Elizabeth L. Loeb (NY Bar. No. 2294809)
Senior Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611, Ben Franklin Station
Washington D.C. 20044-7611
(202) 616-8916
elizabeth.loeb@usdoj.gov

Attorney for Plaintiff United States of America

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA
EASTERN DIVISION

UNITED STATES OF AMERICA, **Plaintiff,** **vs.** **ADVANCED FLOW ENGINEERING, INC.,** **Defendant**	**Civil Action No. 5:21-cv-01249**

COMPLAINT

The United States of America ("United States"), 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:

I. NATURE OF THE CASE

1. This is a civil action brought under Sections 203, 204, and 205 of the Clean Air Act ("CAA"), 42 U.S.C. §§ 7522-24, seeking injunctive relief and the assessment of civil penalties against Advanced Flow Engineering, Inc. ("aFe" or "Defendant") for Defendant's manufacture, sale and offer to sell aftermarket products that bypass, defeat, or render inoperative emission controls installed on motor vehicles or motor vehicle engines in violation of the CAA.

II. JURISDICTION

2. This Court has jurisdiction over the subject matter of and the parties to this action pursuant to Sections 204 and 205 of the CAA, 42 U.S.C. §§ 7523 and 7524, and 28 U.S.C. §§ 1331 (Federal Question), 1345 (United States as Plaintiff), and 1355 (Fine, Penalty, or Forfeiture).

3. Venue is proper in the Central District of California pursuant to 28 U.S.C. §§ 1391(b)(2), 1391(c)(2), and 1395(a), as well as Sections 204 and 205 of the CAA, 42 U.S.C. §§ 7523 and 7524, because it is the judicial district in which the Defendant is located, resides, is doing business, or in which a substantial part of the alleged violations in the Complaint occurred.

III. DEFENDANT

4. Defendant is a corporation incorporated in the state of California.

5. Defendant's principal place of business is 232 Granite Street, Corona, CA 92879.

6. Defendant is a "person" within the meaning of Section 302(e) of the CAA, 42 U.S.C. § 7602(e).

IV. BACKGROUND

7. This action arises under Title II of the CAA, as amended, 42 U.S.C. §§ 7521-90, and the regulations promulgated thereunder relating to the control of emissions of air pollution from motor vehicles and motor vehicle engines.

A. Statutory and Regulatory Overview

8. Title II of the CAA and the regulations promulgated thereunder establish standards for the emissions of air pollutants from motor vehicles and motor vehicle engines that "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a). These pollutants include nitrogen oxides ("NOx"), particulate matter ("PM"), non-methane hydrocarbons ("NMHCs"), and carbon monoxide ("CO").

9. EPA has also established National Ambient Air Quality Standards for certain pollutants, including ozone, NOx, PM, and CO. See 40 C.F.R. §§ 50.1-50.19.

10. Ozone (ground level) is a highly reactive gas that is formed in the atmosphere from emissions of other pollutants, including emissions from motor vehicles.

11. PM is a form of air pollution composed of microscopic solids and liquids suspended in air. PM is emitted directly from motor vehicles and is also formed in the atmosphere from other pollutants, including pollutants emitted from motor vehicles.

12. NOx and NMHCs are reactive gases that contribute to the formation of ozone and PM.

13. Exposure to ozone and PM is linked to respiratory and cardiovascular health problems as well as premature death. Children, older adults, people who are active outdoors (including outdoor workers), and people with heart or lung disease are particularly at risk for health effects related to ozone or PM exposure.

14. CO is a toxic gas that forms when the carbon in fuel does not burn completely. CO is harmful to human health because it reduces oxygen delivery to the body's organs and tissues. CO can cause headaches, dizziness, vomiting, nausea, loss of consciousness, and death. Long-term exposure to CO has been associated with an increased risk of heart disease.

