Defeat Devices

Implications and Potential Remedies

National Association of Clean Air Agencies
Annual Meeting, May 17, 2016

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US EPA's Allegations Against Volkswagen

- "Defeat Devices" in every light-duty diesel vehicle since 2009
- Clean strategy under test conditions, dirty strategy on the road
- NOx emissions up to 40 times standard

Events to Date

- Notices of violation in September and November 2015
- Complaint filed January 2016
- Multi-district litigation involving 500+ lawsuits
- Agreement in Principle reached April 2016

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 18 2015

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2:16-cv-10006-LJM-MJH Doc # 1 Filed 01/04/16 Pg 1 of 31 Pg ID 1

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA,

Plaintiff,

v.

Volkswagen AG, Audi AG,
Volkswagen Group of America, Inc.,
Volkswagen Group of America
Chattanooga Operations, LLC,
Dr. Ing. H.c. F. Porsche AG, and
Porsche Cars North America, Inc.,

Defendants.

Civil Action No.

COMPLAINT

The United States of America, by authority of the Attorney General of the United States and at the request of the Administrator of the United States Environmental Protection Agency ("EPA"), files this complaint and alleges as follows:

NATURE OF ACTION

1. This is a civil action brought pursuant to Sections 204 and 205 of the Clean Air Act

Case 3:15-md-02672-CRB Document 1439 Filed 04/21/16 Page 1 of 14

Pages 1 - 13

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

BEFORE THE HONORABLE CHARLES R. BREYER, JUDGE

IN RE: VOLKSWAGEN "CLEAN DIESEL" MARKETING, SALES PRACTICES, AND PRODUCTS LIABILITY LITIGATION.

Master File No. 3:15-MD-02672-CRB
MDL No. 2672

San Francisco, California
Thursday, April 21, 2016

TRANSCRIPT OF PROCEEDINGS

Agreement in Principle: As Announced by the Court

- Parties: US EPA, US DOJ, CARB, VW. Supported by Federal Trade Commission.
- Concrete plan for the ~500,000 2.0L vehicles on the road: buyback or lease termination, and perhaps modification to reduce emissions
- Mitigation of excess emissions: fund for remediation efforts

The “Gag” Order

- The Agreement in Principle is not publicly available
- The Court has forbidden anyone from disclosing the Agreement or its terms
- Terms will remain confidential unless and until reduced to a consent decree
- Deadline to file consent decree is June 21, 2016
- Thank you for understanding that I cannot say more about the terms than is written in my presentation

EPA's Policy on Mitigation

- EPA Mitigation Policy updated 2012. https://www.epa.gov/enforcement/2nd-edition-securing-mitigation-memo
- Mitigation is injunctive relief to remedy, reduce, or offset past or ongoing harm caused by the alleged violations
- Cleaning up excess emissions
- Preventing future emissions

EPA Policy on Supplemental Environmental Projects

- EPA SEP Policy updated March 2015. https://www.epa.gov/enforcement/2015-update-1998-us-epa-supplemental-environmental-projects-policy
- A SEP is an environmentally beneficial project or activity that is not required by law, but that a defendant agrees to undertake as part of the settlement of an enforcement action
- SEPs are projects or activities that go beyond what could legally be required in order for the defendant to return to compliance
- SEPs (i) must have nexus with violations, (ii) must not augment the federal government's budget, (iii) must be a qualifying type of project, and (iv) can be a basis to reduce the civil penalty.

Implications of the Volkswagen Case

1. Greater focus on defeat devices, especially aftermarket defeat devices

2. Enhanced state involvement in defeat device enforcement

The Problem of Defeat Devices

- These devices “defeat” emission controls, by bypassing, eliminating, or fooling them
- Software and hardware
- The term “defeat device” is well known due to the ongoing VW case, but has been around as long as the Clean Air Act
- Defeat devices can come from the original vehicle manufacturers or “aftermarket” vendors
- The internet and automotive magazines are loaded with advertisements for aftermarket defeat devices intended for use on motor vehicles
- Trend has increased in response to tightening emission standards and increased use of software

Emissions Impacts of Aftermarket Defeat Devices

- Oxides of Nitrogen, Particulate Matter, and others
- The Clean Air Act is a technology forcing statute; defeat devices undo the technologies used to control emissions
- Technology used to control emissions is both "in" the engine (like electronic fueling strategies) and "after" the engine in the exhaust system (like filters and catalysts)
- Measurements of emissions made by EPA and others indicate that vehicles equipped with defeat devices can have emissions tens to hundreds of times higher than compliant vehicles

Closed Aftermarket Defeat Device Cases (US EPA)

- Caspers Electronics: 44,000 oxygen sensor simulators that suppressed the "check engine" light when the catalytic converter was removed. Excess emissions of 6,000 tons of nitrogen oxides (NOx), 7,400 tons of hydrocarbons, and 347,000 tons of carbon monoxide.
- Edge Products: 9,000 software tuning devices that suppressed the "check engine" light when the diesel particulate filter was removed. Excess emissions of 158 tons of particulate matter.
- H&S Performance: 114,000 software products used to reprogram engines' fueling strategy and enabled the removal of treatment systems like filters and catalysts. Excess emissions of 70,000 tons of NOx and 380 tons of particulate matter.

The Act's Prohibition on Defeat Devices

- It is illegal for "any person to manufacture or sell, or offer to sell or install, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine, where a principal effect of the part or component, is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations . . . , and where 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 section 203(a)(3)(B).
- In other words, any software or hardware that changes the way that a vehicle operates from the way the manufacturer of the vehicle certified it for compliance with EPA requirements is illegal, unless testing shows it does not cause excess emissions

Memo 1A

- Interim Tampering Enforcement Policy Memorandum 1A- (6/25/74) – (Memo 1A)
- 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 cause emissions problems
- *Reasonable basis* is defined as:
  - Use of equivalent, but non-OEM parts do not cause emissions to increase, or
  - Vehicles or Engines still meet the emissions standards when tested on the Federal Test Procedure (FTP) for add-on parts or out-of-spec adjustments
- EPA issues no approvals under Memo 1A. Manufacturers and vendors can use it as an affirmative defense against charges of tampering

Enhanced State Involvement in Defeat Device Enforcement

- To date, just EPA and CARB
- Many potential cases against local defeat device installers—targets in every state
- Complement to EPA's cases against upstream defeat device manufacturers and retailers
- Many states already have laws prohibiting tampering and defeat devices