Diesel Vehicle

Compliance and Enforcement

March 31, 2011
Why am I here today?

Just like facilities...
...trucks have smokestacks, and create emissions...
...so do buses!
...and idling vehicles!
N.J.A.C. 7:27-14
CONTROL AND PROHIBITION OF AIR POLLUTION FROM DIESEL-POWERED MOTOR VEHICLES
Revision Operative: July 21, 1998
Last Amendment Operative: December 18, 2009
(new cutpoints adopted)

N.J.A.C. 7:27-32
DIESEL RETROFIT PROGRAM
Operative: September 8, 2007
Who is affected?

All owners and operators of diesel powered vehicles.
  • private and public entities
  • commercial and private registrations

Other responsible parties:
  • fleet operators and managers
  • facility managers
  • transportation coordinators
  • health, safety and environmental …
Diesel Programs

Roadside Inspection

Periodic Inspection

Mandatory Retrofits
Periodic Inspection

Subject: diesel-powered NJ registered vehicles

Exempt: publicly owned emergency vehicles (fire, police, first aid, etc.)

<table>
<thead>
<tr>
<th>Weight Class (GVWR)</th>
<th>Period</th>
<th>Where inspected</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 18,000 (all)</td>
<td>Annual (w/in 90 days of registration)</td>
<td>DEICs (now PIFs)</td>
</tr>
<tr>
<td>10,000 - 17,999 (all)</td>
<td>Quarterly</td>
<td>Self-inspecting*</td>
</tr>
<tr>
<td>≤ 9,999 (Commercial)</td>
<td>Annual</td>
<td>State inspection facility</td>
</tr>
<tr>
<td>≤ 8,500 (Passenger, 1997 and newer)</td>
<td>Biennial</td>
<td>State or private inspection facility</td>
</tr>
</tbody>
</table>

*Self-inspecting vehicles do not receive a sticker, must keep and maintain records for two years
## Periodic Inspection

### Smoke Opacity Standards

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>GVWR</th>
<th>Model Year</th>
<th>Type</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trucks</td>
<td>≥ 8501</td>
<td>1990 and older</td>
<td>opacity</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>“</td>
<td>1991 – 1996</td>
<td>opacity</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>“</td>
<td>1997 and newer</td>
<td>opacity</td>
<td>20%</td>
</tr>
<tr>
<td>Buses</td>
<td>“</td>
<td>1987 and older</td>
<td>opacity</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>“</td>
<td>1988 – 1993</td>
<td>opacity</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>“</td>
<td>1994 and newer</td>
<td>opacity</td>
<td>20%</td>
</tr>
<tr>
<td>Retrofitted Buses</td>
<td>“</td>
<td>1993 and older</td>
<td>opacity</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>“</td>
<td>1994 and newer</td>
<td>opacity</td>
<td>20%</td>
</tr>
<tr>
<td>All</td>
<td>≤ 8500</td>
<td>1996 and older</td>
<td>Smoke</td>
<td>&gt;3 sec.**</td>
</tr>
<tr>
<td></td>
<td>“</td>
<td>1997 and newer</td>
<td>OBD Smoke</td>
<td>No MIL</td>
</tr>
</tbody>
</table>

**No visible smoke of any color for more than 3 seconds. Applies to ALL subject vehicles.**
Note to DEICs / PIFs

Latest word from the I/M program:

• NO new opacimeter packages
• Your current unit will be used
• New and replacement units must be selected from the certified opacimeter list.
**Tampering**

**DO NOT** disconnect, disable, or modify emission controls (including software!) or retrofit devices; utilize exhaust cutouts; or use of improper fuels such as substituting kerosene for diesel, or add crankcase oil to diesel fuel.

**DO:** maintain the OEM configuration.
Roadside Inspection

• All diesel-powered NJ and OOS registered vehicles ≥ 18,000 GVWR
  • OOSVs, either transient or home domiciled in NJ
• Opacity test administered by MVC, with State Police support
• Penalty for failing the test $700, reduced to $150 with proof of repair.
• 45 days to perform repairs.
• Passing vehicles may be re-inspected at ANY time.
Exhaust smoke is measured by an opacimeter. Standards are the same as in the Periodic program. Passing OOSVs receive a sticker valid for 90 days.
Mandatory Retrofits

What IS a “retrofit”? An exhaust gas “scrubber” added to an existing, non-equipped system that removes PM and NOx.

In the mandatory program, the state reimburses the owner for the cost of the equipment.
Mandatory Retrofits

All publically owned diesel-powered vehicles, or, vehicles owned by an entity under contract to a public agency.

N.J.A.C. 7:27-32 Applies to: any person who owns one or more regulated school buses, regulated vehicles or pieces of regulated equipment.

