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

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

*VIA CERTIFIED MAIL*
*RETURN RECEIPT REQUESTED*

JAN 12 2017

Fiat Chrysler Automobiles N.V.
FCA US LLC
Thru:

Kyle M.H. Jones
Senior Counsel
Environment, Health and Safety
Office of the General Counsel
FCA US LLC
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Jonathan S. Martel
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Arnold & Porter LLP
601 Massachusetts Ave., NW
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Re: Notice of Violation for Model Year 2014-2016 diesel light-duty vehicles (Dodge Ram and Jeep Grand Cherokee)

Dear Messrs. Jones, Martel and Gross:

The United States Environmental Protection Agency (EPA) has investigated and continues to investigate Fiat Chrysler Automobiles N.V. and FCA US LLC (collectively, FCA) for compliance with the Clean Air Act (CAA), 42 U.S.C. §§ 7401–7671q, and its implementing regulations. As detailed in this Notice of Violation (NOV), the EPA has determined that FCA failed to disclose Auxiliary Emission Control Devices (AECDs) in certain model year 2014 through 2016 (MY14-16) diesel light-duty vehicles equipped with 3.0 liter engines. These AECDs were not disclosed in the initial motor vehicle applications for certificates of conformity (COCs) that permit the introduction of motor vehicles into United States commerce. The

AECDs, with certain exceptions, are present in the approximately 103,828 motor vehicles identified in the table below.

| Model Year | EPA Test Group | Make and Model(s) | 50 State Volume |
|---|---|---|---|
| 2014 | ECRXT03.05PV | FCA Dodge Ram 1500 | 14,083 |
| 2014 | ECRXT03.05PV | FCA Jeep Grand Cherokee | 14,652 |
| 2015 | FCRXT03.05PV | FCA Dodge Ram 1500 | 31,984 |
| 2015 | FCRXT03.05PV | FCA Jeep Grand Cherokee | 8,421 |
| 2016 | GCRXT03.05PV | FCA Dodge Ram 1500 | 32,219 (projected) |
| 2016 | GCRXT03.05PV | FCA Jeep Grand Cherokee | 2,469 (projected) |

Eight (8) specific AECDs are identified in Attachment A, which is marked as Confidential Business Information (CBI) as FCA may assert a CBI claim for some or all of these AECDs. *See* 40 C.F.R. § 2.203(b). The AECDs are described by an EPA-assigned number and name, and a short paragraph generally identifying the AECD by function.

The EPA has determined that, due to the existence of at least these eight undisclosed AECDs in these vehicles, these vehicles do not conform in all material respects to the vehicle specifications described in the applications for the COCs that purportedly cover them. Therefore, FCA violated section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1), for each time it sold, offered for sale, introduced into commerce, or delivered for introduction into commerce or imported these vehicles (or caused any of the foregoing acts with respect to these vehicles).

Operation of one or more of the eight undisclosed AECDs, either alone or in combination with each other, results in excess emissions of nitrogen oxides (NOx) under various operating conditions that may reasonably be expected to be encountered in normal vehicle operation and use. FCA did not disclose these AECDs to the EPA in their applications for COCs, despite being aware that the AECDs were required to be disclosed. The EPA has determined that, unless FCA can establish that the undisclosed AECDs qualify for one of the narrow exclusions provided under the applicable regulations, one or more of the AECDs identified in this NOV, whether alone or in combination with each other, would constitute defeat devices that reduce the effectiveness of the vehicles' emission control system that exist to comply with CAA emission standards. *See* 40 C.F.R. §§ 86.1803, 86.1809 (defining and prohibiting defeat devices). Therefore, after further investigation regarding the operation of the undisclosed AECDs, the EPA may assert that FCA committed additional violations of section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1), for each time it sold, offered for sale, introduced into commerce, delivered for introduction into commerce or imported vehicles with defeat devices (or caused any of the foregoing acts) that prevent the vehicles from conforming in all material respects to the vehicle specifications described in the applications for the COCs.