B. EPA's Certificate of Conformity Program for New Motor Vehicles and Motor Vehicle Engines

15. Manufacturers of new motor vehicles or motor vehicle engines must apply for and obtain a certificate of conformity ("COC") from EPA to sell, offer to sell, or introduce or deliver for introduction into commerce any new motor vehicle or motor vehicle engine in the United States. 42 U.S.C. § 7522(a)(1).

16. "Motor vehicle" is defined in the CAA as "any self-propelled vehicle designed for transporting persons or property on a street or highway." 42 U.S.C. § 7550(2); 40 C.F.R. § 85.1703.

17. To obtain a COC, the original equipment manufacturer ("OEM") must demonstrate that the motor vehicle or motor vehicle engine will conform to established emissions standards for NOx, PM, NMHCs, and CO, and other pollutants during the motor vehicle or motor vehicle engine's useful life. 42 U.S.C. § 7525(a)(2); see 40 C.F.R. §§ 86.007-30(a)(1)(i), 86.1848-01(a)(1).

18. The COC application must include a description of the motor vehicle's emission control system and fuel system components. 40 C.F.R. §§ 86.094-21(b)(1), 86.1844-01(d)-(e).

19. Once issued by EPA, a COC covers only those new motor vehicles or motor vehicle engines that conform in all material respects to the specifications

provided to EPA in the COC application for such vehicles or engines. 40 C.F.R. § 86.1848-01(c)(6).

C. Acts Prohibited by Section 203(a)(3)(B) of the Clean Air Act

20. Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), states that the following acts are prohibited:

> for any person to manufacture or sell, or offer to sell, or install any part or component intended for use with, or as a 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 [promulgated under Title II of the CAA], 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.

21. Section 203(a) also prohibits any person from causing a violation of Section 203(a)(3)(B). 42 U.S.C. § 7522(a).

22. Each part or component manufactured, sold, offered for sale, or installed in violation of Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), is a separate violation of Section 203(a)(3)(B), 42 U.S.C. § 7522(a)(3)(B); 42 U.S.C. § 7524(a).

D. Emissions-Related Elements of Design

23. EPA has defined "element of design" as "any control system (i.e., computer software, electronic control system, emission control system, computer

logic), and/or control system calibrations, and/or the results of systems interaction, and/or hardware items on a motor vehicle or motor vehicle engine." 40 C.F.R. §§ 86.094-2 and 86.1803-01 (General Compliance Provisions for Control of Air Pollution from New and In-Use Light-Duty Vehicles, Light-Duty Trucks, and Heavy-Duty Vehicles).

24. An "emission control system" is a "unique group of emission control devices, auxiliary emission control devices, engine modifications and strategies, and other elements of design designated by the Administrator [of EPA] used to control exhaust emissions of a vehicle." 40 C.F.R. § 86.1803-01.

25. OEMs install a variety of software and hardware elements of design and emission control systems in motor vehicles and motor vehicle engines to monitor and control emissions of pollutants in order to comply with the CAA and the regulations promulgated thereunder and to obtain a COC. These elements of design and emission control systems are hereinafter referred to in this Complaint as "Emissions-Related Elements of Design."

26. "Emissions-Related Elements of Design" consist of hardware items and software that is programmed into one or more vehicle Electronic Control Units ("ECU") that monitor and operate vehicle and engine functions, including emission controls.

27. Diesel engines produce high combustion temperatures that result in the production of NOx. OEMs typically install an Exhaust Gas Recirculation System ("EGR System") which reduces NOx emissions by recirculating a portion of engine exhaust gas back through the engine's cylinders, thereby lowering combustion temperature and reducing NOx formation. The EGR System includes but is not limited to the EGR cooler, throttle valve, other valves, piping, flanges and gaskets as well as various other hardware, parts, sensors, subassemblies, auxiliary emission control devices, software (calibrations) and other components that collectively constitute the system for implementing this emissions control strategy. The EGR System is a "device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with [CAA] regulations" within the meaning of Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), and is also an "Emissions-Related Element of Design."

