

CANADA

PROVINCE OF QUEBEC
DISTRICT OF MONTREAL

NO: 500-06-000837-175

(Class Action)
SUPERIOR COURT

GARAGE POIRIER & POIRIER INC.
and
A. BOUFFARD

Petitioners

-vs.-

FCA CANADA INC.
and
FCA US LLC
and
VM MOTORI NORTH AMERICA, INC.
and
ROBERT BOSCH INC.
and
**ROBERT BOSCH NORTH AMERICA
CORPORATION**
and
ROBERT BOSCH LLC

Respondents

**NEW APPLICATION TO AUTHORIZE THE BRINGING OF A CLASS ACTION
& TO APPOINT THE PETITIONERS AS REPRESENTATIVES
(Art. 574 C.C.P. and following)**

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TO THE HONOURABLE MADAM JUSTICE CHANTAL CORRIVEAU OF THE SUPERIOR COURT, SITTING IN AND FOR THE DISTRICT OF MONTREAL, YOUR PETITIONERS STATE AS FOLLOWS:

I. GENERAL PRESENTATION

A) The Action

1. The Petitioners wish to institute a class action on behalf of the following class, of which they are members, namely:
 - All persons, entities or organizations resident in Quebec that purchased and/or leased one or more of the Subject Vehicles, or any other group to be determined by the Court;
2. "Subject Vehicles" means all:
 - a) model years 2014 to 2016 Ram 1500 vehicles, and
 - b) model years 2014 to 2016 Jeep Grand Cherokee vehiclesequipped with a 3.0-litre EcoDiesel engine;
3. The "Defeat Devices" and/or "Auxiliary Emission Control Devices" (AECs) referred to in this litigation are illegal software that detects when the vehicle is undergoing emissions testing and switches on full emissions controls *only during the test* – unduly and temporarily "defeating" or reducing the vehicle's emissions (and, exhibiting higher fuel efficiency); otherwise, at all other times that the vehicle is running, i.e. during real-world driving conditions, the emissions control systems are disabled;
4. This class action is about a common scheme devised by the Respondents that deprived consumers of crucial material facts, precluded informed purchase/lease choices, and subverted consumer decisions and the environment itself simultaneously;
5. The FCA Respondents design, manufacture, market, distribute, warrant, lease and/or sell the Subject Vehicles as being "EcoDiesel" and capable of passing federal emission standards, which enables the charging of a premium price (the "EcoDiesel Premium"); however, in fact, they had equipped the Subject Vehicles with illegal software designed to falsify the vehicles' real-world emissions during emissions testing;
6. The VM Motori Respondent designed, manufactured, calibrated, and delivered the EcoDiesel engine system for inclusion in the Subject Vehicles;
7. The Bosch Respondents created, designed, developed, manufactured, tested, supplied, and/or sold the Defeat Devices as well as an electronic diesel control

(EDC17), which enabled the FCA Respondents to implement the Defeat Devices in the Subject Vehicles;

8. The Respondents colluded in order to secretly design, create, install, test, and maintain the Defeat Devices in the Subject Vehicles, which rendered the emission control systems ineffective and enabled the FCA Respondents to trick regulators to obtain regulatory approval for sale and lease to Class Members – without the active participation and collaboration of the Respondents, the Subject Vehicles would never have been available for sale or lease as they were;
9. The Petitioners contend that the Respondents failed to disclose the existence of the Defeat Devices and that the Subject Vehicles emitted Oxides of Nitrogen (“NO_x”) at a much higher level than stated (between 10 and 40 times the legal limit); far exceeding the pollutants that consumers reasonably expected, and that they had substantially lower fuel efficiency. The Respondents actively concealed the Defeat Devices, which diminished the intrinsic and the resale value of the Subject Vehicles (and an overpayment at the point-of-sale), as well as, increased the cost of fuel for Class Members;

B) The Respondents

10. There are three groups of respondents; (i) the manufacturers of the Subject Vehicles (FCA), (ii) the FCA-owned company that manufactured the EcoDiesel engines (VM Motori), and (iii) the companies that supplied the EDC units that were used to manage and control the emissions for the engines (Bosch):

- i) The FCA Respondents

11. Respondent FCA Canada Inc. (“FCA Canada”) is a Canadian corporation with its head office in Ontario. It is the current owner of *inter alia* the following trade-marks: “CHRYSLER AND BAND WITHIN SHIELD DESIGN” (NFLD1502), “DODGE” (UCA29065), and “CHRYSLER” (TMDA56220), as appears from a copy of an extract from the *Registraire des entreprises* and from copies of said trade-marks from the CIPO trade-mark database, produced herein *en liasse* as **Exhibit R-1**;

12. Respondent FCA US LLC (“FCA US”) is an American corporation with its head office in Michigan. It is the current owner of *inter alia* the following trade-marks:

- “JEEP” (design) (TMA214501)
- “JEEP” (word) (TMA240978)
- “GRAND CHEROKEE” (word) (TMA667541)
- “CHRYSLER IMPERIAL AND SHIELD DESIGN” (NFLD1799)
- “DODGE & RAM’S HEAD DESIGN” (TMA748793)
- “RAM” (TMA128585)
- “RAM’S HEAD DESIGN” (TMA675408)

As appears from a copy of said trade-marks from the CIPO trade-mark database, produced herein *en liasse* as **Exhibit R-10**;

13. Respondents FCA Canada and FCA US (collectively, “FCA”) are motor vehicle engineers, manufacturers, and licensed distributors of the Subject Vehicles. The Chrysler brand is one of the “Big Three” in the United States Automotive Industry¹. As of 2015, FCA was the 7th largest automaker in the world by unit production;
14. The Ram 1500 Subject Vehicles are built at the Warren Truck Assembly Plant in Warren, Michigan and the Jeep Grand Cherokees are built at the Jefferson Ave Truck Assembly Plant in Detroit, Michigan, as appears from a copy of extracts from the FCA Respondents’ website at allpar.com, produced herein *en liasse* as **Exhibit R-66**;
15. Fiat Chrysler Automobiles N.V. (FCA’s parent company) owns an 100% stake of VM Motori S.p.A. (“VM Italy”). As such, it is the Fiat Group that owns the trade-mark for “VM” (TMA924142), as appears from a copy of the Fiat and GM Press Release entitled “Fiat Powertrain Purchases Penske Corporations’s Fifty-Percent Stake in VM Motori VM Motori to be co-owned by GM and Fiat Powertrain” dated February 11, 2011, from a copy of the Reuters article entitled “Italy’s Fiat to take full control of VM Motori” dated September 21, 2013, and from a copy of the Automotive News article entitled “Fiat buys remainder of diesel maker VM Motori from GM” dated October 28, 2013, produced herein *en liasse* as **Exhibit R-25** and as appears from a copy of the trade-mark “VM” from the CIPO trade-mark database, produced herein as **Exhibit R-51**;

ii) The VM Motori Respondent

16. Respondent VM Motori North America, Inc. (“VM Motori”) is an American corporation with its head office in Michigan. It is a wholly-owned subsidiary of Fiat Chrysler Automobiles N.V. (Exhibit R-25). VM Motori designed, manufactured, calibrated, and delivered the EcoDiesel engine for inclusion in the Subject Vehicles, knowing and intending that the Subject Vehicles would be marketed, distributed, warranted, leased and/or sold in Quebec;
17. VM Motori is deeply involved in the development and testing of all aspects of the engine, as appears from a copy of an extract from VM Motori’s website at www.vmmotori.com, produced herein as **Exhibit R-27**;
18. All Subject Vehicles contain the same 3.0-litre VM Motori powertrain diesel engine, as appears from a copy of an excerpt from the deposition testimony of Robert J. Hegbloom dated March 23, 2018, produced herein as **Exhibit R-65**;

