



NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Diesel Retrofit Program
Guidance Document
For
Commercial Buses

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A. Purpose

This document provides general guidance to assist owners of diesel-powered commercial buses 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 State of New Jersey Department of Environmental Protection (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 solid waste collection vehicles, public commercial buses, and private commercial buses and off-road equipment that regularly expose the public to diesel exhaust. The Diesel Retrofit Law requires owners of commercial buses to identify appropriate tailpipe retrofit devices and have them installed. The retrofit devices are designed to significantly reduce exhaust emissions of diesel particulates by capturing and/or destroying these particles.

Pursuant to the definitions in the regulation, a “regulated diesel commercial bus” means a diesel bus as defined at N.J.S.A. 39:8-60, that is registered and operating in the State, except that ‘diesel commercial bus’ includes only diesel commercial buses with a gross weight rating in excess of 14,000 pounds, and does not include school buses. A “private regulated commercial bus” means any regulated commercial bus not owned by New Jersey Transit Corporation or any regulated commercial bus owned by New Jersey Transit Corporation that is leased or operated by a provider of regulated commercial bus service other than New Jersey Transit Corporation.

The Diesel Retrofit Law also provides funding for the installation and purchase costs associated with the retrofit devices installed on regulated diesel-powered commercial buses. The owner must identify appropriate retrofit systems for their regulated diesel vehicles and equipment. Then 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 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 that compliant BART devices are installed on the regulated vehicles, the vehicle owner is required to submit a fleet inventory and BART device cost estimate 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 have the approved BART devices installed before the deadlines provided, and then notify the Department when each installation is complete using the compliance forms provided by the Department. The installations must be verified by a Motor Vehicle Commission (MVC) Inspector during the vehicle's next annual inspection and the owner must provide the Department with the results of that inspection. Fleet updates must be submitted to the Department on an annual basis.

The deadline for private commercial bus owners to submit to the Department the required information for a fleet inventory and any necessary cost estimate information is September 1, 2010.

1. Determining if your vehicles are regulated commercial buses

An owner of a regulated commercial bus 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 diesel powered vehicle other than private passenger automobiles that are driven on the roadways of the State. Off-road diesel equipment includes any equipment or vehicles 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 commercial buses, gasoline-powered fleet support vans, and diesel powered fleet support vehicles then the owner would need to include vehicle information on the inventory for the diesel powered fleet support vehicles and the diesel-powered commercial buses only.

The next step in the process is to determine which vehicles in the fleet are deemed "regulated commercial buses." Only those vehicles that meet the criteria for "regulated commercial buses" are required to install BART devices at this time. Pursuant to the definitions in the regulation, a "regulated diesel commercial bus" means a diesel bus as defined at N.J.S.A. 39:8-60, that is registered and operating in the State, except that 'diesel commercial bus' includes only diesel commercial buses with a gross weight rating in excess of 14,000 pounds, and does not include school buses.

Owners of regulated school buses should refer to the School Bus Guidance document found at: <http://www.stopthesoot.org/School%20Bus%20Guidance%20720082.pdf>. A regulated school bus means an in-service school bus that is originally designed to carry 10 or more passengers, powered by a diesel engine and owned by a school district, nonpublic school, or school bus

contractor who has entered into a contract with a school district or a nonpublic school to transport children to and from primary or secondary school in the State. School buses are required to have closed crankcase systems installed, *not* BART devices.

Some commercial buses may be exempt from certain requirements of the rules. Any regulated commercial bus that meets the following criteria is not required to install a BART device but may still be subject to other requirements within the rule.

- In accordance with N.J.A.C. 7:27-32.3(c), a regulated commercial bus 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.
- Regulated commercial buses 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. A determination regarding these vehicles will be made by the Department once the vehicle specific information is provided.

Please note that a commercial bus 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 included on the Initial Inventory/Cost Estimate- BART form supplied by the Department by September 1, 2010 for private commercial buses. Guidance for completing the submittal is provided at Section C.4 of this document. However, the form cannot be completed without first determining the BART devices to be installed on the regulated commercial buses.

2. Selecting a Best Available Retrofit Technology and Authorized Installer

Owners of regulated vehicles and equipment are advised to research available retrofit devices and determine which systems best fit their operational needs and vehicle characteristics. As described further in this section, the owner may need to consult with several authorized installers to discuss specific vehicle needs. The Department reviews the inventory/cost estimate to ascertain conformance to the regulatory requirements. The review does not constitute an endorsement of a retrofit device or application of a specific vehicle-device combination.

