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AO 91 (Rev. 08/09) Criminal Complaint

Special Agent

: Ian Dinsmore

UNITED STATES DISTRICT COURT

AFFIDAVIT

I, Ian Dinsmore, being first duly sworn, hereby declare and state as follows:

INTRODUCTION

- I am a federal law enforcement officer of the United States authorized to conduct investigations and make arrests.
- 2. I have been a Special Agent ("SA") with the Federal Bureau of Investigation ("FBP") since October 2015. As an FBI SA, I have participated in various investigations and prosecutions pertaining to conspiracy to defraud the United States, wire fraud, and Clean Air Act violations, including violations of Title 18, United States Code, Section 371 (Conspiracy to Defraud the United States and Conspiracy to Commit an Offense Against the United States); Title 18, United States Code, Section 1343 (Wire Fraud); and Title 42, United States Code, Section 7413 (Clean Air Act violation). I have personally conducted and participated in several fraud investigations. I have participated in investigative activities, such as arrest and search warrants, interviews, consensual monitoring, trial preparation, and subpoena preparation. As a result of my training and experience, I am familiar with federal laws relating to fraud schemes, and common fraud techniques employed in those schemes.
- 3. I am investigating a scheme perpetrated by current and former employees of Volkswagen AG ("VW AG") and its subsidiaries, including Volkswagen Group of America ("VW GOA"), and affiliates (collectively "VW") and others to impair and impede the lawful functions of the U.S. Environmental Protection Agency ("EPA"), defraud U.S. customers of VW's diesel vehicles, and violate the Clean Air Act. Specifically, from in or about May 2006 until at least in or about September 2015, VW falsely represented to the EPA and the California Air Resources Board ("CARB") (together with the EPA, "U.S. regulators") and its U.S.

otherwise "clean diesel," when in fact they were not. Deceiving U.S. regulators allowed VW to sell vehicles in the United States even though they emitted harmful toxins into the environment in violation of the Clean Air Act.

PURPOSE OF AFFIDAVIT

- 4. This affidavit is made in support of a criminal complaint, establishing probable cause for the arrest of OLIVER SCHMIDT for knowingly participating in a conspiracy which lasted from in or about May 2006 to at least September 2015, in the Eastern District of Michigan and elsewhere, to: (1) defraud the United States by impairing and impeding the lawful functions of the EPA, an agency of the federal government, contrary to Title 18, United States Code, Section 371; (2) defraud VW customers using interstate wires, contrary to Title 18, United States Code, Section 1343; and (3) violate the Clean Air Act by making a material statement, representation, or certification in, or omit material information from, any notice, application, record, report, plan or other document required pursuant to the Clean Air Act to be filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State), contrary to Title 42, United States Code, Section 7413(c)(2); all in violation of Title 18, United States Code, Section 371.
- 5. As is more fully described below, SCHMIDT is a VW employee who, from 2012 to March 2015, was stationed in Auburn Hills, Michigan, and was the General Manager in charge of the Environmental and Engineering Office ("EEO"), which is the office within VW primarily responsible for communicating and coordinating with U.S. regulatory agencies, including EPA and CARB. In March 2015, SCHMIDT was promoted into a position as a principal deputy of a senior manager of VW. By the summer of 2015, U.S. regulators had

discovered that VW diesel vehicles emitted substantially higher emissions when being driven on the road than when undergoing standard U.S. emissions tests, and had repeatedly asked VW for an explanation for this discrepancy. SCHMIDT knew that the reason for this discrepancy was that VW had intentionally installed software in the diesel vehicles it sold in the United States from 2009 through 2015 designed to detect and cheat U.S. emissions tests. Nevertheless, in the summer of 2015, SCHMIDT agreed to travel to the United States to participate in direct conversations with U.S. regulators in which he intended to, and did, deceive and mislead U.S. regulators by offering reasons for the discrepancy other than the fact that VW was intentionally cheating on U.S. emissions tests, in order to allow VW to continue to sell diesel vehicles in the United States.

