



# Complying with the Diesel Retrofit Program Rule

N.J.A.C. 7:27-32 et seq.

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Workshop for Owners of Regulated  
School Buses



# WELCOME

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# Diesel Retrofit Overview

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- Directed at reducing diesel emissions and the health impacts associated with diesel exhaust
- Components of the rule:
  - Provides for the installation of closed crankcase ventilation systems
  - Provides tailpipe retrofits for certain heavy duty diesel engines
  - Reimburses purchase and installation costs

# Intent of the Diesel Retrofit Law

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- Reduce **150 tons** of diesel particulate matter from the air every year
- Target vehicles that have large operational presence in neighborhoods and have potential to directly expose citizens to diesel particulate matter
- Prioritizes the reduction of fine particulate matter (PM<sub>2.5</sub>) in urban communities





# Diesel Risk Reduction Law

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- ~ 15,000 school buses targeted
- Designed to reduce in-cabin levels of diesel particulate by eliminating the crankcase vent as an emissions source
- Retrofit requirement triggered by DEP certifying available funds.



## Tailpipe Retrofits – School Bus

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- DEP to determine if necessary
- Requires regulatory action
  - ~1year
- Synchronize with CCVS process



# Today's workshop will cover

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- Closed Crankcase Ventilation System (CCVS) description and requirements
- State Contracts and Vendors
- Cost Estimate Submittal
- Compliance forms and Inspections
- Record keeping and Penalties
- Warranty and Maintenance



# Basic Program Steps Diesel School Buses

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- DEP Certification of Funds
- Owner identifies Regulated School Buses
- Determine appropriate CCVS & Installer
- Submit Cost Estimate(s) Form
- DEP review/approve cost estimates
- Installation
- Submittals and Recordkeeping
- One-Time Compliance Inspections





# Compliance Tools

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- Guidance Document
- State Contract - Authorized Installers
- Electronic Submittal including web portal in 12/07
- Workshops
- [www.Stopthesoot.org](http://www.Stopthesoot.org) website
- List server messaging system
- Program Staff



## What is a Regulated School Bus?

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A regulated school bus:

- Is used to transport students to and from a primary or secondary school in the State;
- Was originally designed to carry 10 or more passengers
- Is powered by a diesel engine with an engine model year older than 2007.
- School buses owned by school districts, nonpublic schools and school bus contractors



# Certification of Funds

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- Blanket Certification of Funds for all School Bus CCVS
- Certification triggers compliance deadline
- Compliance deadline
  - certification of funds + 2 years

# Authorized Installers

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- A person/entity who holds a written agreement with one or more manufacturer
- Must be on the State Contract as per regulations





# Authorized Installer Tasks

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- Needs to confirm the device will work with target engine/chassis combination
- Must be manufacturer authorized & trained
- Can provide turnkey cost estimate
- Warranty Service
- Product information and training
- Coordinate Reimbursement with State



## Devices on Contract

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- Designed to capture all solids, liquids, and gaseous emissions and to divert to the engine for recombustion.
- All have filters, closed loop to air intake.
- Application design based on engine/chassis manufacturer for sizing & plumbing
- Cummins, Donaldson, ITEC, Racor
- Contract also has tailpipe retrofits (BART) meeting regulatory requirements.



# Reimbursement

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- Reimbursement direct to Authorized Installer on State Contract
- Covered cost
  - CCVS & ancillary items for turnkey
  - Installation
- Not covered
  - Consumable items such as replacement filters
  - Remedial repairs necessary to retrofit bus
  - Existing damage, wear and tear, or modifications precluding installation of CCVS.
  - Non-contract installations unless under approved grant.



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# Steps to Compliance





# Identify Regulated School Buses

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## Determine Compliance Method

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- US EPA / CARB Certified 2007 Model Year Engine – Not Applicable
- Retirement - Bus will retire per MVC Code before Install Deadline
  - No CCVS installation
  - Reporting/recordkeeping requirements
- Exempt - No feasible CCVS
- CCVS - All other buses



## Develop Cost Estimate

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After determining which buses will be retrofitted

- Determine desired CCVS model
  - Independent research
  - Authorized Installer input
- Choose installer(s) from the state contract
  - Installers offer 1-2 CCVS brands
  - Can (May need to) use more than one authorized installer
    - May be needed for unique applications



## Cost Estimate Info

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- Installer provides cost estimate amount for each bus
- CCVS Kit at contract discount
  - Labor hours & rate
  - Mobile Install cost if applicable
- Exemptions - Document indicated CCVS installation is infeasible.
- Owner puts info into form.