¹ When used in relation to the United States automotive industry, the “Big Three” generally refers to: Respondent FCA US LLC, non-party Ford Motor Company, and non-party General Motors Corporation.

iii) The Bosch Respondents

19. Respondent Robert Bosch Inc. (“Bosch Inc.”) is a Canadian corporation with its head office in Ontario. It is a subsidiary of Respondent Bosch North America Corporation that conducts business in Canada, including within the province of Quebec, as appears from a copy of an extract from the *Registraire des entreprises*, produced herein as **Exhibit R-18**;
20. Respondent Robert Bosch North America Corporation (hereinafter “Bosch North America”) is an American corporation with its head office in Illinois. It is a parent company of Respondent Bosch Inc.;
21. Respondent Robert Bosch LLC (“Bosch LLC”) is an American corporation with its head office in Michigan;
22. Bosch is one of the world’s largest automotive suppliers, as appears from a copy of an extract from Bosch’s 2014 Annual Report, produced herein as **Exhibit R-20**;
23. Bosch presents itself as having a collective identity, which is captured by Bosch’s mission statement: “We are Bosch”, as appears from a copy of an extract from the Bosch Respondents’ website at www.bosch.com and from a copy of an extract from the Bosch Respondents’ website at www.wearebosch.com, produced herein *en liasse* as **Exhibit R-19**;
24. Bosch embeds sales and engineering personnel at customer offices and facilities throughout the world, including automakers like FCA, to work directly on the design, sale, calibration, and configuration of the parts it supplies;
25. Bosch created, designed, developed, tested, configured, manufactured, supplied, marketed, and/or sold the Defeat Devices and the EDC Unit 17, which enabled their operation, to control emissions, knowing and intending that the Subject Vehicles would be marketed, distributed, warranted, leased and/or sold in Quebec;
26. Bosch was a knowing and active participant in the scheme or common course of conduct with FCA and VM Motori and others to defraud federal regulators and consumers. Bosch participated not only in the development of the Defeat Devices, but also in the scheme to prevent federal regulators from uncovering their true functionality as well as in actively marketing the supposed “clean diesel” technology, as appears from a copy of the Reuters article entitled “US probes Bosch in VW cheating scandal” dated November 19, 2015, produced herein as **Exhibit R-57**;

iv) The Respondents’ Solidary Liability

27. The Respondents, either directly or through a parent company, subsidiary, agent or affiliate, designed, manufactured, marketed, advertised, distributed, leased and/or sold or caused to be leased and/or sold the Subject Vehicles equipped with the Defeat Devices throughout Canada, including within the province of Quebec;

28. Given the close ties between the Respondents and considering the preceding, they are all solidarily liable for the acts and omissions of the other;

C) The Situation

i) Diesel Engines and the Emissions Trade-off

29. A diesel engine is an internal combustion engine in which ignition of fuel is initiated by the high temperature that gas achieves when it is greatly compressed. In contrast, a regular spark-ignition engine, such as a gasoline engine, ignites fuel using spark plugs;

30. Diesel engines pose a particularly difficult challenge to the environment because they have an inherent compromise between power, fuel efficiency, and emissions – the greater the power and fuel efficiency, the “dirtier” and more harmful the emissions become. Compared to gasoline engines, diesel engines generally produce greater power, torque, low-end power, better drivability, and much higher fuel efficiency. But these benefits come at a cost: diesel produces dirtier and much more harmful emissions;

31. Diesel engine exhaust is materially different from gasoline engine exhaust, most notably in terms of the greatly increased levels of oxides of nitrogen (NO_x) and other harmful pollutants, such as noxious gases and particulate matter;

32. NO_x is comprised of nitrogen and oxygen atoms. It is formed primarily from the liberation of nitrogen contained in fuel and in combustion. Nitrogen oxide (NO) emitted during combustion quickly oxidizes to Nitrogen Dioxide (NO₂) when released into the atmosphere. NO₂ dissolves in water vapour in the air to form acids, and interacts with other gases and particles in the air to form particles known as nitrates and other products that may be harmful to people and the environment. These compounds develop inside the cylinder of the diesel engine during the high temperature combustion process;

33. NO_x is a highly-reactive group of gases that create environmental problems and public health hazards, including smog, ground-level ozone, and acid rain. Direct exposure to NO_x can cause respiratory problems, such as lung irritation, bronchitis, or pneumonia. When NO_x combines with sunlight, it may create photochemical smog, which appears as a brownish ground-level haze and causes chest pains, shortness of breath, coughing and wheezing, and eye irritation. Breathing ozone can also trigger a variety of health problems including chest pain, coughing, throat irritation, and congestion and can worsen bronchitis, emphysema, and asthma. When mixed with rain in the atmosphere, NO_x can create nitric acid or acid rain. NO_x is also a contributor to global warming, as appears from a copy of an extract from Environment Canada’s website at www.ec.gc.ca, produced herein as **Exhibit R-12**;

34. In June 2012, the World Health Organization declared that diesel vehicle emissions were carcinogenic to humans (Group 1), which is about as dangerous as asbestos,

as appears from a copy of International Agency for Research on Cancer (WHO) Press Release entitled “IARC: Diesel Engine Exhaust Carcinogenic” dated June 12, 2012 and from a copy of the Toronto Star article entitled “Diesel exhaust as cancerous as asbestos, says WHO” dated June 13, 2012, produced herein *en liasse* as **Exhibit R-11**;

35. Seeing a major opportunity for growth, almost all of the major automobile manufacturers rushed to develop “clean diesel” and promoted new diesel vehicles as environmentally friendly. In order to bring their emissions in compliance with regulatory standards, manufacturers of diesel vehicles employ certain systems (including engine control software and emissions hardware systems) in order to reduce harmful pollutants, such as NO_x emissions – these systems, when operative, have the corresponding effect of limiting performance in terms of acceleration, towing power and torque, as well as reducing fuel economy;
36. FCA’s supposed response to this challenge was the EcoDiesel engine. Emission reductions start in the cylinder with advanced fuel injection strategies. After the by-products of combustion leave the engine, the EcoDiesel technology treats these emissions using a diesel oxidation catalyst (“DOC”), a diesel particulate filter, and SCR;

ii) The Introduction of the Subject Vehicles and the EcoDiesel Engine

37. In and around 2009, emissions standards were becoming more stringent in North America. In contrast to other global automakers, such as Toyota and Ford, who were focusing on hybrid and electric cars, FCA chose to focus on diesel engines, as appears from a copy of the Wards Auto article entitled “Chrysler Eyes Different Path to Meeting New CAFE Standards” dated August 29, 2012, produced herein as **Exhibit R-64**;
38. In 2010-2011, non-party VM Italy announced its new V6, 3.0-litre diesel engine (Exhibit R-25). Fiat thereafter began working with VM Motori to develop the engine for use in FCA vehicles to be sold in North America, as appears from a copy of the Engine Labs article entitled “An Inside Look At The Ram 1500 3.0L EcoDiesel” dated January 11, 2015, produced herein as **Exhibit R-26**;
39. Because the engine had been originally developed for use in Europe (where standards for NO_x emissions were less stringent than in North America), the emissions were higher than those allowable in North America;
40. Rather than cutting their losses on “EcoDiesel” and necessitating a delay in the production of the Subject Vehicles, FCA found a way to cheat on emissions tests by working closely with VM Motori (on the design of the EcoDiesel engines) and with Bosch (on the design and customization of the EDC-17). Unlike during testing, the defeat device software disables or restricts certain of the emission controls during real-world driving conditions;