- observations, my training and experience, documents and records that were collected and reviewed in the course of this investigation, information that was obtained from interviewed witnesses, and information gathered by other agents of the FBI and EPA-Criminal Investigation Division ("CID"). Unless specifically indicated otherwise, all conversations and statements described in this affidavit are related in substance and in part only. Many of the documents collected in this case and cited herein were originally written in German, and while such German-language documents have been translated into English, such translations are not official, and the excerpts cited herein contain unofficial translations.
- 7. For purposes of this affidavit, I am not including every fact known to me or other SAs with FBI and EPA-CID as part of this investigation. This affidavit is intended to show merely that there is sufficient probable cause for the charge and arrest of SCHMIDT for a violation of Title 18, United States Code, Section 371.

BACKGROUND

- 8. The Clean Air Act prohibited manufacturers of new motor vehicles and new motor vehicle engines from selling, offering for sale, or introducing or delivering for introduction into commerce, any new motor vehicle or new motor vehicle engine unless the vehicle or engine complied with emissions standards, including nitrogen oxide (NOx) emissions standards, and was issued an EPA certificate of conformity as required by the Clean Air Act and federal regulations implementing the Clean Air Act. See 42 U.S.C. § 7522(a)(1).
- 9. To obtain a certificate of conformity, a manufacturer was required to submit an application to the EPA for each model year and for each test group of vehicles that it intended to sell in the United States. The application was required to include a description of the engine, emissions control system, and fuel system components, including a detailed description of each Auxiliary Emission Control Device ("AECD") to be installed on the vehicle. See 40 C.F.R. § 86.
- 10. An AECD was defined as "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." If the EPA, in reviewing the application for a certificate of conformity, determined that the AECD "reduced the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use," and that (1) it was not substantially included in the Federal Test Procedure, (2) the need for the AECD was not justified for protection of the vehicle against damage or accident, or (3) it went beyond the requirements of engine starting, the AECD was considered a "defeat device." See 40 C.F.R. § 86.1803-01.

- 11. The EPA would not certify motor vehicles equipped with defeat devices.
 Manufacturers could not sell motor vehicles in the United States without a certificate of conformity from the EPA.
- 12. CARB issued its own certificates, called executive orders, for the sale of motor vehicles in the State of California. To obtain such a certificate, the manufacturer was required to satisfy the standards set forth by the State of California, which were equal to or more stringent than those of the EPA.
- 13. As part of the application for a certification process, manufacturers often worked in parallel with the EPA and CARB. To obtain a certificate of conformity from the EPA, manufacturers were required to demonstrate that the light-duty vehicles were equipped with an on-board diagnostic ("OBD") system capable of monitoring all emissions-related systems or components. Manufacturers could demonstrate compliance with California OBD standards in order to meet federal requirements. CARB reviewed applications from manufacturers, including VW, to determine whether their OBD systems were in compliance with California OBD standards, and CARB's conclusion would be included in the application the manufacturer submitted to the EPA.

Relevant Companies

- 14. VW AG was a motor vehicle manufacturer based in Wolfsburg, Germany.
- VW GOA was a wholly-owned subsidiary of VW AG based in Herndon,
 Virginia. VW GOA's EEO was located in Auburn Hills, Michigan, in the Eastern District of
 Michigan. Among other things, EEO prepared and submitted certain documents to U.S.
 regulators in the Eastern District of Michigan, and elsewhere, in order to obtain authorization to
 sell VW motor vehicles and motor vehicle engines in the United States. VW GOA's Test Center
 California performed testing related to VW diesel vehicles.

Relevant Individuals

- 16. James Liang is a VW employee who, during the relevant time, worked in VW's engine development department. On September 9, 2016, Liang pled guilty in the United States District Court for the Eastern District of Michigan to conspiring with VW employees and others from in or about 2006 to in or about September 2015 to defraud the United States and U.S. customers of VW and to violate the Clean Air Act in violation of Title 18, United States Code, Section 371. As part of his plea agreement, Liang agreed to cooperate with the government's investigation in exchange for the possibility that the government will recommend to a court that he serve a reduced sentence.
- 17. Cooperating Witness 1 ("CW1") is a VW employee who works in VW's engine development department. CW1 has agreed to cooperate with the government's investigation in exchange for an agreement that the government will not prosecute CW1 in the United States.