Additionally, the EPA is continuing its investigation into the operation of the undisclosed AECDs and whether FCA violated section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(1).

Background and Law Governing Alleged Violations

Violations in this matter arise under Part A of Title II of the CAA, 42 U.S.C. §§ 7521–7554, and the regulations promulgated thereunder. In creating the CAA, Congress found, in part, that "the increasing use of motor vehicles . . . has resulted in mounting dangers to the public health and welfare." CAA § 101(a)(2), 42 U.S.C. § 7401(a)(2). Congress' purpose in creating the CAA, in part, was "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population," and "to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution." CAA § 101(b)(1)–(2), 42 U.S.C. § 7401(b)(1)–(2). The CAA and the regulations promulgated thereunder aim to protect human health and the environment by reducing emissions of NOx and other pollutants from mobile sources of air pollution. Nitrogen oxides are a family of highly reactive gases that play a major role in the atmospheric reactions with volatile organic compounds (VOCs) that produce ozone (smog) on hot summer days. Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and congestion. Breathing ozone can also worsen bronchitis, emphysema, and asthma. Children are at greatest risk of experiencing negative health impacts from exposure to ozone.

The EPA's allegations here concern light-duty motor vehicles for which 40 C.F.R. Part 86 sets emission standards and test procedures, and section 203 of the CAA, 42 U.S.C. § 7522, sets compliance provisions. Light-duty vehicles must satisfy emission standards for certain air pollutants, including NOx. 40 C.F.R. § 86.1811-04. The EPA administers a certification program to ensure that every vehicle introduced into United States commerce satisfies applicable emission standards. Under this program, the EPA issues certificates of conformity (COCs), and thereby approves the introduction of vehicles into United States commerce.

To obtain a COC, a light-duty vehicle manufacturer must submit a COC application to the EPA for each test group of vehicles that it intends to enter into United States commerce. 40 C.F.R. § 86.1843-01. The COC application must include, among other things, a list of all AECDs installed on the vehicles. 40 C.F.R. § 86.1844-01(d)(11). An AECD is "any element of design which senses temperature, vehicle speed, engine RPM, transmission gear, manifold vacuum, or any other parameter for the purpose of activating, modulating, delaying, or deactivating the operation of any part of the emission control system." 40 C.F.R. § 86.1803-01. The COC application must also include "a justification for each AECD, the parameters they sense and control, a detailed justification of each AECD that results in a reduction in effectiveness of the emission control system, and [a] rationale for why it is not a defeat device." 40 C.F.R. § 86.1844-01(d)(11). Electronic control systems that may receive inputs from multiple sensors and control multiple actuators that affect the emission control system's performance are AECDs. EPA, *Advisory Circular Number 24-2: Prohibition of Emission Control Defeat Devices – Optional Objective Criteria* (Dec. 6, 1978). "Such elements of design could be control system logic (i.e., computer software), and/or calibrations, and/or hardware items." *Id.*

"Vehicles are covered by a certificate of conformity only if they are in all material respects as described in the manufacturer's application for certification. . ." 40 C.F.R. § 86.1848-10(c)(6). Similarly, a COC issued by the EPA, including those issued to FCA, states expressly, "[t]his certificate covers only those new motor vehicles or vehicle engines which conform, in all

material respects, to the design specifications" described in the application for that COC. *See also* 40 C.F.R. §§ 86.1844-01 (listing required content for COC applications), 86.1848-01(b) (authorizing the EPA to issue COCs on any terms that are necessary or appropriate to assure that new motor vehicles satisfy the requirements of the CAA and its regulations).

Manufacturers are prohibited from selling, offering for sale, introducing into commerce, delivering for introduction into commerce, or importing, any new motor vehicle unless that vehicle is covered by an EPA-issued COC. CAA § 203(a)(1), 42 U.S.C. § 7522(a)(1); 40 C.F.R. § 86.1854-12(a)(1). It is also a violation to cause any of the foregoing acts. CAA § 203(a), 42 U.S.C. § 7522(a); 40 C.F.R. § 86-1854-12(a). Additionally, the CAA makes it a violation "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 under this subchapter, 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 § 203(a)(3)(B), 42 U.S.C. § 7522(a)(3)(B); 40 C.F.R. § 86.1854-12(a)(3)(ii).