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 at varying levels of control efficiency for use on a variety of vehicles and equipment. For a retrofit technology to be deemed a Best Available Retrofit Technology, or BART, it must meet the following criteria:

- 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;
- 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
- 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 Level 1, BART Level 2, and BART Level 3. A BART Level 1 device must be verified to reduce particulate emissions by 25 percent or greater, a BART Level 2 device must be verified to reduce particulate emissions by 50 percent or more, and BART Level 3 to 85 percent or more. Examples of BART Level 1 devices include diesel oxidation catalysts. BART Level 2 devices consist of flow-thru filters, and BART Level 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 regulated commercial bus with model engine years 1994 through 2006 must have a BART Level 3 device installed, or a retrofit device verified with a control efficiency of at least 85 percent reduction of fine particulate matter. Regulated commercial buses with engine model years 1988 through 1993 must have a BART Level 2 device installed with a minimum control efficiency of 50 percent. And regulated commercial buses with engine model years 1987 or older are required to be retrofitted with a BART Level 1 device with a minimum of 25 percent reduction of fine particulate matter. A summary of the levels is listed below.

Engine Model Year	Minimum BART Level	Minimum control efficiency (particulate emission reduction by weight)
1994-2006	BART 3	85%
1988-1993	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 commercial bus 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.

Retrofit devices are not “one size fits all”. The retrofit chosen by the vehicle owner may require maintenance more or less often than a similar bus depending on the specific vehicle characteristics such as; the age and manufacturer of the engine, exhaust temperatures, the drive cycle, the engine’s maintenance history, and other factors. The authorized installer’s experience is helpful in weighing these factors when determining the retrofit suitable for each specific vehicle in your fleet.

Please note that a poorly maintained engine will also effect the BART device operation. Excessive oil consumption, fuel quality, improper fuel system calibrations and other malfunctions can result in higher costs to maintain the retrofit devices. The owner is responsible for repairing the engine to proper operational standards before having a BART installed and for keeping it in a good state of maintenance throughout its remaining useful life.

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.nj.gov/treasury/purchase/noa/contracts/t2541.shtml> or at <http://www.stopthesoot.org>. Please note that more than one authorized installer may need to be used to ensure each regulated commercial bus in the fleet has a BART device installed on it. 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.

The owner may conduct general research on the CARB or USEPA websites at <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm> and <http://www.epa.gov/otaq/retrofit/verified-list.htm> to determine which authorized installer should be contacted initially. It is the responsibility of the commercial bus owner to consult with the authorized installers to determine the appropriate BART device for each regulated commercial bus in the fleet based on the regulatory minimum BART. The vehicle owner and the authorized installer(s) should evaluate operational needs when determining the best BART retrofit device for each vehicle. Additional information can also be obtained by reviewing information for the verified products. The EPA and CARB sites may contain more products than those 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 commercial bus with a 1987 model year engine must install a BART Level 1 device at a minimum to be in compliance with the Diesel Retrofit Program rules. If no compatible device can be found at BART Level 1 then the vehicle owner may consider retrofit devices verified at BART Levels 2 and 3 to meet the minimum control efficiency requirement.

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 C.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 detailing 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 lower BART Level, repowering or rebuilding of an engine, early retirement of the vehicle and an exemption request.

a. Lower 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 have a BART Level 2 device installed but there is no compatible device that meets a minimum reduction of 50 percent (i.e. BART Level 2 or BART Level 3 retrofit devices) then the vehicle owner must drop down to BART Level 1 for a retrofit device. The owner must continue to drop down to the next lower 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 in the vehicle with one that meets a more stringent emission standard. Rebuilding occurs when the existing engine is restored to its original configuration. An existing engine can be repowered or in some cases 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 may not exceed the brake horsepower rating of the existing engine by more than 10 percent. The Department must approve documentation describing the details of the repower or rebuild of the engine before the owner proceeds with this option. If the Department does not approve the documentation then the vehicle is still required to have a BART installed.