 Based on a comparison of CW1's statements with those of other witnesses and with available records, I find CW1's statements to be reliable.
- 18. Cooperating Witness 2 ("CW2") is a VW employee who works in VW's engine development department. CW2 has agreed to cooperate with the government's investigation in exchange for an agreement that the government will not prosecute CW2 in the United States.

 Based on a comparison of CW2's statements with those of other witnesses and with available records, I find CW2's statements to be reliable.
- 19. CARB Employee 1 ("CE1") is an employee of CARB who is responsible for oversight of CARB's mobile source program, which regulates non-stationary sources of pollution including cars.

- 20. CARB Employee 2 ("CE2") is an employee of CARB who is responsible for certifications and compliance.
- 21. OLIVER SCHMIDT is an employee of VW. SCHMIDT joined VW in or about 1997. From in or about 2012 through in or about February 2015, SCHMIDT was the General Manager in charge of EEO, located in Auburn Hills, Michigan. From in or about March 2015 through in or about September 2015, SCHMIDT returned to VW headquarters in Wolfsburg, Germany, to work as a principal deputy of the head of Engine Development for VW, including all of its various brands.

VW Diesel Vehicles Sold in the United States

- 22. VW, through VW GOA's EEO office in Auburn Hills, Michigan, submitted applications to the EPA and CARB for certificates for light-duty diesel vehicles for model years 2009 through 2016, including the Jetta, Passat, Jetta Sportwagen, and Golf, among others.
- 23. The applications to the EPA were accompanied by a signed statement by a VW representative providing that:

The Volkswagen Group states that any element of design, system, or emission control device installed on or incorporated in the Volkswagen Group's new motor vehicles or new motor vehicle engines for the purpose of complying with standards prescribed under section 202 of the Clean Air Act, will not, to the best of the Volkswagen Group's information and belief, cause the emission into the ambient air of pollutants in the operation of its motor vehicles or motor vehicle engines which cause or contribute to an unreasonable risk to public health or welfare except as specifically permitted by the standards prescribed under section 202 of the Clean Air Act. The Volkswagen Group further states that any element of design, system, or emission control device installed or incorporated in the Volkswagen Group's new motor vehicles or new motor vehicle engines, for the purpose of complying with standards prescribed under section 202 of the Clean Air Act, will not, to the best of the Volkswagen Group's information and belief, cause or contribute to an unreasonable risk to public safety.

All vehicles have been tested in accordance with good engineering practice to ascertain that such test vehicles meet the requirement of this section for the useful life of the vehicle.

- 24. Based on the representations VW employees made in applications for the vehicles, VW received certificates from the EPA and CARB for these vehicles, allowing VW to sell these vehicles in the United States.
- 25. VW represented to the public, including its U.S. customers, U.S. regulators, dealers, investors, the media, and others, that the vehicles approved by the EPA and CARB were "clean diesel" vehicles that emitted fewer pollutants, including NOx, in accordance with the new and stricter U.S. emissions standards.

STATEMENT OF PROBABLE CAUSE

about May 2006 until at least September 2015, VW employees, including OLIVER SCHMIDT, and others conspired and unlawfully agreed with each other to: (1) defraud the United States by impairing and impeding a lawful function of the federal government, that is the U.S. EPA's function of approving certificates of conformity for vehicles in order that the vehicles can be lawfully sold in the United States, by deceitful or dishonest means, contrary to Title 18 United States Code, Section 371; (2) commit wire fraud, that is, having devised and intended to devise a scheme and artifice to defraud and obtain money and property by means of false pretenses, representations, and promises, transmitted and caused to be transmitted wires in interstate and foreign commerce for the purpose executing such scheme and artifice, contrary to Title 18, United States Code, Section 1343; (3) violate the Clean Air Act by conspiring to make a material statement, representation, or certification in, or omit material information from, any notice, application, record, report, plan or other document required pursuant to the Clean Air Act to be

filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State), contrary to Title 42, United States Code, Section 7413(c)(2); and committed at least one overt act in furtherance of the conspiracy, all in violation of Title 18, United States Code, Section 371.