41. Debuting for the 2014 model year, the FCA Respondents introduced their “EcoDiesel” vehicles (the brand name alone suggesting an environmental quality that was utterly lacking) and they leased and/or sold the Subject Vehicles that produced emissions level that were far higher than advertised, intentionally concealing the truth through a sophisticated scheme involving the Defeat Devices;

iii) The Bosch EDC-17

42. All modern engines are integrated with computer components to manage the vehicle’s operation, such as an EDC. The Subject Vehicles use a Bosch EDC Unit 17 system to monitor sensors throughout the vehicle and operate nearly all of the vehicle’s systems according to sophisticated programming that can sense and vary factors like steering, combustion, and emissions performance;

43. All Bosch EDCs, including the EDC-17, run on complex, highly proprietary engine management software over which Bosch exerts near-total control. The software is typically locked to prevent customers, like FCA, from making significant changes on their own. Both the design and implementation of the EDC-17 are interactive processes, requiring Bosch’s close collaboration with the automaker from beginning to end;

44. Bosch’s EDC-17 controls emissions by periodically reading sensor values, evaluating a control function, and controlling actuators. Sensor readings include crankshaft position, air pressure, air temperature, air mass, fuel temperature, oil temperature, coolant temperature, vehicle speed, exhaust oxygen content, as well as driver inputs such as accelerator pedal position, brake pedal position, cruise control setting, and selected gear, as appears from a copy of the report entitled “How They Did It: An Analysis of Emission Defeat Devices in Modern Automobiles” undated, produced herein as **Exhibit R-24**;

45. The EDC-17 itself is not inherently a tool for deceit; it is widely used by automakers that operate modern diesel engines (Exhibit R-58); however, it is a good enabler for manufacturers to employ defeat devices as it allows the software to detect conditions outside of the emissions test cycle. Almost all of the vehicles found or alleged to have been manipulating emissions in the United States use Bosch defeat devices, as appears from a copy of the Checksumm article entitled “New Bosch EDC17 Engine Management System” dated August 17, 2006, from a copy of the Quantum Tuning article entitled “Bosch EDC-17 Remap”, and from a copy of the Bosch press release entitled “The brain of diesel injection: New Bosch EDC17 engine management system” dated February 28, 2006, produced herein *en liasse* as **Exhibit R-23**;

46. In January 2013, Bosch LLC announced that its “clean diesel” technology would be featured in the new 2014 Jeep Grand Cherokee 3.0-Litre EcoDiesel®. Bosch LLC stated: “The 2014 Jeep Grand Cherokee features a Bosch emission system compliant with the most stringent emission regulations in the world. From fuel tank to tailpipe, Bosch is pleased to equip this vehicle with top technologies to give

consumers a great driving experience requiring fewer stops at the pump”, as appears from a copy of Bosch LLC’s Press Release entitled “Bosch Announces Clean Diesel Technology On 2014 Jeep Grand Cherokee” dated January 24, 2013, produced herein as **Exhibit R-28**;

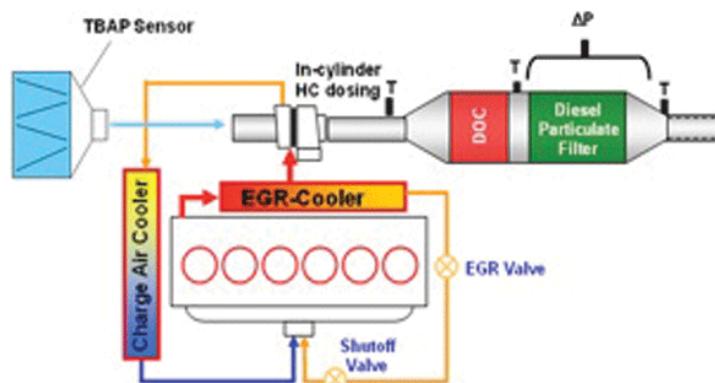
47. Bosch represented that its EDC was “the key to diesel engines which will fulfill future emission regulations”, as appears from a copy of a Bosch brochure entitled “Diesel Systems: Efficiency is what drives us – solutions for on-and off-highway”, produced herein as **Exhibit R-59**;
48. With respect to the Subject Vehicles, Bosch, VM Motori, and FCA, in close partnership, manipulated the EDC-17 to surreptitiously evade emissions regulations. The Bosch and FCA Respondents worked together to develop and to implement a specific set of software algorithms for implementation in the Subject Vehicles, which enabled FCA to adjust fuel levels, exhaust gas recirculation (EGR), air pressure levels, and even urea injection rates (for applicable vehicles), as appears from a copy of an extract from the Bosch Respondents’ website at de.bosch-automotive.com, produced herein as **Exhibit R-29** and as appears from a copy of the Automotive News article entitled “Bosch probes whether its staff helped VW’s emissions rigging” dated January 27, 2016, produced herein as **Exhibit R-31**;
49. In the U.S. litigation relating to Volkswagen, Bosch did attempt to have the case dismissed against them; however it was unsuccessful with the U.S. court noting “because the Franchise Dealers plausibly alleges that Bosch controlled all modifications to the EDC17, the Franchise Dealers’ complaint supports an inference that Bosch must have known about and approved the changes that converted the EDC17 into a defeat device”, as appears from a copy of the Order Denying Bosch’s Motion to Dismiss the Volkswagen-Branded Franchise Dealers’ Second Amended Consolidated Class Action Complaint in the case of *In re: Volkswagen “Clean Diesel” Marketing, Sales Practices, and Products Liability Litigation* in MDL No. 2672 CRB (JSC), produced herein as **Exhibit R-58**;

iv) The Respondents’ Defeat Devices

50. The Defeat Devices used an algorithm to detect when Subject Vehicles were being operated on dynamometers, as is used by federal regulators when determining compliance with emissions standards. When the Defeat Devices detect that the vehicle is undergoing emissions testing, they engage full emissions controls, which allows the Subject Vehicles to pass stringent standards for NO_x emissions. During on-road driving, however, the emission controls are turned off and these same vehicles emit 10 to 40 times the legal limits for NO_x;
51. The Respondents’ scheme focused on at least two of the emissions control systems in the Subject Vehicles, both of which FCA pitched to consumers as enablers of the Subject Vehicles’ purported “clean” operation: (i) the Exhaust Gas Recirculation (“EGR”) system and (ii) the Selective Catalytic Reduction (“SCR”) system;

52. The EGR system reduces NO_x in diesel emissions by lowering the temperature of the exhaust gas exiting the engine. The SCR system takes the NO_x leftover from the EGR System and converts it into harmless nitrogen and water. Together, the EGR and SCR systems are vital to mitigating the pollution from the Subject Vehicles' diesel emissions;

a) EGR AECD Strategy (AECD 5): EGR Rate Reduction – T_Eng



53. As described above, the amount of NO_x produced by a diesel vehicle is a function of temperature: the hotter the exhaust gas is when exiting the engine, the more NO_x it emits;

54. The EGR system minimizes NO_x by lowering the temperature of the engine exhaust through a recirculation process. The higher the rate of exhaust gas recirculation (the EGR rate), the lower the exhaust gas temperature. The lower the exhaust temperature, the lower the NO_x . Conversely, the higher the EGR rate in a vehicle, the worse fuel economy it achieves;

