Tampering & Aftermarket Defeat Devices

Midwest Clean Diesel Initiative Steering Committee Meeting

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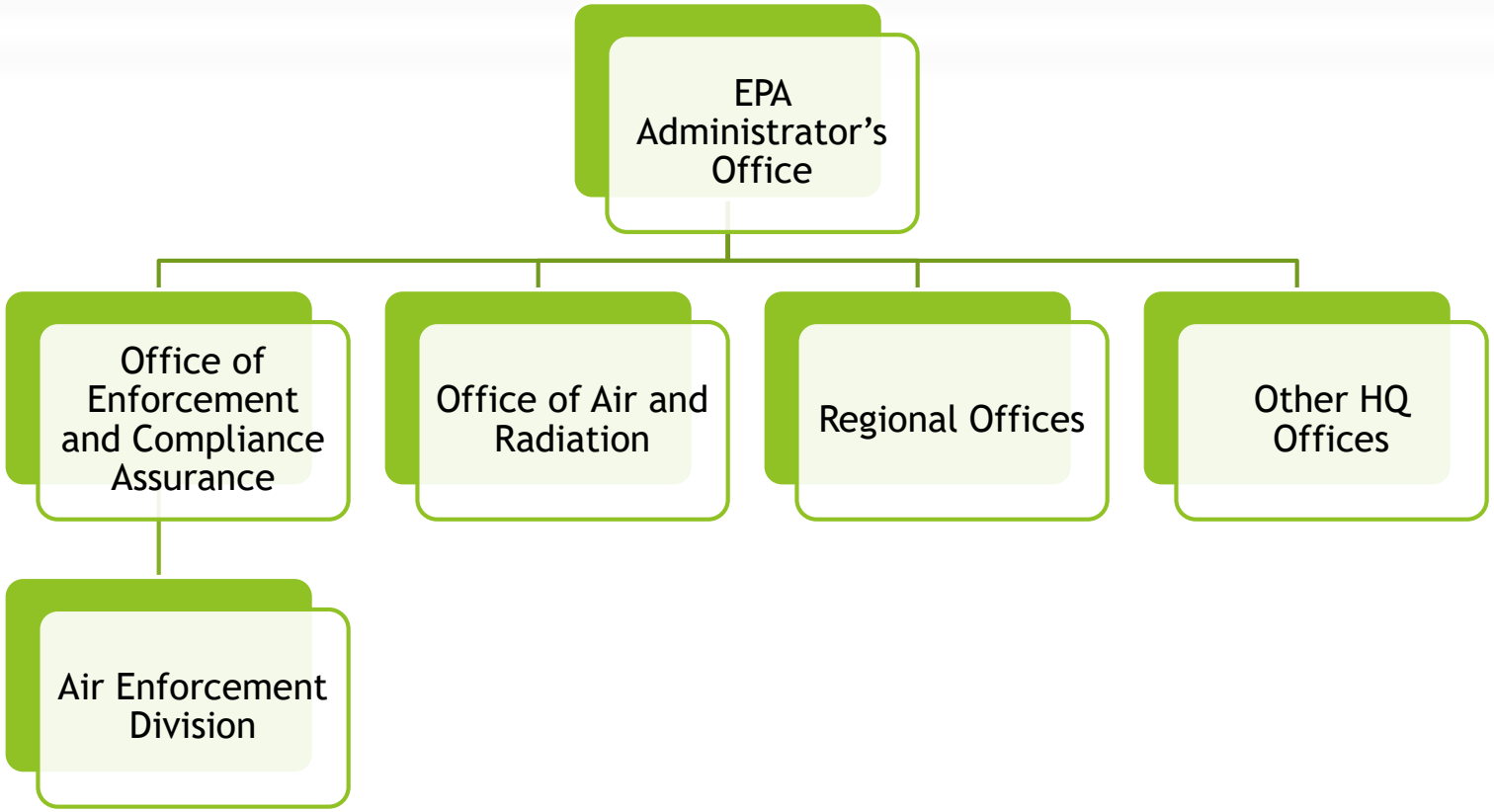
Outline

- Overview: EPA, Public Health, and the Clean Air Act
- Defeat Device and Tampering Prohibitions
- Defeat Device and Tampering Examples
- Tampering Enforcement Policy
- Civil and Criminal Penalties
- Warranty Implications
- Frequently Asked Questions

Vehicle & Engine Enforcement



Tampering & Aftermarket Defeat Devices, US EPA, April 2019

Vehicle & Engine Enforcement

- EPA is responsible for enforcement of Part A of Title II of the Clean Air Act, 42 U.S.C. §§ 7521–7554, and the accompanying federal engine regulations.
- On-road and non-road spark ignition and combustion ignition engines (cars, trucks, recreational vehicles, generators, etc.), as well as locomotive and marine transportation
- Stopping importation of illegal equipment and parts

Tampering & Aftermarket Defeat Devices, US EPA, April 2019

Air Quality & Public Health

- Heavy-duty diesel engines emit large amounts of nitrogen oxides and particulate matter, both of which contribute to serious public health problems in the United States.
- These problems include premature mortality, aggravation of respiratory and cardiovascular disease, aggravation of existing asthma, acute respiratory symptoms, chronic bronchitis, and decreased lung function.
- Numerous studies also link diesel exhaust to increased incidence of lung cancer.