Please note that pursuant to N.J.A.C.7:27-32.11, the reimbursement for the cost of a repower or rebuilt engine in lieu of installing BART is contingent upon the State Legislature appropriating the funds for this purpose. In these cases, as per N.J.A.C. 7:27-32.11(b)2, the amount of reimbursement related to rebuilding or repowering the engine in lieu of using BART will be equal to the purchase costs of the lowest-priced BART device on the State Contract prescribed for the particular vehicle as per N.J.A.C. 7:27-32.8.

c. Retirement: An owner may also consider retiring the vehicle through reduced usage or by removing the commercial bus from service. All retired vehicles not removed from service are limited to 1,000 miles per year of service. The owner must provide the odometer reading and date it was taken to the Department and maintain a mileage log for the vehicle.

d. Exemption Request: If no device exists to install on the regulated vehicle, the owner may request an exemption from the Department or choose another alternative compliance method described in this section. Exemption requests must include two letters from two different installers (offering devices from different manufacturers) describing in detail, the reasons the vehicle cannot have a BART installed.

IMPORTANT NOTE: Alternative methods for compliance may not be eligible for reimbursement. 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 Level 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

The owner must supply a fleet inventory of all diesel vehicles and equipment in the owner's fleet, identify the method for compliance for all regulated commercial buses and provide the cost estimates associated with the BART devices to be installed. This information must be provided electronically using the Department's "Initial Inventory/Cost Estimate-BART" form and submitted to the Department via the NJDEP Online Services web portal for review and approval by September 1, 2010 for private commercial buses 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 a compliance method that does not involve BART, such as repower, rebuild, retirement or exemption, then no cost estimates are needed for the effected vehicles.

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 (NTIC) submittal indicates that each commercial bus within the inventory has listed “Notice of Intent to Comply” as its compliance method. A NITC 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 NITC or any BART devices at a lower level than the prescribed minimum.
- ii) Fleet 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 have the minimum prescribed BART device installed. 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.stopthesoot.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 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 commercial bus 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:

- Indicate “exempt” as the “Compliance Method” on the form for a vehicle that may have an existing exhaust emissions retrofit device already installed.
- 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. Exemption requests must include two letters from two different installers (offering devices from different manufacturers) describing in detail, the reasons the vehicle cannot have a BART installed. 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.
- Any regulated vehicle that will be retired through reduced usage must indicate the annual vehicle mileage in the submittal and list the odometer reading and the date it was read in the “comments” section of the spreadsheet or in an email to the assigned project manager.

Incomplete information will lead to the Department’s rejecting all or portions of the submittal.

Common submittal errors:

- Vehicle Identification Number (VIN) typographical errors or missing characters. VINs do not use the letter “O” or “I”
- The EPA Engine Family is required for all vehicles on the submittal, a question mark or “NA” is not acceptable. The EPA Engine Family can be found on the engine label and is typically made up of 12 characters, one of which may be a decimal point
- BART device submitted is not verified for the engine model year or EPA engine family
- Incomplete vehicle information; the GVWR, engine model year and chassis model year etc are required for all vehicles on the submittal

c. Submitting Information to the Department

Once the form is completed it must be submitted through the New Jersey Department of Environmental Protection's Online Business Portal at <http://www.nj.gov/dep/online/>. Support documentation, if required, can also be sent electronically through this website as an attachment or as a hardcopy to the following address: Diesel Retrofit Program, 401 East State Street, P.O. Box 418, Trenton, NJ 08625-0418. Please note that an application will not be deemed a complete submittal until both the application and any necessary support documentation have been received by the Department.

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. 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. Please note that for all regulated vehicles, the Department must validate the VIN and EPA engine family in order to determine conformance with program regulations.

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, and the Department certifies that funding is available to provide reimbursement, the owner may contact the approved authorized installer and initiate the installation of the BART device. If a particular vehicle's cost estimate, fleet plan or fleet averaging plan is rejected within a fleet the installation of retrofit devices on the approved portions of the fleet should be completed by the deadline provided by the Department.

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. Otherwise the revisions will be deemed approved.

5. Retrofit Installation

All approved vehicles must have the retrofit device installed 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 June 1, 2010 but funds are not certified until August 8, 2010, then the installation deadline becomes 120 days after the later of the two dates, which is August 8, 2010. Therefore, the installations must be completed by December 8, 2010.