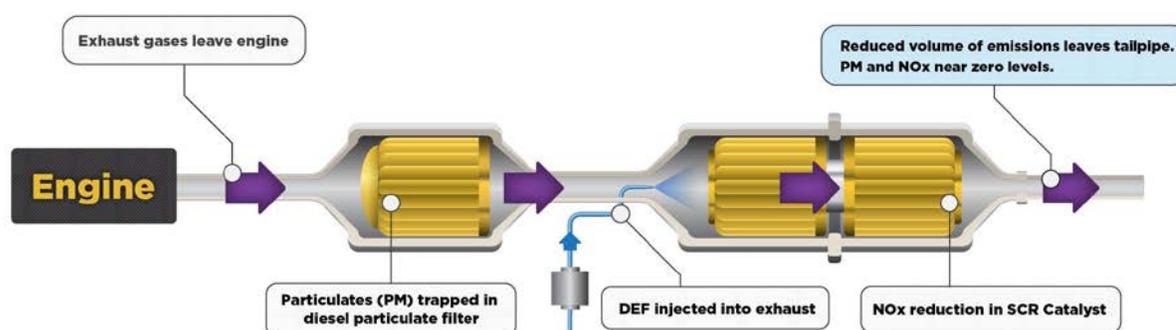
55. The Respondents employed the EGR AECDs in the Subject Vehicles to either reduce the EGR rate or shut it off entirely during emissions testing, thereby artificially increasing the Subject Vehicles' fuel economy and drivability at the expense of increased NO_x during real-world driving conditions;

56. One way that the Respondents reduced the EGR rate during emissions testing was through AECD 5, which detected the engine temperature in the Subject Vehicles and reduced the EGR rate during the vehicles' "warm-up phase" (the phase when the engine is heating up after a cold start). The Respondents referred to AECD 5 as "T_Eng" and various derivatives thereof (e.g., "t_engine" and "tEng");

57. VM Motori knew as early as 2010 that T_Eng was an AECD that if concealed, was an illegal Defeat Device (Exhibit R-97), FCA approved of it, and Bosch, after considering limiting its liability from VM Motori's use of T_Eng through a risk release, not only incorporated T_Eng into the emission software for the Subject Vehicles, but went so far as to advise VM Motori not to disclose T_Eng to regulators;

b) SCR AECD Strategy (AECD 7): Dosing Disablement

Diesel Emissions Control System



58. The SCR system uses a diesel exhaust fluid injector (DEF – a solution of urea and water) to convert NO_x into harmless nitrogen and water after it exits the EGR system and before it is emitted from the tailpipe. The SCR system is meant to inject measured quantities of DEF into the exhaust stream based on a software program that injects the right amount of DEF to neutralize the amount of NO_x being emitted by the engine; however, the Respondents employed the SCR AECDs to either reduce or disable the DEF dosing amount during emissions testing, causing the Subject Vehicles to emit more NO_x during real-world driving conditions;
59. Reduced DEF dosing was important to the Respondents for at least two reasons. First, the more DEF consumed, the more frequently consumers have to refill the DEF tank; an inconvenience that would make vehicles less marketable. Second, by the time the first Subject Vehicles hit the market, the Respondents realized that the chemicals in the DEF were breaking down the materials in the SCR catalyst and causing these components to fail prematurely, which could be mitigated by reducing DEF dosing;
60. The Respondents relied heavily on an alternative DEF dosing mode called “online dosing”, which limited the injection of DEF into the SCR catalyst, thereby compromising the SCR system (Exhibit R-6);
61. Bosch and VM Motori first discussed “online dosing” in March 2011 and acknowledged that it must be disclosed to the U.S. Environmental Protection Agency (“EPA”) and the California Air Resources Board (“CARB”) as an AECD. Yet, in November 2012, Bosch implemented a software change to prevent online dosing from activating during EGR diagnostic monitoring and in February 2013, Kasser Jaffri of FCA’s On Board Diagnostic group expressed concern to VM Motori that CARB might see online dosing as “cycle beating”. Jaffri concluded that, if applied, online dosing would have to be disclosed as an AECD. It did not do so. VM Motori then told FCA in March 2013 that it was not going to use the online dosing strategy. They used it anyway. In September 2013, Jaffri reported to FCA Senior Manager Dan Hennessey, head of the On Board Diagnostic group, that online dosing was (i) active

in the vehicles; (ii) had not been disclosed to CARB or the EPA; and (iii) reduces the conversion efficiency effectiveness, thereby resulting in increased NO_x emissions;

62. The Respondents knew that the Subject Vehicles contained undisclosed AECs that reduced or disabled the emissions control systems in real-world driving conditions, and they knew that the Subject Vehicles could not deliver the fuel economy and performance as promised. The Respondents concealed this fact from consumers and regulators and, in so doing, cheated Class Members out of the vehicles they reasonably thought they were buying;
63. In his Expert Report produced in the context of the Ontario litigation, Dr. M. David Checkel, P.Eng², opined *inter alia* the following:

My opinion is that the 2014-2016 model year Jeep Grand Cherokee and Dodge Ram 1500 Eco-diesel models use the alleged software elements to operate in a manner that may improve driveability and fuel economy, but that also produces much higher NO_x emissions than would be expected based on certification test values. In my opinion this behaviour would be the same for all of the 2014 to 2016 model year Dodge Ram 1500 and Jeep Grand Cherokee vehicles with the 3.0 Litre Eco-diesel engine.

...

[M]y opinion is that the emission control deficiencies and high NO_x emission rates associated with the Dodge Ram and Jeep Grand Cherokee diesel engine control system are all related to software programmed into the vehicle ECUs. This digital software would operate in the same way and produce the same high emission rates for every vehicle having the same engine and control system, i.e: all of the mass-produced model 2014-2016 model year Dodge Ram 1500 pickup trucks and Jeep Grand Cherokee SUVs with the 3.0L Eco-Diesel engine.

As appears from a copy of the Affidavit of Dr. M. David Checkel, P.Eng sworn March 29, 2017 in *Maginnis et al. v. FCA Canada Inc. et al*, Court File No. CV-17-567691-00CP, produced herein as **Exhibit R-67**;

- v) The Volkswagen Emissions Scandal and the Investigations into the Subject Vehicles

64. On September 18, 2015, the “Volkswagen Emissions Scandal” erupted, when the EPA issued a notice of violation of the *Clean Air Act* to the Volkswagen Group after it discovered that Volkswagen had intentionally programmed turbocharged direct injection (TDI) diesel engines to activate certain emissions controls only during laboratory emissions testing. The programming caused the vehicles’ NO_x output to meet environmental standards during regulatory testing, but to emit up to 40 times

² Dr. Checkel is a professional engineer and Professor Emeritus of the Department of Mechanical Engineering at the University of Alberta. Dr. Checkel has practiced as professor of mechanical engineering for over 30 years and has studied fuel economy and performance of diesel-powered vehicles as compared to gasoline-powered vehicles.

more NO_x in real-world driving, as appears from a copy of the EPA Notice of Violation dated September 18, 2015, produced herein as **Exhibit R-21**;