Tampering & Aftermarket Defeat Devices, US EPA, April 2019

The Clean Air Act

- The Clean Air Act (CAA) was enacted by Congress in 1970, and amended in 1977 and 1990.
- CAA protects human health and the environment by reducing emissions from mobile sources of air pollution.
- Title II of the CAA – Mobile Source Provisions
  - Requires EPA to promulgate "emissions standards" limiting the amount of pollution that motor vehicles may emit
  - Manufacturers who wish to sell motor vehicles in the United States must design those vehicles to comply with emission standards

A New Approach to Clean Air Programs for Mobile Sources

- In the past, EPA created separate programs for vehicle emission standards and cleaner fuels
- The 2007-2010 clean diesel program takes a systems approach (vehicle & fuel) to optimize costs and benefits
- Also considers the inter-relationship with other programs (like gasoline desulfurization)

Tampering & Aftermarket Defeat Devices, US EPA, April 2019

Regulatory Strategy: New Standards for NEW Diesels

- Diesel engines in all mobile source applications--
- *Regulations adopted; now focused on implementation:*

Light-duty vehicles

Heavy-duty trucks & buses

Nonroad machines

Ocean-going ships

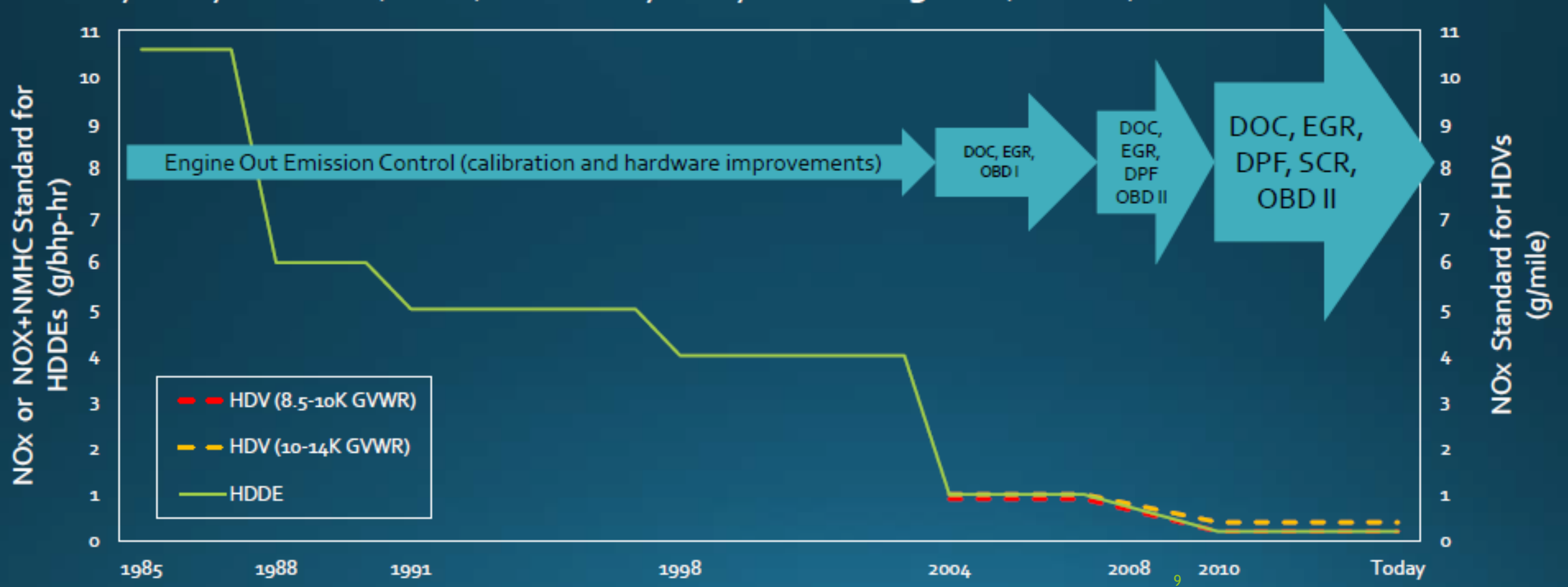
Marine vessels

Locomotives

Tampering & Aftermarket Defeat Devices, US EPA, April 2019

NOx Standards and Emission Control Devices Used by OEMs

Heavy-Duty Vehicles (HDVs) and Heavy-Duty Diesel Engines (HDDEs)



Source: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100OA01.pdf

CAA Title II Prohibitions: Defeat Devices

The following acts and the causing thereof are prohibited –

- For any person to manufacture or sell, or offer to sell, or install, a part or component for a motor vehicle, where
  - A principle effect of the part or component is to bypass, defeat, or render inoperative any emission control device, and
  - The person knows or should know that such part or component is being offered for sale or installed for such use or put to such use.