A defeat device is an AECD "that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use, unless: (1) Such conditions are substantially included in the Federal emission test procedure; (2) The need for the AECD is justified in terms of protecting the vehicle against damage or accident; (3) The AECD does not go beyond the requirements of engine starting; or (4) The AECD applies only for emergency vehicles . . . ." 40 C.F.R. § 86.1803-01.

Manufacturers of diesel-fueled motor vehicles equip the vehicles with exhaust gas recirculation (EGR) and selective catalyst reduction (SCR) systems to reduce NOx emissions. An EGR system is designed to return a variable amount of the already combusted exhaust gas back into the engine. This reduces the engine combustion temperature, which in turn reduces the formation of NOx; EGR is the primary control mechanism for reduction of NOx emissions from the engine. An SCR aftertreatment system is separate from the diesel engine and injects urea, often identified as diesel exhaust fluid (DEF), into the exhaust gas to chemically convert the NOx emissions into nitrogen ($N_2$) and water as the exhaust flows through the SCR catalyst. The DEF must be periodically refilled by the vehicle operator to maintain continuous operation of the SCR system. When the fluid is not replaced, or when the SCR does not operate properly, NOx emissions increase significantly. Certain defeat devices can cause the EGR or SCR systems to operate less effectively, or not at all, during certain operating conditions.

Motor vehicles equipped with defeat devices cannot be certified. EPA, *Advisory Circular Number 24: Prohibition on use of Emission Control Defeat Device* (Dec. 11, 1972); *see also* 40 C.F.R. § 86.1809-12.

Alleged Violations

This NOV is based in part on vehicle emission testing performed by the EPA at the National Vehicle and Fuel Emissions Laboratory (NVFEL). This testing was performed since the EPA's



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announcement on September 25, 2015, that it would perform additional testing "using driving cycles and conditions that may reasonably be expected to be encountered in normal operation and use, for the purposes of investigating a potential defeat device." EPA, EPA Conducted Confirmatory Testing (Sept. 25, 2015). The EPA has identified at least eight AECDs in the 3.0 liter diesel-fueled FCA motor vehicles listed in the table above that were not described in the application for the COC that purportedly covers each motor vehicle; most AECDs have been identified as a result of the EPA's investigation. The following is a list of the identified AECDs:

AECD #1 (Full EGR Shut-Off at Highway Speed
AECD #2 (Reduced EGR with Increasing Vehicle Speed)
AECD #3 (EGR Shut-off for Exhaust Valve Cleaning)
AECD #4 (DEF Dosing Disablement during SCR Adaptation)
AECD #5 (EGR Reduction due to Modeled Engine Temperature)
AECD #6 (SCR Catalyst Warm-Up Disablement)
AECD #7 (Alternative SCR Dosing Modes)
AECD #8 (Use of Load Governor to Delay Ammonia Refill of SCR Catalyst)

As described in Attachment A, some of these AECDs appear to cause the vehicle to perform differently when the vehicle is being tested for compliance with the EPA emission standards using the Federal emission test procedure (e.g. FTP, US06), than in normal operation and use.

In meetings with the EPA, FCA's representatives have discussed the use of these AECDs. FCA instituted a voluntary recall for AECD #1 in 2015, referred to as the 2014 Field Fix, and FCA has represented to the EPA that AECD #1 is not present in the MY 2015 and MY 2016 vehicles identified in the above table.

The EPA has reviewed the information provided by FCA, and the NVFEL has conducted additional testing. The test data shows that these vehicles have high NOx emissions under certain conditions.