65. In September and November 2015, Volkswagen and Audi admitted using defeat device software to activate emissions controls when diesel cars were being smog tested and deactivate those controls during on-road driving. Volkswagen pled guilty to criminal charges and settled civil class actions for over ten billion dollars”, as appears from a copy of the Forbes article entitled “Audi Admits 2.1 Million Vehicles Are Also Fitted With Emissions Cheat Software” dated September 28, 2015, from a copy of the Financial Times article entitled “VW admits second illegal device in 85,000 Audi engines” dated November 23, 2015, and from a copy of the USA Today article entitled “Volkswagen emission scandal widens: 11 million cars affected” dated September 22, 2015, produced herein *en liasse* as **Exhibit R-22**;
66. In 2015, researchers at the West Virginia University Center for Alternative Fuels, Engines, and Emissions – the same researchers instrumental in uncovering the Volkswagen Defeat Device – tested five model year 2014 and 2015 vehicles produced by the FCA Respondents. The test vehicles comprised the Subject Vehicles at issue here: Jeep Grand Cherokees and Ram 1500 diesel vehicles, all equipped with the 3.0L EcoDiesel engine, and featuring SCR NO_x after-treatment technology, as appears from a copy of the report entitled “On-Road and Chassis Dynamometer Testing of Light-Duty Diesel Passenger Cars” undated, produced herein as **Exhibit R-47**;
67. Results indicated that both the 2014 Jeep Grand Cherokee and Ram 1500 exhibited significantly increased NO_x emissions during on-road operation as compared to the results observed through testing on the chassis dynamometer. For the 2015, Jeep vehicles produced from 4 to 8 times more NO_x emissions during urban/rural on-road operation than the certification standard, while Ram 1500 vehicles emitted approximately 25 times the NO_x permitted for highway driving conditions;
68. A peer-reviewed study conducted in 2017 by researchers at the University of California, San Diego and Ruhr-Universität Bochum in Germany analyzed firmware in the EDC Unit 17 of the Fiat 500X and found a defeat device affecting the logic governing NO_x storage catalyst regeneration (Exhibit R-24). Unlike the Volkswagen defeat device, the researchers found that the mechanism in the Fiat 500X relied on timing, reducing the frequency of NSC approximately 26 minutes and 40 seconds after the engine was started. (By reducing the frequency of NO_x storage catalyst regeneration, a manufacturer can improve fuel economy and increase the service life of the diesel particulate filter, at the cost of increased NO_x emissions);
69. According to the study, the conditions used to determine when to regenerate the NO_x storage catalyst (NSC) were duplicated, and each set of conditions could start a regeneration cycle. The researchers obtained Bosch copyrighted documentation for a Fiat vehicle, which described two sets of conditions using the terms “during

homologation cycle” and “during real driving.”³ Bosch’s authorship of the document and use of the terms “homologation [testing]” and “real driving” to describe the regeneration conditions demonstrate that it not only created the mechanism in the Subject Vehicles, but was also aware of the mechanism’s intended purpose of circumventing emission testing;

70. On January 12, 2017, the EPA issued a “Notice of Violation” to Fiat Chrysler Automobiles N.V. and FCA US for cheating on their emissions certificate applications with respect to the Subject Vehicles in failing to disclose the existence of at least 8 Defeat Devices. The EPA determined that due to the existence of the Defeat Devices in the Subject Vehicles, they do not conform to the vehicle specifications in the certificates of conformity and that operation of one or more of these Defeat Devices, “either alone or in combination with each other, results in excess emissions of nitrogen oxides (NO_x) under various operating conditions that may reasonably be expected to be encountered in normal vehicle operation and use”, as appears from a copy of the United States Environmental Protection Agency – Notice of Violation dated January 12, 2017, from a copy of the EPA News Release entitled “EPA Notifies Fiat Chrysler of Clean Air Act Violations” dated January 12, 2017, from a copy of an extract from the EPA website www.epa.gov entitled “Learn About FCA Violations”, and from a copy of The New York Times article entitled “E.P.A. Accuses Fiat Chrysler of Secretly Violating Emissions Standards” dated January 12, 2017, produced herein *en liasse* as **Exhibit R-6**;
71. As identified in the United States Environmental Protection Agency’s (EPA) Notice of Violation (Exhibit R-6), the Respondents installed a number of undisclosed AECDs in the Subject Vehicles that compromised the EGR and SCR systems and resulted in substantially increased NO_x emissions during real-world driving conditions. As exemplified herein, the Respondents knew that these AECDs were Defeat Devices and therefore not allowed, but that the Subject Vehicles could not achieve the fuel economy or performance that the Respondents marketed without them;
72. The EPA identified at least the following eight concealed Defeat Devices in the Subject Vehicles:
- (1) Full EGR Shut-Off at Highway Speed
 - (2) Reduced EGR with Increasing Vehicle Speed
 - (3) EGR Shut-off for Exhaust Valve Cleaning
 - (4) DEF Dosing Disablement during SCR Adaptation
 - (5) EGR Reduction due to Modeled Engine Temperature
 - (6) SCR Catalyst Warm-Up Disablement
 - (7) Alternative SCR Dosing Modes
 - (8) Use of Load Governor to Delay Ammonia Refill of SCR Catalyst
73. The EPA testing found that “some of these [Defeat Devices] appear to cause the vehicle to perform differently when the vehicle is being tested for compliance with

³ The term “homologation” is commonly used in Europe to describe the process of testing an automobile for regulatory conformance.

the EPA emission standards using the Federal emission test procedure (e.g., FTP, US06) than in normal operation and use.” The EPA cited the following by way of example:

- (a) 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 or 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.
- (b) 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 NO_x 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.
- (c) The operation of AECD #4, particularly when combined with AECD #8, increases emissions of tailpipe NO_x 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.
- (d) The operation of AECDs #7 and #8, particularly in variable grade and high load conditions, increases emissions of tailpipe NO_x under conditions reasonably expected to be encountered in normal vehicle operation and use;

74. Specifically, the EPA determined that FCA failed to disclose the existence of the Defeat Devices in the Subject Vehicles and that the Defeat Devices are present in approximately 103,828 motor vehicles in the U.S.:

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	ECRXT03.05PV	FCA Dodge Ram 1500	31,984
2015	ECRXT03.05PV	FCA Jeep Grand Cherokee	8,421
2016	ECRXT03.05PV	FCA Dodge Ram 1500	32,319 (projected)
2016	ECRXT03.05PV	FCA Jeep Grand Cherokee	2,469 (projected)

75. Environment and Climate Change Canada has stated that the department's enforcement branch is "carefully evaluating the information released by the EPA to determine its relevance in Canada, and if an investigation is warranted into potential violations" of *CEPA*, as appears from a copy of the CBC News article entitled "U.S. alleges Fiat Chrysler cheated on diesel engine emissions" dated January 12, 2017, produced herein as **Exhibit R-7**;
76. Also on January 12, 2017 and, in coordination with the EPA, CARB issued a Notice of Violation against FCA US, Fiat Chrysler Automobiles N.V., and Chrysler Group LLC on behalf of the State of California, for failing to disclose the Defeat Devices in the Subject Vehicles in their certification applications. On September 25, 2015, CARB had sent a letter to various vehicle manufacturers notifying them of CARB's intent to test the performance of diesel vehicles in-use. The test results showed higher emissions during screening tests than during certification test cycles and that there were undisclosed Defeat Devices in the Subject Vehicle, as appears from a copy of the California Air Resources Board Enforcement Division's Notice of Violation for Fiat Chrysler Automobiles N.V., FCA US LLC, and Chrysler Group LLC, dated January 12, 2017, from a copy of the California Air Resources Board letter with the Reference No. IUC-2015-008 dated September 25, 2015, and from a copy of an extract from the California Air Resources Board website at ww3.arb.ca.gov, produced herein *en liasse* as **Exhibit R-81**;
77. The CARB Notice of Violation (Exhibit R-81) alleged the following violations of law:
- (a) Invalid certification applications (e.g., undisclosed AECDDs)
 - (b) Importation, delivery, purchase, acquisition, or receipt of uncertified vehicles
 - (c) Intentional or negligent importation, delivery, purchase, receipt or acquisition of uncertified vehicles
 - (d) Intentional or negligent sales or offers to sell uncertified vehicles
 - (e) Sale of vehicles that do not meet emission standards
 - (f) Failure to comply with the emission standards or test procedures – Durability Data Vehicle
 - (g) Failure to comply with the emission standards or test procedures – Emissions Data Vehicle (EDV)
 - (h) Failure to comply with onboard diagnostic (OBD) system requirements
 - (i) Invalid Vehicle Emission Control Information Label (compliance statement)
 - (j) Invalid smog rating on the Smog Index Label
 - (k) Violation of emission warranty provisions;