28. As an alternative or in addition to EGRs, OEMs typically equip motor vehicles with one or more Aftertreatment Systems "whose design function is to reduce emissions in the engine exhaust before it is exhausted to the environment." See 40 C.F.R. § 1068.30. A motor vehicle's Aftertreatment System consists of hardware installed in the stock exhaust system installed by the OEM, as well as software that runs on one or more ECUs and directs operation of the hardware components. Aftertreatment Systems that OEMs employ to control the emission of

pollutants include Diesel Particulate Filters ("DPFs"), Diesel Oxidation Catalysts ("DOCs"), Selective Catalytic Reduction ("SCR") Systems, and NOx Adsorption Catalysts ("NACs").

a. A DPF is a filter that captures soot from engine exhaust, thereby decreasing PM emissions. By design, soot that collects in the DPF is periodically burned off by elevated exhaust temperatures in a process referred to as active or passive regeneration. The DPF includes all hardware, parts, sensors, subassemblies, AECDs, ECU software (calibrations), and other components that collectively constitute the system for implementing this emissions control strategy. The DPF is a "device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with [CAA] regulations" within the meaning of Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), and is also an Emissions-Related Element of Design.

b. A DOC (a type of "catalytic converter" or "catalyst") is a precious-metal coated, flow-through honeycomb structure. As exhaust gas passes through the DOC, the coating of precious metal causes a catalytic reaction that breaks down CO and NMHCs in the exhaust into their less harmful components. The DOC includes all hardware, parts, sensors, subassemblies, AECDs, ECU software (calibrations), and other components that collectively constitute the system for implementing this emissions control strategy. The DOC is a "device or

element of design installed on or in a motor vehicle or motor vehicle engine in compliance with [CAA] regulations" within the meaning of Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), and is also an Emissions-Related Element of Design.

c. An SCR system (a type of "catalytic converter" or "catalyst") reduces NOx emissions by chemically converting exhaust gas that contains NOx into nitrogen and water through the injection of diesel exhaust fluid, typically composed of urea. The SCR includes all hardware, parts, sensors, subassemblies, AECDs, ECU software (calibrations) and other components, that collectively constitute the system for implementing this emissions control strategy. The SCR is a "device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with [CAA] regulations" within the meaning of Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), and is also an Emissions-Related Element of Design.

d. A NAC (a type of "catalytic converter" or "catalyst" a/k/a "NOx trap") reduces NOx emissions by chemically adsorbing NOx from exhaust gas. The NAC includes all hardware, parts, sensors, subassemblies, AECDs, ECU software (calibrations) and other components that collectively constitute the system for implementing this emissions control strategy. The NAC is a "device or element of design installed on or in a motor vehicle or motor vehicle engine in

compliance with [CAA] regulations" within the meaning of Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), and is also an Emissions-Related Element of Design.

E. Types of Aftermarket Products at Issue in this Case

29. Third-parties, including Defendant, have manufactured, sold, and offered to sell products for use with motor vehicles and motor vehicle engines that are designed to enhance the vehicle's power, performance, or fuel economy. In some cases, these products achieve their purpose by replacing, modifying, bypassing, rendering inoperative, facilitating deletion or partial deletion of, interfering with, and/or over-writing OEM-installed Emissions-Related Elements of Design. In such cases, these products "bypass, defeat, or render inoperative" Emissions-Related Elements of Design within the meaning of Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B). The aftermarket products relevant to this Complaint fall into two categories: EGR Delete Products and Aftertreatment System Delete Products.

30. EGR Delete Products. Some aftermarket products physically replace, modify, bypass, render inoperative, facilitate deletion or partial deletion of, and/or interfere with, components of the EGR System. These include but are not limited to kits that enable removal of the EGR cooler, plates that block the EGR system

(known as "blocker plates"), and sensor plugs that replace removed sensors which are critical for EGR function. These products are collectively referred to in this Complaint as "EGR Delete Products."