# Assemble Vehicle Information

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Information to gather in preparation:

- VIN /Serial Number
- Vehicle owners designation of vehicle (bus number)
- School Bus Type (S1 Front/Rear Engine, S2)
- Engine horsepower
- Bus Make/Model
- Chassis/Engine Year
- Engine manufacturer
- Plate Number
- Storage Location

L12



**State of New Jersey**  
**Department of Environmental Protection**

**Add Rows** **Delete Rows** **Repeat Row**

Owner	School Bus Number	VIN / Serial Number	State	Zip Code	State Where License Plate is Registered	Vehicle License Plate Number	Compliance Method	School Bus Type

NJDEP Online - Windows Internet Explorer provided by CGI US

File Edit View Favorites Tools Help

Address C:\RSP\CCVS Inventory.html

newjersey njdep department of environmental protection

njdep online

njdep home | about dep | index by topic | programs/units | dep online

My Workspace | User Profile | Certifications | Payments | Documents and Forms

Version: 1.00.00 Alpha  
Currently logged in: Jeremy Cunningham (JEREMY) [Help](#) | [Logout](#)

**INVENTORY / COST ESTIMATE - CCVS**

**Note:** The Applicant does not need to complete the all fields but must fill out all required designations and descriptions. Required fields are indicated by an asterisk (\*).

Vehicle Equipment Number *	VIN / Serial Number *	Retrofit Make *	Retrofit Model *	Retrofit Manufacturer *
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Add Row**

Legend  
 Selected Tab  
 Clickable Tab



# Downloadable Cost Estimate - CCVS Spreadsheet

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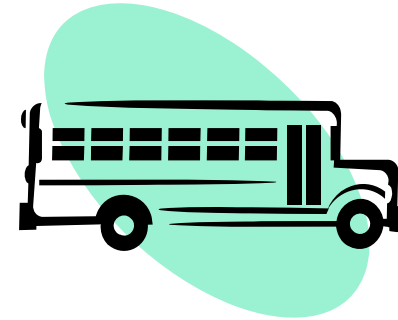
- Two procedures – same content
- Email submittal, and uploads to Web Portal
- You will be notified when it is available, also posted on [www.stopthesoot.org](http://www.stopthesoot.org)



# What's on the Form?

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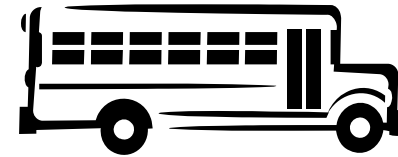
- General Information
  - Owner/Contact Person
  - Storage Location of Vehicle
- General Bus Information
  - School Bus Type/Model/Year
  - License Plate/VIN/Chassis Year
- Engine Information
  - Horsepower
  - Manufacturer/Year



# What's on the Form? (cont'd)

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- CCVS Information
  - Manufacturer/Make/Model
  - Authorized Installer
- Cost Estimate
  - CCVS Device Cost, Labor Hours/Rate
  - Mobile Install Cost
  - State Contract Cost of Installation
- Choose Compliance Method
  - CCVS – To install CCVS
  - Retirement – Retired before install deadline
  - Exempt (requires supporting documentation)





## Where to Get The Form

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- Not available at this time, awaiting approval of State Contract
- You will be notified as soon as it is
- Will be available from the Program website: [www.stopthesoot.org](http://www.stopthesoot.org)
- Web submittals starting in or about December, 2007 (direct submittal, no form to download)



# Where to Send the Form

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- Web portal submittals available in or about December 2007 at [www.Stopthesoot.org](http://www.Stopthesoot.org)
  - Web portal will also have entry form for direct input over web
  - Useful for small fleets
- Before web portal
  - Spreadsheet can be submitted through e-mail at [dieselapplications@dep.state.nj.us](mailto:dieselapplications@dep.state.nj.us)
  - Not available once the Web portal is online



## Cost Estimate Informs DEP:

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- Cost to install CCVS on each bus
  - DEP can reject unreasonable costs
- If owner will install, retire or issue an exemption request
  - Exemption must document that all of the authorized installers cannot do the retrofit
  - Supply supporting documentation
  - Must be DEP approved



# Hardcopy Submittals to the DEP

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- Hardcopy submittals can be mailed to:

Department of Environmental Protection  
Diesel Risk Reduction Program  
P.O. Box 418  
Trenton, NJ 08625-0418

- Note: Ultimately, ALL electronic submittals are through the online portal



## Why Collect This Information?

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Information is needed to:

- Verify CCVS and Authorized Installer, satisfy procurement process
- Prevent fraud
- Pre-populate the Compliance Form
- Availability of funds



## DEP review

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- Reasonable cost based on state contract rates
- Exemption requests – technical soundness.