A. Origin and Implementation of the Defeat Device

- 27. According to Liang and CW1, and as corroborated by contemporaneous documentation, starting in or about 2006, VW employees based in Germany in the engine development department were in the midst of designing the new EA 189 2.0 liter diesel engine (later known as the Generation 1 or "Gen 1"), which would be the cornerstone of a new project to sell passenger diesel vehicles in the United States.
- 28. According to Liang and CW1, and as corroborated by contemporaneous documentation, VW employees realized that they could not design a diesel engine that would both meet the stricter NOx emissions standards that would become effective in 2007 and attract sufficient customer demand in the U.S. market. Instead of bringing to market a diesel vehicle that could legitimately meet the heightened U.S. NOx emissions standards, VW employees, designed, created, and implemented a software function (the "defeat device") to cheat the standard U.S. emissions tests. VW employees referred to the software as, among other things, the "acoustic function" and "switch logic."
- 29. According to Liang and CW1, and as corroborated by contemporaneous documentation, while designing and implementing the defeat device software, VW employees knew that U.S. regulators would measure VW's diesel vehicles' emissions through standard tests with specific, published drive cycles. VW employees designed the VW defeat device to recognize whether the vehicle was undergoing standard U.S. emissions testing on a

dynamometer (or "dyno") or whether the vehicle was being driven on the road under normal driving conditions. The defeat device accomplished this by recognizing the standard drive cycles of the EPA's and CARB's tests. If the vehicle's software detected that it was being tested, the vehicle performed in one mode, which satisfied U.S. NOx emissions standards. If the defeat device detected that the vehicle was not being tested, it operated in a different mode, in which the vehicle's emissions control systems were reduced substantially, causing the vehicle to emit substantially higher NOx, sometimes 40 times higher than U.S. standards.

30. According to Liang and CWs 1 and 2, and as corroborated by contemporaneous documentation, starting with the first model year 2009 of VW's new "clean diesel" engine through model year 2016, VW employees, and others, then installed, and caused to be installed, the defeat device software in VW vehicles marketed and sold in the United States.

B. <u>Certification of VW Diesel Vehicles in the United States</u>

- 31. According to Liang and CWs 1 and 2, and as corroborated by contemporaneous documentation, VW employees met with the EPA and CARB to seek the certifications required to sell the vehicles to U.S. customers. During these meetings, VW employees misrepresented, and caused to be misrepresented, to the EPA and CARB staff that VW diesel vehicles complied with U.S. NOx emissions standards, when they knew the vehicles did not. During these meetings, VW employees described, and caused to be described, VW's diesel technology and emissions control systems to the EPA and CARB staff in detail but omitted the existence of a defeat device.
- 32. According to Liang and CWs 1 and 2, and as corroborated by contemporaneous documentation, also as part of the certification process for each new model year, VW employees falsely and fraudulently certified, and caused to be certified, to the EPA and CARB that VW

diesel vehicles met U.S. emissions standards and complied with the Clean Air Act. VW employees knew that if they had told the truth and disclosed the existence of the defeat device, VW could not have sold any of its diesel vehicles in the United States.

33. According to Liang and CWs 1 and 2, and as corroborated by contemporaneous documentation, following the successful launch of the Gen 1 vehicles in the United States, VW employees worked on a second generation of the diesel engine (the Generation 2 or "Gen 2"), which also contained defeat device software. The Gen 2 engine was included in vehicles sold in the United States in or around 2011.

C. The ICCT Study

- 34. According to CW1 and as corroborated by contemporaneous documentation, in or around March 2014, VW learned of the results of a study undertaken by West Virginia

 University's Center for Alternative Fuels, Engines and Emissions and commissioned by the

 International Council on Clean Transportation (the "ICCT study"). The ICCT study identified substantial discrepancies in the NOx emissions from certain VW vehicles when tested on the road compared to when these vehicles were undergoing EPA and CARB standard drive cycle tests on a dynamometer. The results of the study showed that two of the three vehicles tested
 VW vehicles emitted NOx at values of up to 40 times the permissible limit in the United States.
- 35. SCHMIDT learned of the ICCT study results no later than on or about April 2, 2014, when he received an email and attachment that stated, in part, "current diesel PEMS measurements in USA on road by CARB, WVU with ICCT show significantly increased NOx-RDE factors (study to be published soon.)". Based upon my investigation, a PEMS device is used to measure vehicle emissions on the road, and "RDE" refers to real-drive emissions. That same day, SCHMIDT wrote a colleague in reference to VW's compliance with emissions: "It

should first be decided whether we are honest. If we are not honest, everything stays as it is.