31. Aftertreatment System Delete Products. Some aftermarket hardware products physically alter some or all components of a motor vehicle's Aftertreatment System by replacing, modifying, bypassing, rendering inoperative, facilitating deletion or partial deletion of, or interfering with essential physical elements of the DPF, DOC, SCR, or NAC. These products consist of exhaust system replacement pipes that require removal of, and replace the Aftertreatment System installed by the OEM. The replacement hardware does not contain the Aftertreatment Systems such as DPF, SCR, DOC, and NAC that the OEM exhaust hardware contained. These pipes are commonly called "race pipes," CAT or DPF "delete" pipes, and "straight pipes" because they do not have a bulge in the pipe for an Aftertreatment System. These products are collectively referred to in this Complaint as "Aftertreatment System Delete Products."

F. CAA Enforcement Authorities

32. Any person violating Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B), or who causes a violation thereof, is subject to injunctive relief and civil penalties of up to $3,750 for each violation occurring after December 6,

2013 through November 2, 2015, and up to $4,876 for each violation occurring after November 2, 2015, and assessed on or after December 23, 2020, in accordance with Section 205(a) of the CAA. 42 U.S.C. § 7523, 7524(a) as modified by 40 C.F.R. § 19.4 (2020); 85 Fed. Reg. 83818, 83820 (Dec. 23, 2020).

FIRST CLAIM FOR RELIEF

Violations for the Manufacture, Sale and/or Offer to Sell EGR Delete Products

33. The United States re-alleges Paragraphs 1 through 32 above as if fully set forth herein.

34. From January of 2014 through June of 2019, Defendant manufactured, sold and/or offered to sell, and/or caused the manufacture, sale and/or offer for sale of, EGR Delete Products that bypass, defeat and/or render inoperative a motor vehicle's EGR System. Defendant's EGR Delete Products include but are not limited to blocker plates, EGR cooler delete kits and sensor plugs.

35. In response to EPA information requests issued pursuant to Section 208 of the CAA, Defendant admitted that its "EGR Cooler delete kits are designed to remove the stock EGR cooler" and "render the exhaust gas recirculation part of the emissions system inoperative."

36. Defendant's descriptions and installation instructions for its EGR Delete Products indicate that such products bypass, defeat and render inoperative the EGR System. For example,

a. Defendant's installation instructions for its "EGR Cooler Delete System" (Product Nos. 46-90071) explained how to remove EGR-related parts.

b. Defendant's description of its aFe EGR Track Kit (Product No. 46-90076) stated that the kit "allows for the removal of the EGR system."

c. Some of the product descriptions for certain of Defendant's EGR Delete Products state that the product must be used with software ("tunes") that disables the EGR System.

37. A motor vehicle's EGR System is "a device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with [CAA] regulations" within the meaning of Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B).

38. Each of Defendant's EGR Delete Products is, and at all relevant times herein was, intended for use with certified motor vehicles including Ford and Dodge vehicles.

39. A principal effect of each of Defendant's EGR Delete Products is, and at all relevant times herein was, to bypass, defeat, or render inoperative a motor vehicle's EGR System.

40. Defendant knew or should have known that each of Defendant's EGR Delete Products was being offered for sale or installed for such use or put to such use.

41. Each unit of Defendant's EGR Delete Products that Defendant manufactured, sold, and/or offered to sell, or that Defendant caused to be manufactured, sold, or offered to sell, is a separate violation of Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B). 42 U.S.C. § 7524(a).

42. For each violation of Section 203(a)(3)(B), Defendant is each liable to the United States for injunctive relief and civil penalties of up to the amounts set forth in Paragraph 32 above.

SECOND CLAIM FOR RELIEF

Violations for the Manufacture, Sale, and/or Offer to Sell Aftertreatment System Delete Products

43. The United States re-alleges Paragraphs 1 through 32 above as if fully set forth herein.

44. From January 1, 2014, through the present, Defendant has manufactured, sold, and/or offered for sale and/or caused the manufacture, sale or offer for sale of, Aftertreatment System Delete Products that bypass, defeat and/or render inoperative one or more Aftertreatment Systems on a motor vehicle.