# Cost Estimate Approval

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- Letter of approval sent to owner
- Letter to be presented to installer
- No installations shall be performed until the letter is received
  - Installer/Device on State Contract
  - DEP confirms that funds are set aside





# Notification

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- If costs are reasonable--> Letter
  - Approval for purchase and installation
- If costs are unreasonable--> Letter
  - The DEP will work with owner to identify mutually acceptable CCVS
  - If no agreement can be reached, then DEP will issue final determination:
    - Identify alternative CCVS
    - Provide an exemption



# Installation

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- Letter from DEP: Notice to begin installation
  - Has location for downloading compliance form
- Use the same authorized installer/device listed on cost estimate
  - Owner coordinates with installer
  - DEP does not coordinate installations
- Completed before install deadline
- Compliance form must be sent to DEP w/in 5 days of installation with owner signoff – **VERY IMPORTANT**



# What is the Compliance Form?

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- Tracking document for state contracting process and program monitoring
  - Owner certification that the vehicle has been retrofitted
  - MVC signoff at One-Time Compliance Inspection
  - Steps required in Diesel Retrofit Statute
- Pre-populated with cost estimate info
- Keep in vehicle at all times
  - Copy at central office location and DEP

# Compliance Form

DSRP0001

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIESEL RISK REDUCTION PROGRAM  
COMPLIANCE FORM - CCVS

Vehicle Owner:  
Telephone No.:  
Address:

School Bus Type: \_\_\_\_\_

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

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

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

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

CCVS Design Option: \_\_\_\_\_

CCVS Make & Model: \_\_\_\_\_

CCVS 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 unless the vehicle is uninspectable as indicated below. I believe that the submitted information is true, accurate and complete.

Uninspectable

\_\_\_\_\_  
(Print Inspector Name)

\_\_\_\_\_  
(Inspector Signature)

\_\_\_\_\_  
(Inspector ID #)

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

NJDEP Diesel Risk Reduction General Contract - (609) 292-7953  
Before 8 am - (609) 530-4107

# What if a CCVS can't be installed?

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Possible reasons to seek an Exemption:

- Space constraints
- Unique design issue
- Excessive engine blow-by or wear





## What if a C CVS can't be installed? (cont'd)

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- Owner must investigate all C CVS options
- If problem cannot be solved, request exemption for approval
  - Backup document detailing issue with descriptions and installers input are needed
- DEP reviews and determines:
  - A feasible C CVS for installation
  - Or “exempt” on Compliance Form



## What if CCVS can't be installed? (cont'd)

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### Space Constraints/ Design Issues

- DEP may choose to issue an Exemption

### Solutions for excessive blow-by or engine wear

- Find a higher capacity CCVS from Authorized Installer on the State Contract
- Fix blow-by problem (not reimbursable cost)





# Required Submittals

# When Do I Submit My Cost Estimate?

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## Considerations

- DEP approval process
- Authorized Installer schedule
- Fleet management issues
- Your ideal time
- CCVS required in ~2 years
- Exposure to pollutants





## When Do I Submit? (cont'd)

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If everyone waits until 2009: DEP, MVC and Installers will be overwhelmed

- Deadline is firm

Submit Cost Estimate at least 6 months before target installation time

DEP approval and Authorized Installer scheduling, CCVS supply

- Example- installation desired summer 2008
  - Submit cost estimates 12/2007
- Example- installation next Spring Break
  - Submit cost estimate now



# Installation

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- After approval received from DEP
- Vehicle owner contacts installer to schedule/coordinate
- CCVS installation is performed by the authorized installer listed on your approved cost estimate submittal
- Authorized installer supplies all components and labor; provides a turnkey installation of the CCVS



# One-Time Compliance Inspection



# One Time Compliance Inspection

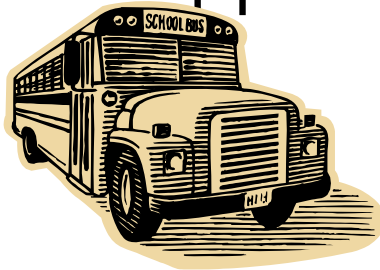
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- All school buses with a CCVS installed must have a One-Time Compliance Inspection (OTCI)
- Inspection at next regularly scheduled semi-annual MVC School Bus Inspection
- Owner informs MVC to initiate OTCI
- MVC conducts visual inspection
  - Certifies installation on Compliance Form, or
  - Finds no installation has occurred: owner must ensure installation takes place before deadline.
- Enforceable if CCVS was reimbursed

# OTCI Confirms that

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- CCVS has no open tubing
- No exhausting of crankcase gases, liquids, or solids to atmosphere
- Installation is on approved vehicle



# If Retrofitted Vehicle Fails OTCI

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- The owner must ensure proper installation of CCVS no later than the next regular scheduled semi-annual inter-terminal inspection.