ICCT has stupidly just published measurements of NAR diesel off-cycle, not good." Based upon my investigation, VW employees refer to VW's North American Region as NAR, which includes the United States.

- 36. According to Liang, CWs 1 and 2, and CE1 and CE2, and as corroborated by contemporaneous documentation, following the ICCT study, CARB, in coordination with the EPA, attempted to work with VW to determine the cause for the higher NOx emissions in VW diesel vehicles when being driven on the road as opposed to on the dynamometer undergoing standard emissions test cycles. To do this, CARB, in coordination with the EPA, repeatedly asked VW questions that became increasingly more specific and detailed, as well as conducted additional testing themselves.
- of VW GOA and another employee a document analyzing "Possible Consequences/Risks" of the ICCT study. The analysis noted possible monetary penalties per vehicle of up to \$37,500 from the EPA, with 500,000 to 600,000 affected vehicles. The document also noted, "Difference between street and test stand must be explained. (Intent = penalty!)" and "applications modifications in GEN1 and GEN2 can achieve reductions of NOx emissions under RDE, but not compliance with the limits." In his cover email, SCHMIDT noted, "the EPA is currently starting a research project on this topic."
- 38. According to Liang and CWs 1 and 2, and as corroborated by contemporaneous documentation, after learning about the results of the ICCT study, engineers in the VW engine development group formed an ad hoc task force to formulate responses to questions that arose from the U.S. regulators. VW employees determined not to disclose to U.S. regulators that the

tested vehicle models operated with a defeat device. Instead, VW employees pursued a strategy of concealing the defeat device in responding to questions from U.S. regulators, while appearing to cooperate.

39. According to Liang and CWs 1 and 2, and as corroborated by contemporaneous documentation, throughout 2014 and until at least August 2015, VW employees, and their co-conspirators, continued to offer, and cause to be offered, software and hardware "fixes" and explanations without revealing the underlying reason for the higher NOx measurements on the road.

D. SCHMIDT'S Role in the Conspiracy

- 40. In the summer of 2015, SCHMIDT took on a direct role in VW's response to questions from U.S. regulators about the higher NOx measurements exhibited by VW vehicles on the road compared to during U.S. emissions tests.
- 41. According to CWs 1 and 2, and as corroborated by contemporaneous documentation, when U.S. regulators threatened not to certify VW model year 2016 vehicles for sale in the United States, VW's executive management requested a briefing on the situation, which took place on July 27, 2015. According to CW1 and as corroborated by contemporaneous documentation, in meetings in preparation for the July 27, 2015, meeting, CW1 fully briefed SCHMIDT on the defeat device. For example, on or about July 27, 2015, SCHMIDT and other VW employees met in advance of the meeting with VW's executive management. During this pre-meeting, the VW employees, including SCHMIDT, prepared a chart showing possible consequences of a meeting SCHMIDT was scheduled to have with CARB the following week. The slide showed that if the outcome was "positive for VW," VW would obtain approval for model year 2016 vehicles, but that if "negative for VW" and there was "no explanation for

GEN1 and GEN2," there could be an "Indictment?"

- 42. According to CWs 1 and 2, and as corroborated by contemporaneous documentation, on or about July 27, 2015, SCHMIDT and other VW employees presented to VW's executive management in Wolfsburg, Germany, regarding the existence, purpose and characteristics of the defeat device. In the presentation, VW employees assured VW executive management that U.S. regulators were not aware of the defeat device—that is the engine's ability to distinguish between the dynamometer and road mode. Rather than advocate for disclosure of the defeat device to U.S. regulators, VW executive management authorized its continued concealment.
- On or about August 1, 2015, SCHMIDT travelled from Germany to Wayne
 County, Michigan.
- 44. According to CE1, as corroborated by contemporaneous documentation, on or about August 5, 2015, in a meeting in Traverse City, Michigan, SCHMIDT and a colleague met with CE1 to discuss the discrepancy in emissions of VW diesel vehicles. SCHMIDT offered technical reasons and excuses such as "irregularities" or "abnormalities" for the discrepancy without revealing the fundamental reason for the higher NOx measurements on the road: software intentionally installed in VW vehicles so the vehicles could detect and evade emissions testing.
- 45. According to CE2, as corroborated by contemporaneous documentation, on or about August 7, 2015, in a telephone call with CE2, SCHMIDT and a colleague discussed the discrepancies in emissions of VW diesel vehicles. SCHMIDT again offered technical reasons and excuses without revealing the fundamental reason for the higher NOx measurements on the road: software intentionally installed in VW vehicles so the vehicles could detect and evade

