year from the date that all parts of the plan are deemed approved and in effect.

The annual supplement or modification must be provided on forms supplied by the Department. At this time, the Department is in the process of developing these forms and will notify all owners once the forms are available.

#### **H. Penalties**

Failure to comply with the Diesel Retrofit Program rules carries monetary penalties, many in the form of fines of up to \$1,000 for the first offense. A full list of penalties related to the Diesel Retrofit Program rules can be found at N.J.A.C. 7:27A-3.10.

#### **I. Contact Information**

Information related to the Diesel Retrofit Program such as forms, guidance documents, state contracts and links to related information can be found online at [www.stopthesoot.org](http://www.stopthesoot.org). You may also contact the Diesel Risk Reduction Program directly at (609) 292-7953.

For future guidance and to receive updates regarding the Diesel Retrofit Program, we encourage all solid waste vehicle owners to join the solid waste vehicle list serve notification system. If you have not joined, please do so by emailing the Department at [jana.opperman@dep.state.nj.us](mailto:jana.opperman@dep.state.nj.us). Please type "SWCV List" in the subject line and include your name, phone number and company mailing address in the body of the email.



Appendix 2– Sample of Compliance Form

DRRP0001

**NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIESEL RISK REDUCTION PROGRAM**

Vehicle Owner:  
Telephone No.:  
Address:

Vehicle Description and GVWR: \_\_\_\_\_

VIN/Serial Number: \_\_\_\_\_

Vehicle License Plate State & Number: \_\_\_\_\_

Engine Manufacturer and Model Year: \_\_\_\_\_

EPA Engine Family: \_\_\_\_\_

Retrofit Design/Fleet Plan Option: \_\_\_\_\_

Retrofit Make & Model: \_\_\_\_\_

Retrofit Serial Number: \_\_\_\_\_

Retrofit Cost (incl. Installation): \_\_\_\_\_

**Installation Certification:**  
I hereby certify that the required retrofit devices have been installed on the aforementioned vehicle on the following Date: \_\_\_\_\_

I certify under penalty of law that I believe the information provided in this document is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including the possibility of fine or imprisonment or both, for submitting false, inaccurate or incomplete information.

\_\_\_\_\_  
(Vehicle Owner)

\_\_\_\_\_  
(Date)

**Vehicle Inspector:**  
I hereby certify that the retrofit requirement has been met in accordance with the inspection procedure at N.J.A.C. 7:27-32.21.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attached documents and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including the possibility of fine or imprisonment or both, for submitting false, inaccurate or incomplete information.

\_\_\_\_\_  
(Vehicle Inspector)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(DEIC license number - if applicable)

NJDEP Diesel Risk Reduction General Contact – (609) 292-7953