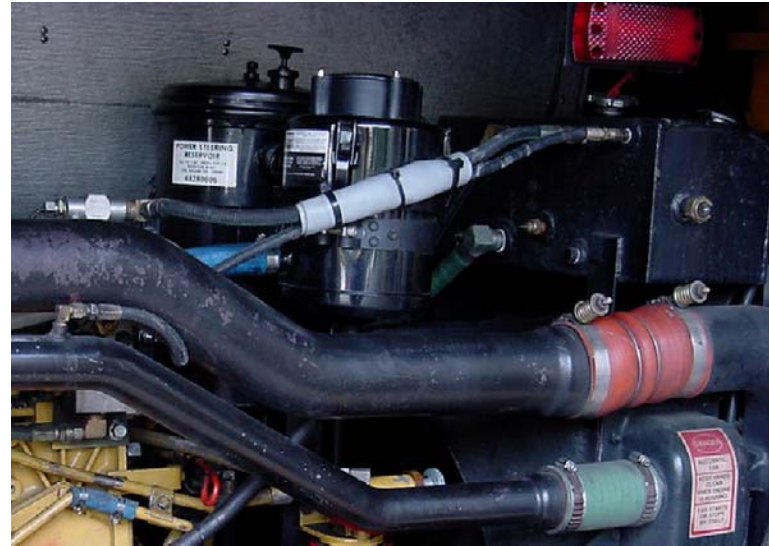


# One Time Compliance Inspection Summary

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- Visual inspection
- One passing inspection per vehicle
- MVC inspector signs compliance form
- Owner mails copy signed form to DEP within 30 days of inspection

# CCVS Examples





# Continuing Responsibilities



# Required Recordkeeping

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- Compliance Form signed copy to DEP
  - One updated copy kept in each retrofitted vehicle
  - Copies retained in owners' files
    - Single location
    - 5 year minimum record retention
- Copy of each Compliance Form sent to DEP
  - 5 days after install (owner sign)
  - 30 days after MVC inspection (MVC sign)
- Maintenance Records



# Fleet Updates

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After your fleet is retrofitted:

- Any new vehicles with pre-2007 diesel engine without CCVS will have to comply
  - If acquired before 2 year deadline, must meet install deadline
  - If acquired after deadline, cannot be used for student transport until CCVS installed.
- Same Cost Estimate procedures prior to installation



# Maintenance

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- Owners are responsible for
  - Changing filters and other CCVS maintenance
    - Depending on the device this may occur with every oil change
  - General condition
  - Repair damage
  - Make sure no blow-by is escaping
  - Emptying collection bottle (if included)

# On-Road Standards

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- N.J.A.C. 7:27-14.3- Emissions control devices such as CCVS, shall not be:
  - Disconnected
  - Detached
  - Deactivated or in any way be rendered inoperable or less effective
- Except for the purposes of diagnostics, maintenance, repair or replacement
- Enforceable





# CCVS Warranty Coverage

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- Provided by Authorized Installer & Manufacturer
- Full repair and replacement cost, including parts and labor
  - if the CCVS contains defects in material or workmanship
- Cost to repair or replace engine components
  - if the CCVS causes engine damage, coverage returns the engine to pre-damage condition





# Warranty Period

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<b>Engine Size &amp; Vehicle Use</b>	<b>Warranty Period</b>
70-170 HP; GVWR < 19,500 lbs.	5 Yrs or 60,000 miles
170-250 HP; GVWR ≥ 19,500 and ≤ 33,000 lbs.	5 Yrs or 100,000 miles
> 250 HP; GVWR > 33,000 lbs.	5 Yrs or 150,000 miles
> 250 HP; GVWR > 33,000 lbs.; > 100,000 miles per yr; < 300,000 at time of retrofit	2 Yrs, unlimited mileage



# Wrap-up



# Responsibility

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- Owners
  - Select correct CCVS for your fleet
  - Fill-out, submit and maintain forms
  - Maintain CCVS
- DEP
  - Work with owners and installers to solve problems
  - Maintain website for data
  - Store documentation
  - Guidance to regulated community
  - Ensure compliance

# Questions

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