CAA § 203(a)(3)(B), 42 U.S.C. § 7522(a)(3)(B).

CAA Title II Prohibitions: Tampering

The following acts and the causing thereof are prohibited –

- For anyone to remove or render inoperative an emission control component on a certified motor vehicle or engine prior to sale or delivery to ultimate purchaser, or
- For anyone to knowingly remove or render inoperative any emission control component on a certified motor vehicle or engine after sale and delivery to the ultimate purchaser.

CAA § 203(a)(3)(A), 42 U.S.C. § 7522(a)(3)(A).

Criminal Prohibitions

- It is a crime to knowingly falsify, tamper with, render inaccurate, or fail to install any "monitoring device or method" required under the CAA.
  - CAA § 113(c)(2)(C), 42 U.S.C. § 7413(c)(2)(C).
- Vehicle Onboard Diagnostics (OBD) are a "monitoring device or method" required by the CAA.

Defeat Device and Tampering Examples

- Alterations to Fueling, Timing Strategy
- DPF Delete
- EGR Delete
- SCR Delete
- Alterations to OBD
- Software and Hardware

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Resolved Cases

In the past few years, the EPA has resolved more than 30 cases concerning more than 1 million aftermarket defeat devices

Abbyland Trucking

- Service truck repair center and refrigeration transport company in Wisconsin sold and installed defeat devices
- ECM tuning products that bypass, defeat, or render inoperative EGRs, DPFs, and other emission control devices
- 202 heavy-duty diesel trucks

Freerksen Trucking

- Minnesota trucking company removed emission controls and otherwise modified its trucking fleet
- ECM tuning products that bypass, defeat, or render inoperative emission controls, including DPFs, EGRs, and/or SCRs
- 22 heavy-duty diesel trucks

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Criminal Charges re Tampering Heavy-Duty Diesel Fleets

OE Construction

- An employee of OE Construction purchased delete kits that allowed him to alter the vehicles' emission control systems
- Pled guilty to being an accessory after the fact to violating the Clean Air Act
- Six company vehicles

Rockwater

- Five men with various relationships to a hauling service for the fracking industry in Pennsylvania (Rockwater)
- Charged with conspiring to violate the CAA by modifying the emissions systems
- Falsified records to conceal defeat devices and state inspections
- ~30 heavy-duty diesel trucks

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Memo 1A - Tampering Enforcement Policy

- Interim Tampering Enforcement Policy Memorandum 1A (6/25/74)
- Memo 1A allows the sale and use of aftermarket parts when an individual or company has a "reasonable basis" to believe their actions do not increase emissions
- EPA issues no approvals under Memo 1A

Memo 1A Requirements

In order to prevent and protect yourself from violations of the prohibitions on tampering and defeat devices, you should have in your records:

- Emission test results from tests conducted in accordance with EPA's federal test procedure (FTP) showing that similar vehicles meet the standards for the vehicles' useful lives
- Generally, the testing required for a CARB EO is the same as the testing required under Memo 1A because the test procedures are usually the same

Vehicle must perform the same on- and off-cycle

Warranty Implications

- Consumers and service technicians should investigate warranty implications in advance.
- Tampering can void manufacturer warranties and insurance agreements if the tampering can be shown to have caused the failure.

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So this guy comes in with a truck that's already tampered . . .

- When determining whether service performed on an element of an emission control system was illegal tampering, the EPA typically compares the element after the service to the element's fully-functioning certified configuration, rather than to the element's configuration prior to the service.
- Where a person is asked to perform service on an element of an emission control system that has already been tampered, the EPA will generally take no enforcement action if the person restores the element to its certified configuration or declines to perform the service.

Fact Sheet: Exhaust System Repair Guidelines, available at https://www.epa.gov/enforcement/us-epa-fact-sheet-exhaust-system-repair-guidelines-march-13-1991

Report Violations

- tampering@epa.gov
- Report violations online: https://www.epa.gov/enforcement/report-environmental-violations

Appendix

Sample Scenarios:

- Scenario 1: During a DPF cleaning a technician spots an exhaust temperature sensor has been removed. The technician notifies his service manager and the customer. He then connects a new sensor to the DPF when installing the cleaned filter. Once the repair order is complete, the customer leaves the facility.