emissions testing. CE2 told SCHMIDT that CARB was in close contact with the EPA on the issue.

- On or about August 9-10, 2015, SCHMIDT travelled from Wayne County,
 Michigan to Germany.
- 47. According to CWs 1 and 2, and as corroborated by contemporaneous documentation, on or about August 17 and 18, 2015, SCHMIDT and other co-conspirators developed a plan for what VW employees would say during a meeting scheduled with CARB on August 19, 2015 in El Monte, California. The plan, approved by senior VW managers, envisioned VW employees continuing to conceal the existence of the defeat device and cheating on U.S. emissions tests from U.S. regulators, in order to obtain certification for the model year 2016 vehicles. On or about August 17, 2015, SCHMIDT wrote to a manager at VW that another manager had just "explained to me on the telephone why [CW1] should not come along [to the CARB meeting] so he would not have to consciously lie."
- 48. According to CW1, and as corroborated by contemporaneous documentation and other witnesses, on or about August 19, 2015, in a meeting with CARB in El Monte, California, CW1 disclosed, in direct contravention of instructions from his management, that certain VW diesel vehicles used different emissions treatment depending on whether the vehicles were on the dynamometer or on the road, thereby effectively admitting that VW had cheated U.S. emissions tests.
- 49. According to CW1, and as corroborated by contemporaneous documentation, on or about September 3, 2015, in a meeting in El Monte, California, a VW manager formally admitted that VW had intentionally installed a defeat device in its "clean diesel" vehicles, which caused the vehicles to emit more NOx than allowed under U.S. standards.

50. According to Liang and CWs 1 and 2, and as corroborated by contemporaneous documentation, the conspirators caused defeat device software to be installed on all of the approximately 500,000 Volkswagen diesel 2.0 liter light-duty passenger vehicles sold in the United States from 2009 through 2015.

E. Overt Acts in Furtherance of the Conspiracy

51. According to Liang and CWs 1 and 2, and as corroborated by contemporaneous documentation, VW employees engaged in numerous overt acts in furtherance of the conspiracy in the Eastern District of Michigan, including: (1) meetings and calls with U.S. regulators to obtain and maintain approval for VW diesel vehicles to be sold in the United States during which VW employees lied to U.S. regulators and omitted material facts, including in August 2015; (2) submitting applications to U.S. regulators on behalf of VW to obtain authorization to sell diesel vehicles in the United States from VW's EEO office located in Auburn Hills, Michigan; and (3) engaging in interstate wire communications regarding the conspiracy, including by email and phone, between EEO's office in Auburn Hills, Michigan and VW's headquarters in Wolfsburg, Germany, including in August 2015.

CONCLUSION

52. The above facts establish probable cause to believe that from in or about May 2006 until at least September 2015, VW employees, including OLIVER SCHMIDT, and others conspired and unlawfully agreed with each other to impair, impede, and obstruct a lawful function of the government, that is EPA's function of issuing certificates of conformity for compliant vehicles in order that the vehicles can be sold in the United States, by deceitful or dishonest means; to defraud U.S. customers of VW diesel vehicles; to violate the Clean Air Act; and committed at least one overt act in furtherance of the conspiracy, all in violation of Title 18,

United States Code, Section 371.

IAN DINSMORE

Special Agent

Federal Bureau of Investigation

Subscribed to and Sworn before me

This 30 day of December 2015

HONORABLE DAVID R. GRAND

UNITED STATES MAGISTRATE JUDGE