78. FCA's 2016 annual report acknowledged the notices of violation that it had received, as appears from a copy of extracts from the FCA 2016 Annual Report, produced herein as **Exhibit R-82**;
79. On May 23, 2017, the United States Department of Justice (on behalf of the EPA) filed a civil suit against Respondents FCA US and VM Motori as well as 2 other related FCA entities alleging violations of the *Clean Air Act*, 42 U.S.C and its implementing regulations. On June 7, 2017, it was transferred to the Multidistrict Litigation (MDL) of *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, as appears from a copy of the U.S. Complaint (2:17-cv-11633-JCO-EAS) dated May 23, 2017, from a copy of the Conditional Transfer Order dated June 7, 2017, from a copy of the U.S. Department of Justice news release entitled "United States Files Complaint Against Fiat Chrysler Automobiles for Alleged Clean Air Act Violations" dated May 23, 2017, and from a copy of the EPA news release entitled "EPA Announces 2017 Annual Environmental Enforcement Results" dated February 8, 2018, produced herein *en liasse* as **Exhibit R-16**;
80. FCA's 2017 annual report represented the following:

On January 12, 2017, the U.S. Environmental Protection Agency ("EPA") and the California Air Resource Board issued Notices of Violation related to certain software-based features in the emissions control systems in approximately 100,000 2014-2016 model year light-duty Ram 1500 and Jeep Grand Cherokee diesel vehicles. On May 23, 2017, the Environmental and Natural Resources Division of the U.S. Department of Justice ("DOJ-ENRD") filed a civil lawsuit against us in connection with the concerns raised by the EPA. The complaint alleges that software-based features were not disclosed to the EPA as required during the vehicle emissions certification process, resulting in violations of the Clean Air Act. The complaint also alleges that certain of the software features bypass, defeat or render inoperative the vehicles' emission control systems, causing the vehicles to emit higher levels of oxides of nitrogen (NOx) during certain normal real world driving conditions than during federal emissions tests. A number of private lawsuits relating to the vehicles have been filed in U.S. state and federal courts principally on behalf of consumers asserting fraud, violation of consumer protection laws, and other civil claims, including a putative class action that is proceeding in U.S. federal court in the Northern District of California, and a number of other governmental agencies and authorities including the U.S. Department of Justice, the U.S. Securities and Exchange Commission and various states Attorneys General have commenced related investigations.

As appears from a copy of extracts from the FCA 2017 Annual Report, produced herein as **Exhibit R-83**;

vi) The International Investigations

81. FCA and Bosch are both being investigated by German regulators. In May 2017, Bosch GmbH's Stuttgart offices were raided by German prosecutors, as appears from a copy of the Reuters article entitled "Stuttgart prosecutor targets Bosch in Daimler diesel investigation" dated May 26, 2017, produced herein as **Exhibit R-48**;
82. Reportedly, Bosch GmbH representatives met with Germany's Federal Motor Transport Authority ("KBA") whereby, Bosch informed on FCA. The KBA's takeaway from its meetings with Bosch was there is a defeat device in the vehicles and Bosch shared responsibility for the defeat device with FCA. Media reports have confirmed the same, as appears from a copy of the Jalopnik article entitled "Here's How Fiat Might Also Be Cheating On Emissions Tests: Report" dated April 25, 2016 and from a copy of the Reuter's article entitled "Test of Fiat diesel model shows irregular emissions: Bild am Sonntag" dated April 24, 2016, produced herein *en liasse* as **Exhibit R-49**;
83. After the meeting with Bosch, the KBA performed testing on the Fiat diesel vehicles and confirmed that the emission controls were disabled after 22 minutes of driving time, causing the vehicles to emit more than 10 times the legal limit of NO_x. The KBA concluded that the vehicles were designed to cheat on emission tests, which normally run for about 20 minutes. In August 2016, the German government formally concluded that Fiat vehicles sold in the EU had used defeat devices (Exhibit R-49);
84. In September 2016, the KBA issued a request to the European Commission to mediate between the German and Italian authorities after Germany accused Fiat of using an illegal device in diesel versions of its Fiat 500X, Fiat Doblo and Jeep Renegade models. That mediation ended in March 2017. On May 17, 2017, the European Commission issued a press release regarding its decision to initiate legal action against Italy for failing to respond to allegations of emission-test cheating by FCA, as appears from a copy of the European Union press release entitled "Car emissions: Commission opens infringement procedure against Italy for breach of EU rules on car type approval" dated May 17, 2017 and from a copy of the Reuters article entitled "German transport ministry says finds defeat device in Fiat car" dated March 31, 2017, produced herein *en liasse* as **Exhibit R-84**;
85. On March 15, 2017, French prosecutors opened an investigation into whether FCA exceeded emissions limits following tests performed that had revealed pollutants from FCA vehicles that exceeded regulatory limits. The investigation was opened in relation to what was termed as FCA's "aggravated cheating", as appears from a copy of the BBC News article entitled "Fiat Chrysler diesel emissions investigated in France" dated March 21, 2017, produced herein as **Exhibit R-85**;
86. The Australian government also began its own investigation into allegations that FCA diesels breached emissions regulations, as appears from a copy of the Go Auto article entitled "FCA confirms it is working with Australian officials over diesel allegations" dated May 18, 2017, produced herein as **Exhibit R-86**;

87. On January 24, 2018, the office of the District Attorney of Stuttgart initiated investigation proceedings against 2 Bosch employees due to suspicion of assisting with fraud and a week later, announced its suspicion that since 2014, the Subject Vehicles “in which the efficacy of the emission control system had been reduced outside of the performance of regulatory tests without technical justification were put on the U.S. market”, as appears from a copy of the Office of the District Attorney of Stuttgart translated German press release entitled “Investigations against employees of Robert Bosch LLC, USA” dated January 31, 2018 and from a copy of the Associated Press release entitled “U.S. Bosch Workers Investigated Over ‘Dieselgate’” dated January 31, 2018, produced herein *en liasse* as **Exhibit R-87**;
88. On May 23, 2019, the Office of the District Attorney of Stuttgart fined Bosch €90 million due to what it called “negligent violation of supervisory obligations”. €2 million was a sanction and €88 million was to offset the economic advantages that Bosch gained, as appears from a copy of the District Attorney of Stuttgart translated German press release entitled “Bosch must pay a fine” dated May 23, 2019 and from a copy of the Ghana Business News article entitled “Germany Hits Bosch with Fine of €90M in Diesel Scandal” dated May 23, 2019, produced herein *en liasse* as **Exhibit R-88**;
89. The Attorney General of New York also conducted an investigation into the Respondents’ conduct and found that:

FCA:

Installed unlawful software in more than 97,000 vehicles sold nationwide, including in 3,050 vehicles in New York;

Cheated on federal and state emissions tests to conceal true emissions levels; and,

Misled consumers about vehicles being environmentally friendly, and lied about its ecological footprint and compliance with state laws.

Bosch:

Supplied the illegal so-called “defeat device” software used in more than 600,000 Volkswagen and Fiat Chrysler vehicles over the span of a decade;

Assisted Volkswagen and Fiat Chrysler with installation and use of the devices despite knowledge and concern of the risks; and,

Concealed misconduct from regulators and the public.