The following list identifies discrete examples where the effectiveness of the emission control system is reduced:

- Combined operation of AECD #3 with AECD #7 or AECD #8 reduces in certain situations the effectiveness of the overall emission control system by disabling one key component of that system, the EGR system, without compensating by increasing the effectiveness of the other critical component, the SCR system. AECD #3 employs a timer to shut-off EGR; this EGR disablement does not appear justified for protecting the vehicle, nor does it meet any of the other exceptions of the defeat device regulatory definition. Under certain conditions reasonably expected to be encountered in normal vehicle operation and use, the SCR is unable to compensate for the reduced effectiveness caused by EGR shut-off and the overall effectiveness of the emission control system is reduced.
- The operation of AECD #5, together with AECD #6, at temperatures outside of those found in the Federal emission test procedure reduces the effectiveness of the NOx emission control system under conditions reasonably expected to be encountered in normal vehicle operation and use. In addition, a timer is used to discontinue warming of

the SCR aftertreatment system, thereby reducing its effectiveness, in a manner that does not appear to be justified to protect the vehicle.

- The operation of AECD #4, particularly when combined with AECD #8, increases emissions of tailpipe NOx under conditions reasonably expected to be encountered in normal vehicle operation and use. The operation of AECD #1, AECD #2 and/or AECD #5 increase the frequency of occurrence of AECD #4.
- The operation of AECDs #7 and #8, particularly in variable grade and high load conditions, increases emissions of tailpipe NOx under conditions reasonably expected to be encountered in normal vehicle operation and use.

These AECDs were neither described nor justified in the applicable COC applications, as required by EPA regulations. Therefore, each vehicle identified by the table above does not conform in a material respect to the vehicle specifications described in the COC application. As such, FCA violated section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1), each time it sold, offered for sale, introduced into commerce, delivered for introduction into commerce, or imported (or caused any of the foregoing with respect to) approximately 103,828 new motor vehicles within these test groups.

The EPA believes that one or more of the AECDs, whether alone or in combination with each other, reduce the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use. These AECDs: (1) occur in operating conditions that may not be part of the Federal emission test procedure; and (2) may not be justified in terms of protecting the vehicle against damage or accident; they do not otherwise qualify for the enumerated defeat device exceptions of 40 C.F.R. § 86.1803-01. Therefore, one or more of the AECDs, whether alone or in combination, may be defeat devices. To date, despite having the opportunity to do so, FCA has failed to establish that these are not defeat devices. After further investigation into whether these are defeat devices, the EPA may assert that FCA committed additional violations of section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1).

In addition to these undisclosed AECD allegations under section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1), the EPA intends to continue its investigation to determine whether the manufacture, sale, offering for sale, or installation of one or more of the undisclosed AECDs constitute defeat device violations of section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B). To date, despite having the opportunity to do so, FCA has failed to demonstrate that FCA did not know, or should not have known, that a principal effect of one or more of these AECDs was to bypass, defeat, or render inoperative one or more elements of design installed to comply with emissions standards under the CAA.

Enforcement

The EPA's investigation into this matter is continuing. The above information represents specific violations that the EPA believes, at this point, are sufficiently supported by evidence to warrant the allegations in this NOV. The EPA may find additional violations as the investigation continues.

The EPA is authorized to refer this matter to the United States Department of Justice for initiation of appropriate enforcement action. Any manufacturer who, on or after January 13, 2009, sold, offered for sale, introduced into commerce, delivered for introduction into commerce, imported, or caused any of the foregoing acts with respect to any new motor vehicle that was not covered by an EPA-issued COC is subject, among other things, to a civil penalty of up to $44,539 for each violation. CAA § 205(a), 42 U.S.C. § 7524(a); 40 C.F.R. § 19.4. The EPA may seek, and district courts may order, equitable remedies to further address these alleged violations. CAA § 204(a), 42 U.S.C. § 7523(a).

The EPA is available to discuss this matter with you. Please contact Kathryn Caballero, the EPA attorney assigned to this matter, to discuss this NOV. Ms. Caballero can be reached as follows:

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Sincerely,

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