6. Compliance Forms

In addition to identifying approved vehicles and certifying available funds, the approval letter will also notify fleet owners 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 the compliance form from the Department's DEP Online Services and print the form from their 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 when the retrofit installation was completed and certify the form by printing his or her name and then signing on the signature line. Make two copies; one to keep in the vehicle and send the second copy to the Department within five days after the installation is satisfactorily completed. Keep the original in a central file. 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 but a copy must be kept on the vehicle.

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 within 5 days after installation of the retrofit device as stated herein. The second submittal date is contingent upon completing of the one-time compliance inspection as described in Section C.8 of this document.

7. 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.

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.

8. One Time Compliance Inspection and Compliance form

After the installation is completed, an One-Time Compliance Inspection (OTCI) of the retrofit device on each vehicle must be performed at the next regularly scheduled biannual periodic inspection by a Motor Vehicle Commission (MVC) Inspector. The vehicle owner must present the compliance form to the MVC Bus inspector and identify the corresponding vehicles.

The MVC inspector will ensure that the Vehicle Identification Number (VIN) and the retrofit device family name listed on the compliance form matches 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. 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 also 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 submit the updated compliance form to the 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. Maintenance of Retrofit Device

The vehicle owner is responsible for maintaining the retrofit device in accordance with the retrofit manufacturer's specifications. Maintenance of the retrofit device will depend on the manufacturer and the type of device installed. 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.

Proper engine maintenance and upkeep is also required to keep the BART device operating effectively. A retrofit device can clog or fail if the engine consumes excessive amounts of oil or the correct fuel is not used in the vehicle. It is the owner's responsibility to maintain vehicles and ensure the BART device is functioning properly.

E. 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 the table below. The retrofit device manufacturer and the authorized installer must supply a manual to the owner that provides a detailed description of the warranty including any exclusion due to abuse, neglect, or improper maintenance.

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

F. Annual Supplements and Annual Modifications

The Department requires the owner to 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 they 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. The anniversary date is provided by the Department at the time 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.

G. 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.

H. 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. 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 commercial bus owners to join the commercial buses list serve notification system. If you have not joined, please do so by emailing the Department at DieselRetrofitPrgm@dep.state.nj.us. Please type "Commercial Buses List" in the subject line and include your name, phone number and company mailing address in the body of the email.

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

This is a sample of the Initial Inventory/Cost Estimate-BART form for use through the online portal. Some of the required fields include: name of owner, address, telephone number, VIN, license plate number, model year of chassis, USEPA engine family, engine manufacturer, model year of engine, engine brake horse power, and information regarding the BART device.

The screenshot shows a Microsoft Excel spreadsheet titled "BART_Submittal_Spreadsheet12302009.xls". The spreadsheet is divided into several sections:

- Header Section (Rows 1-8):** Contains the State of New Jersey Department of Environmental Protection logo and the text "State of New Jersey Department of Environmental Protection" in blue. To the right, it says "Best Available Retrofit Techno Initial Inventory and Co".
- Control Buttons (Row 8):** Three buttons labeled "Add Rows", "Delete Rows", and "Repeat Row" are positioned below the header.
- Table Section (Rows 9-28):** A table with five columns:
 - Column 1 (A):** Owner
 - Column 2 (B):** Vehicle / Equipment Designation
 - Column 3 (C):** VIN / Serial Number
 - Column 4 (D):** Street Address, Line 1
 - Column 5 (E):** Street Address
 The table has a header row (row 9) and several empty rows below it (rows 10-28). A label "(Primary Locati" is visible in the top right of the table area.

The spreadsheet interface includes the standard Microsoft Excel menu bar (File, Edit, View, Insert, Format, Tools, Data, Window, Help) and a toolbar with various icons. The status bar at the bottom shows "Ready" and "NUM".

Appendix 2– Sample of Compliance form

DRRP0001

**NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIESEL RISK REDUCTION PROGRAM
COMPLIANCE FORM – BART**

Vehicle Owner: _____
 Telephone No.: _____
 Address: _____

Program Interest #: _____
 Vehicle/Equipment Designation: _____

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 and Model: _____
 Retrofit Device Family Name: _____
 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.

 (Print Vehicle Owner Name)

 (Vehicle Owner Signature)

 (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.

 (Print Vehicle Inspector Name)

 (Vehicle Inspector Signature)

 (Date)

 (DEIC license number - if applicable)

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