As appears from a copy of the New York Attorney General press release entitled “Attorney General James Announces Landmark Multistate Settlements With Fiat Chrysler And Bosch Totaling \$171 Million For Alleged Violations Of State

Environmental And Consumer Protection Laws” dated January 10, 2019, produced herein as **Exhibit R-89**;

vii) Canadian Emissions Laws and Regulations

90. Because of the potential for considerable environmental pollution, the diesel engine market is characterized by stringent governmental regulations regarding allowable pollutants, including exhaust emissions levels of NO_x, Non-Methane Hydrocarbons (“NMHC”), Non-Methane Hydrocarbon Equivalent, Carbon Monoxide, and Particulate Matter;
91. The general approach to setting vehicle emissions standards in Canada has been to harmonize them with the EPA standards. On January 1, 2004 and, pursuant to s.160 of the *Canadian Environmental Protection Act, 1999* (“CEPA”), Environment Canada enacted the *On-Road Vehicle and Engine Emission Regulations*, SOR/2003-2 (the “*On-Road Vehicle and Engine Emission Regulations*”) (Exhibit R-52), the purpose of which was to reduce emissions and to “establish emission standards and test procedures for on-road vehicles that are aligned with those of the EPA” for “vehicles and engines that are manufactured in Canada, or imported into Canada, on or after January 1, 2004”⁴. Every model of vehicle or engine that is certified by the EPA and that is sold concurrently in Canada, is required to meet the same emission standards in Canada as in the United States, as appears from a copy of the DieselNet article entitled “Emission Standards: Canada” and from a copy of an extract from the TransportPolicy.net website at www.transportpolicy.net, produced herein *en liasse* as **Exhibit R-2** and as appears from a copy of an extract from the Registrar of Imported Vehicles’ website at www.riv.ca, from a copy of an extract from Environment and Climate Change Canada’s website at www.ec.gc.ca entitled “Workplan for General Areas of Collaboration On Vehicle and Engine Emission Control Under the Agreement Between the Government of the United States of America and the Government of Canada on Air Quality”, and from a copy of the Canadian Council of Ministers of the Environment’s Environmental Code of Practice for On-Road Heavy-Duty Vehicle Emission Inspection and Maintenance Programs dated 2003, produced herein *en liasse* as **Exhibit R-39**;
92. The *On-Road Vehicle and Engine Emission Regulations* provide that “[n]o vehicle or engine shall be equipped with a defeat device”, which is defined as “an auxiliary emission control device that reduces the effectiveness of the emission control system under conditions that may reasonably be expected to be encountered in normal vehicle operation and use”⁵, as appears from a copy of the *On-Road Vehicle and Engine Emission Regulations*, SOR/2003-2, produced herein as **Exhibit R-52**;
93. The *On-Road Vehicle and Engine Emission Regulations* (Exhibit R-52) define an auxiliary emission control device at s.1:

⁴ *On-Road Vehicle and Engine Emission Regulations*; ss. 2 & 3.

⁵ *On-Road Vehicle and Engine Emission Regulations*, SOR/2003-2, at s. 11.

auxiliary emission control device means any element of design that 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 an emission control system. (*dispositif antipollution auxiliaire*);

94. In 2007, the *Motor Vehicle Fuel Consumption Standards Act*, R.S.C., 1985, c. M-9/ *Loi sur les normes de consommation de carburant des véhicules automobiles*, L.R.C., 1985, ch. M-9 was enacted and implemented in order to make Canadian fuel consumption and emissions targets mandatory and to harmonize these standards with the United States Corporate Average Fuel Economy (CAFE) standards to establish a common North American approach, as appears from a copy of an extract from the TransportPolicy.net's website at www.transportpolicy.net, produced herein as **Exhibit R-53**;
95. The final rules for the *Motor Vehicle Fuel Consumption Standards Act* were published in October 2010 as the *Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations*, SOR/2010-201/ *Règlement sur les émissions de gaz à effet de serre des automobiles à passagers et des camions légers*, DORS/2010-201 under *CEPA*. Beginning in model year 2011, the Canadian motor vehicle industry began submitting fuel economy and greenhouse gas emissions data through annual regulatory compliance reports to Environment Canada (Exhibit R-53);
96. Transport Canada defines vehicle and engine types for the purposes of federal emissions regulations. The gross vehicle weight rating (GVWR – *poids nominal brut spécifié ou PNBV en français*) refers to the maximum weight a vehicle is designed to carry including the net weight of the vehicle with accessories, plus the weight of passengers, fuel, and cargo. The Subject Vehicles are classified as heavy light-duty trucks (i.e. GVWR of more than 2 722 kg) (Exhibit R-3), as appears from a copy of the British Columbia Ministry of Transportation and Infrastructure brochure entitled “Gross Vehicle Weight Rating – Frequently Asked Questions”, produced herein as **Exhibit R-54**;
97. The *On-Road Vehicle and Engine Emission Regulations* (Exhibit R-52) provide that a heavy light-duty truck shall:
- 12 (a) for the 2016 and earlier model years, conform to the exhaust emission and evaporative emission standards applicable to vehicles of the model year in question set out in section 1811 of Title 40, chapter I, subchapter C, part 86, subpart S, of the CFR;
- (a.1) for the 2017 and later model years, conform to
- (i) the exhaust emission standards applicable to vehicles of the model year in question set out in section 1811 of Title 40, chapter I, subchapter C, part 86, subpart S, of the CFR,

(ii) the evaporative emission and refueling emission standards applicable to vehicles of the model year in question set out in section 1813 of Title 40, chapter I, subchapter C, part 86, subpart S, of the CFR, and

(iii) the family emission limit established by the company for the evaporative emission family to which the vehicle belongs, which shall not exceed the applicable family emission limit cap set out in section 1813 of Title 40, chapter I, subchapter C, part 86, subpart S, of the CFR;

(b) be equipped with an on-board diagnostic system that conforms to the standards applicable to vehicles of the model year in question set out in section 1806 of Title 40, chapter I, subchapter C, part 86, subpart S, of the CFR; and

(c) not release any crankcase emissions;

98. The term CFR used in the *On-Road Vehicle and Engine Emission Regulations* means the *Code of Federal Regulations* of the United States, which provide the following in terms of applicable emission and evaporative emission standards:

TABLE S04-1—TIER 2 AND INTERIM NON-TIER 2 FULL USEFUL LIFE EXHAUST MASS EMISSION STANDARDS
[Grams per mile]

Bin No.	NO _x	NMOG	CO	HCHO	PM	Notes
11	0.9	0.280	7.3	0.032	0.12	a, c
10	0.6	0.156/0.230	4.2/6.4	0.018/0.027	0.08	a, b, d
9	0.3	0.090/0.180	4.2	0.018	0.06	a, b, e
8	0.20	0.125/0.156	4.2	0.018	0.02	b, f
7	0.15	0.090	4.2	0.018	0.02	
6	0.10	0.090	4.2	0.018	0.01	
5	0.07	0.090	4.2	0.018	0.01	
4	0.04	0.070	2.1	0.011	0.01	
3	0.03	0.055	2.1	0.011	0.01	
2	0.02	0.010	2.1	0.004	0.01	
1	0.00	0.000	0.0	0.000	0.00	

TABLE S04-2—TIER 2 AND INTERIM NON-TIER 2 INTERMEDIATE USEFUL LIFE (50,000 MILE) EXHAUST MASS EMISSION STANDARDS (GRAMS PER MILE)