Sample Scenarios:

- Scenario 1: During a DPF cleaning a technician spots an exhaust temperature sensor has been removed. The technician notifies his service manager and the customer. He then connects a new sensor to the DPF when installing the cleaned filter. Once the repair order is complete, the customer leaves the facility.

- **NO VIOLATION** – By connecting a new exhaust sensor to the cleaned DPF, the service provider was able to bring the vehicle back into compliance. Had the customer refused the new sensor and/or the service provider failed to install it, both would be at risk for fines.

Sample Scenarios:

- Scenario 2: A service provider is tasked with repairing leaky urea valves on a customer's newly purchased used vehicle. While repairing the leaks, a technician discovers a number of SCR valve sensors have been altered. The technician completes the piping repairs, and notifies the customer and his service manager about the sensors. The customer leaves the facility.

Sample Scenarios:

- Scenario 2: A service provider is tasked with repairing leaky urea valves on a customer's newly purchased used vehicle. While repairing the leaks, a technician discovers a number of SCR valve sensors have been altered. The technician completes the piping repairs, and notifies the customer and his service manager about the sensors. The customer leaves the facility.

- **VIOLATION** – The service provider only completed one of two steps necessary to avoid a potential fine — it notified the customer of the tampering. It did not bring the vehicle back to spec. The vehicle's new owner and the service provider can be fined, even though neither actually committed the tampering.

Sample Scenarios:

- Scenario 3: While performing an oil change, a technician spots a single hole drilled through a DPF to improve air flow. The technician completes the oil change, and notifies the customer and his service manager of the hole. The customer assures the service provider the DPF will be repaired offsite and leaves the facility.

Sample Scenarios:

- Scenario 3: While performing an oil change, a technician spots a single hole drilled through a DPF to improve air flow. The technician completes the oil change, and notifies the customer and his service manager of the hole. The customer assures the service provider the DPF will be repaired offsite and leaves the facility.

- **NO VIOLATION** – Because the DPF tampering was spotted during non-emission service, the service facility was not legally required to bring the vehicle back to compliance. Until the DPF is repaired, the vehicle owner could be at risk for a fine.

Sample Scenarios:

- Scenario 4: A customer requests a service provider use its computer software to modify the SCR control codes on two tractors. The technician notifies his service manager of the request and he approves it. No other vehicle hardware is touched during the computer work. Once the work is complete, the customer takes his trucks and leaves the facility.

Sample Scenarios:

- Scenario 4: A customer requests a service provider use its computer software to modify the SCR control codes on two tractors. The technician notifies his service manager of the request and he approves it. No other vehicle hardware is touched during the computer work. Once the work is complete, the customer takes his trucks and leaves the facility.

- **VIOLATION** – This qualifies as tampering. A service provider may only alter an electronic control module (ECM) to undo tampering and bring a vehicle back to compliance. And because the single act of tampering occurring on two vehicles, the service provider is now susceptible to a $90,536 fine.

Qs & As

- Q1: Is use of a non-approved aftermarket part tampering or installation of a defeat device?
  - A: It depends on what the part is. If the part is an "element of design" as defined by EPA (in other words, if it is a basic element of the emission control system, like the EGR or ECM software concerning fueling strategy), then using it could be tampering (unless the part is certified or otherwise qualifies under Memo 1A). If on the other hand, the part modulates or controls an element of the emission control system, such as altering how the computer controls the fuel, then it would be a defeat device. Also, the device could violate CAA Section 203(a)(3)(B), 42 U.S.C. §7522(a)(3)(B) even if it is not an AECD. An example would be a straight pipe that renders the catalytic converter inoperative because the converter is removed to install the straight pipe. The installer of the straight pipe violates both 203(a)(3)(A), 42 U.S.C. §7522(a)(3)(B) and 203(a)(3)(B), 42 U.S.C. §7522(a)(3)(B).

Qs & As

- Q2: Am I protected from selling a defeat device or tampering as long as I inform my customers that they can only use my parts “off-road” or “for racing use only” or that the parts are “not for installation on emission-controlled vehicles”?
  - A: No, if the parts are designed for and intended to be installed on motor vehicles, EPA considers you to still be liable under the CAA prohibited acts. The use of the motor vehicle is irrelevant.

Qs & As

- Q3: Are California requirements any different from EPA's? I see a lot of advertisers who note that their parts are "49-state legal" or "not for sale in California".
  - A: As you have probably learned in this presentation, California requires an EO for emission-related parts sold in California. EPA considers parts to be legal if they have an EPA Aftermarket Parts Certificate, or otherwise qualify under Memo 1A. Usually, test data used to obtain a California EO can also qualify as test data supporting a reasonable basis under Memo 1A.