Does not apply to:
• any vehicle or equipment used in farming or agricultural purpose
• any regulated on-road diesel vehicle or regulated school bus certified by the USEPA or CARB to 0.01 g/bhp-hr PM (2007 On-road stds.)
• any off-road diesel equipment 175 to 750 HP certified by the USEPA or CARB to 0.015 g/bhp-hr PM (Tier 4)
• any off-road diesel equipment rated >750 HP and certified to 0.03 g/bhp-hr PM phased in from 2011 to 2015 (Tier 4)
**Mandatory Retrofits**

Fleet plans must be approved by NJDEP.

Annual updates required for additions, deletions, retirements, sales, etc.

<table>
<thead>
<tr>
<th>Fleet plans are due for:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>regulated solid waste vehicles</td>
<td>March 6, 2008;</td>
</tr>
<tr>
<td>public regulated commercial buses</td>
<td>September 8, 2008;</td>
</tr>
<tr>
<td>private regulated commercial buses</td>
<td>March 7, 2009*</td>
</tr>
<tr>
<td>Other regulated on-road diesel vehicles and regulated equipment</td>
<td>September 8, 2011.</td>
</tr>
</tbody>
</table>

*submittal not required until public regulated commercial buses submittals are completed.*

<table>
<thead>
<tr>
<th>Fleet deadlines for installing retrofits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 75 vehicles or pieces of equipment</td>
<td>w/in 120 days of plan approval;</td>
</tr>
<tr>
<td>75 - 150 vehicles or pieces of equipment</td>
<td>w/in 180 days of plan approval;</td>
</tr>
<tr>
<td>&gt; 150 vehicles or pieces of equipment</td>
<td>w/in 270 days of plan approval.</td>
</tr>
</tbody>
</table>
# Mandatory Retrofits

A one-time compliance inspection is required for reimbursement, which must be performed at a licensed DEIC/PIF.

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Engine MY</th>
<th>Minimum BART Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial buses</td>
<td>1994-2006</td>
<td>BART 3</td>
</tr>
<tr>
<td></td>
<td>1988-1993</td>
<td>BART 2</td>
</tr>
<tr>
<td></td>
<td>1987 and older</td>
<td>BART 1</td>
</tr>
<tr>
<td>Solid waste vehicle</td>
<td>1988-2006</td>
<td>BART 2</td>
</tr>
<tr>
<td></td>
<td>1987 and older</td>
<td>BART 1</td>
</tr>
<tr>
<td>commercial bus or S/W vehicle</td>
<td>2006 and older</td>
<td>BART 2</td>
</tr>
<tr>
<td>Off-road equipment &gt;175 HP</td>
<td>1996 - 2014 *</td>
<td>BART 3</td>
</tr>
</tbody>
</table>

* BART installation requirements do not apply to:
  engines 175-750 HP certified to 0.015 g/bhp-hr PM
  engines > 750 HP certified to 0.03 g/bhp-hr PM, phased in from 2011 to 2015.

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**TABLE 1**

<table>
<thead>
<tr>
<th>BART Level by Vehicle and Equipment Type</th>
</tr>
</thead>
</table>

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A one-time compliance inspection is required for reimbursement, which must be performed at a licensed DEIC/PIF.
## BART Efficiency Rates

**TABLE 2**  
Best Available Retrofit Technology

<table>
<thead>
<tr>
<th>Minimum Control BART Level</th>
<th>Minimum Control Efficiency (particulate emission reduction by weight)</th>
<th>Typical Device Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>85%</td>
<td>Hi Efficiency DPF</td>
</tr>
<tr>
<td>2</td>
<td>50%</td>
<td>DPF</td>
</tr>
<tr>
<td>1</td>
<td>25%</td>
<td>DOC</td>
</tr>
</tbody>
</table>
The Bad News (penalties, of course)

- Failing the opacity test: $700 / $1,300
- Failure to inspect: $500
- Tampering: $^10,000/day
- Failure to file a fleet plan: $200
Acronyms

BART – Best Available Retrofit Technology
DEIC – Diesel Emissions Inspection Center
DOC – Diesel Oxidation Catalyst
DPF – Diesel Particulate Filter
GVWR – Gross Vehicle Weight Rating
I/M – Inspection and Maintenance Program
MIL – Malfunction Indicator Light
MVC – NJ Motor Vehicle Commission
NOx – Oxides of Nitrogen
OBD – On-Board Diagnostic system
OOSV – Out of State Vehicles
PIF – Private Inspection Facility
PM – Particulate Matter
Links / Contacts

NJDEP Diesel Inspection and Maintenance Program
http://www.nj.gov/dep/bmvim/bmvim_hddvip.htm
609-292-1637

Idling and Retrofits
Diesel Risk Reduction Program
http://www.stopthesoot.org
609-292-7953

NJMVC Diesel Inspections
http://www.state.nj.us/mvc/Inspections/UnderstandingDiesel.htm

To find a Diesel Emissions Inspection Center:
http://njgin.nj.gov/OIT_MVCF/facilities.jsp?fac=deic
For more information:

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Diesel Enforcement Project
609-292-6429
ralph.bitter@dep.state.nj.us