Defendant's Aftertreatment System Delete Products include but are not limited to pipes that completely replace a vehicle's Aftertreatment System.

45. Defendant's response to EPA information requests issued pursuant to Section 208 of the CAA states that some of its Aftertreatment System Delete Products "are designed to replace the OEM catalytic converter(s) or the DPF unit" and that "removal of catalytic converter and or other emissions control devices is required."

46. Defendant's descriptions and installation instructions for its Aftertreatment System Delete Products indicate that such products bypass, defeat and render inoperative Aftertreatment Systems. For example,

a. The installation instructions for Product No. 49-04022 refers to that product as a "delete pipe" and for Product No. 49-03012 as a "4" DPF-CAT-Delete."

b. Defendant's website stated that Product No. 49-44038 "eliminates the use of the restrictive catalytic converter for maximum performance" and that Product No. 49-44037 "eliminates the use of the restrictive diesel particulate filter (DPF) for maximum performance."

c. The installation instructions for Defendant's Product Nos. 49-03010 and 49-22008RP instruct the buyer to "remove CAT/DPF section of your trucks [sic] exhaust."

d. Installation instructions and/or descriptions for certain of Defendant's Aftertreatment System Delete Products state that they must be used with software that deletes Aftertreatment System functions.

47. A motor vehicle's Aftertreatment System such as DPF, SCR, NAC and DOC, is "a device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with [CAA] regulations" within the meaning of Section 203(a)(3)(B) of the CAA, 42U.S.C. § 7522(a)(3)(B).

48. Each of Defendant's Aftertreatment System Delete Products is, and at all relevant times herein was, intended for use with certified motor vehicles and motor vehicle engines, including Ford, GM, Dodge, Nissan, Toyota, Porsche, Audi, BMW, Mazda, and Volkswagen, Subaru and Hyundai vehicles.

49. A principal effect of each of Defendant's Aftertreatment System Delete Products is, and at all relevant times herein was, to bypass, defeat, or render inoperative a motor vehicle's Aftertreatment System.

50. Defendant knew or should have known that each of Defendant's Aftertreatment System Delete Products was being offered for sale or installed for such use or put to such use.

51. Each unit of Defendant's Aftertreatment System Delete Products is a separate violation of Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B). 42 U.S.C. § 7524(a).

52. For each violation of Section 203(a)(3)(B), Defendant is liable to the United States for injunctive relief and civil penalties of up to the amounts set forth in Paragraph 32 above.

RELIEF REQUESTED

WHEREFORE, the United States respectfully requests that this Court:

A. Assess civil penalties against Defendant for each part or component Defendant manufactured or sold in violation of Section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B) or caused the manufacture or selling thereof, in the amount of up to $3,750 for each violation occurring after December 6, 2013 through November 2, 2015, and up to $4,876 for each violation occurring after November 2, 2015, and assessed on or after December 23, 2020.

B. Permanently enjoin Defendant from manufacturing, selling, offering to sell, or installing motor vehicle parts or components intended for use with a motor vehicle or motor vehicle engine where a principal effect of such 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 Title II of the CAA;

C. Order the Defendant to take other appropriate actions to remedy, mitigate, and offset the harm caused by their alleged CAA violations;

D. Award the United States its costs and disbursements in this action; and

E. Award such other and further relief as the Court may deem just and proper.

Respectfully submitted,

JEAN E. WILLIAMS
Acting Assistant Attorney General
Environment and Natural Resources Division

ELIZABETH L. LOEB
Senior Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611, Ben Franklin Station
Washington D.C. 20044-7611
(202) 616-8916
elizabeth.loeb@usdoj.gov

OF COUNSEL:
BRIAN RIEDEL
Assistant Regional Counsel
U.S. Environmental Protection Agency
75 Hawthorne Street (ORC 2-2)
San Francisco, CA 94105
riedel.brian@epa.gov