Bin No.	NO _x	NMOG	CO	HCHO	PM	Notes
11	0.6	0.195	5.0	0.022		a, c, h
10	0.4	0.125/0.160	3.4/4.4	0.015/0.018		a, b, d, f, g, h
9	0.2	0.075/0.140	3.4	0.015		a, b, e, f, g, h
8	0.14	0.100/0.125	3.4	0.015		b, j, h, i
7	0.11	0.075	3.4	0.015		f, h
6	0.08	0.075	3.4	0.015		f, h
5	0.05	0.075	3.4	0.015		f, h

99. Before introducing the Subject Vehicles into the stream of commerce, automakers are required to obtain either a Canadian National Emissions Mark (NEM) under the *On-Road Vehicle and Engine Emission Regulations* or an EPA-administered certificate of conformity certifying that the vehicle comported with the emissions

standards. vehicles must be accurately described in the application in all material respects to be deemed covered by a valid NEM or certificate of conformity, as appears from a copy of the Environment and Climate Change Canada Guidance document – Heavy-duty Vehicle and Engine Greenhouse Gas Emission Regulations, produced herein as **Exhibit R-78**;

100. An important aspect of the harmonization with U.S. standards is the recognition of emission certificates issued by the EPA. Under most Canadian regulations there are two ways of demonstrating emissions compliance (Exhibit R-2):

- (a) EPA emission certificate: Every model of vehicle or engine that is certified by the EPA and that is sold concurrently in Canada and the United States is required to meet the same emission standards in Canada as in the United States. The term concurrent sales means that for an EPA certificate to be valid in Canada, at least one engine or vehicle covered by this certificate must be sold in a given year in the United States. Most vehicles and engines are sold in Canada under this concurrent sales principle. These vehicles and engines must be affixed with an EPA emission label and do not require a Canadian emission approval or labeling,
- (b) Environment Canada emission approval: Vehicles and engines that do not have a valid EPA emission certificate must be emission approved by Environment Canada and affixed with a Canadian emission label;

101. The Subject Vehicles had been approved by the EPA and furnished with an EPA emission certificate, indicating that they complied with emissions legislation in the U.S., and therefore Canada under the harmonized regime, which enabled FCA Canada to sell or lease the Subject Vehicles to Class Members, as appears from copies of the Certificates of Conformity numbered as: ECRXT03.05PV-049, ECRXT03.05PV-049-R01, FCRXT03.05PV-055, FCRXT03.05PV-055-R01, FCRXD03.05VV-057, GCRXT03.05PV-045, and GCRXD03.05VV-048, produced herein *en liasse* as **Exhibit R-79** and from copies of the associated Applications for Certification, produced herein *en liasse* as **Exhibit R-80**;

102. In order to obtain a certificate of conformity, automakers must submit an application that lists all AECDs installed in the vehicle, justifications for each, and an explanation why it is not a defeat device (Exhibit R-80 at Section 11);

103. FCA was required to disclose the eight AECDs at issue to the EPA and CARB on its applications for certification (Exhibit R-80) and to explain why they were not defeat devices. FCA decided instead to conceal the eight AECDs altogether;

104. Under the *Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations*, a vehicle manufacturer can earn emissions credits for future use to offset emission deficits. In other words, emission credits can be generated for performance superior to the standard, whereas deficits for performance worse than the standard can be offset, as appears from a copy of the Greenhouse Gas

Emissions Performance for the 2011 to 2016 Light-Duty Vehicle Fleet Report and from a copy of the Environment and Climate Change Canada report entitled “Greenhouse Gas Emissions Performance for the 2017 Model Year Light-Duty Vehicle Fleet”, produced herein *en liasse* as **Exhibit R-55**;

105. Manufacturers that generate emission credits may transfer those credits to other manufacturers and can transfer credit between its own cars and trucks. This is essentially a credit trading system that allows manufacturers to carry efficiency and greenhouse gas credits forward by up to five years and backwards by up to three years to achieve compliance and avoid fines;

106. Early on, FCA began purchasing emissions credits – in 2011, FCA purchased 689,582 emissions credits, in 2012, 218,920, in 2013, 24,649, in 2014, 55,496, in 2015, 105,226, and in 2016, 158,088 (Exhibit R-55);

107. Manufacturers have a clear economic motivation to meet the standards. There are stiff penalties for every 0.1 kilometres per litre below the standard, multiplied by the total number of vehicles the manufacturer has produced for the entire Canadian market in that year. Alternately, it can use regulatory credits it either stockpiled or purchased, as appears from a copy of the Axios article entitled “Emissions credits are like gold for automakers” dated August 30, 2019, produced herein as **Exhibit R-56**;

viii) Emissions Testing Protocol

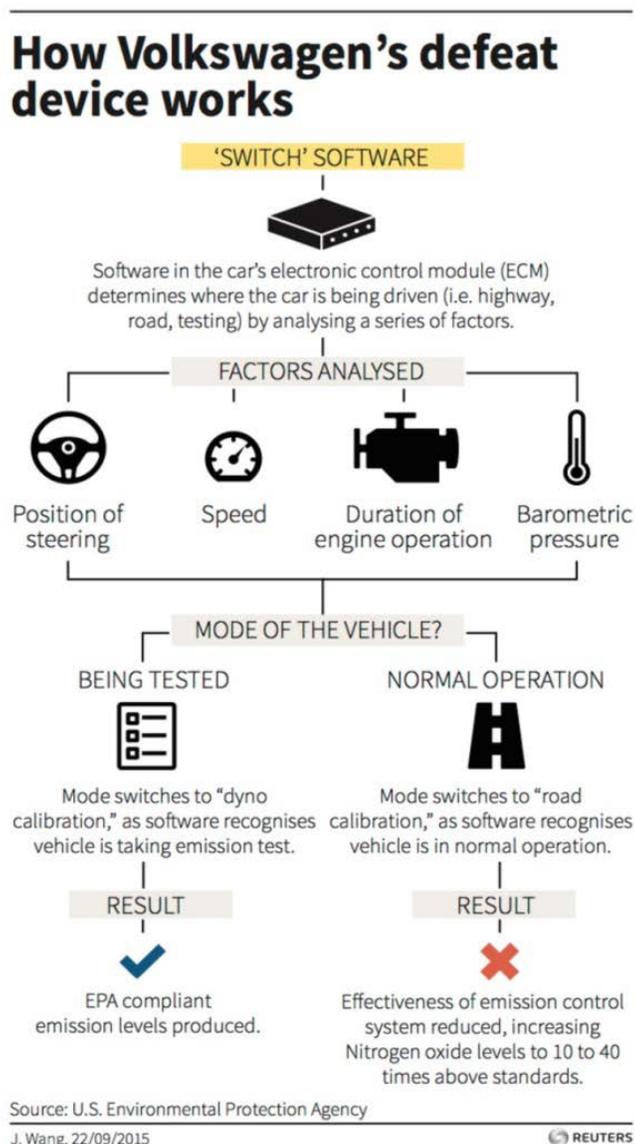
108. As discussed, in Canada, all new vehicles have to meet Environment Canada emissions standards – the same standards set by the EPA, as appears from a copy of The Globe and Mail article entitled “The problem with car emissions tests” dated September 24, 2015, produced herein as **Exhibit R-40**;

109. Vehicle manufacturers are responsible to test their own vehicles using a 5-cycle testing procedure, which tests for city and highway conditions as well as other factors such as cold weather, the use of air conditioners, and driving at higher speeds with more rapid acceleration and braking to reflect typical driving conditions and styles, as appears from a copy of an extract from the Natural Resources Canada website at www.nrcan.gc.ca, produced herein as **Exhibit R-63**;

110. When vehicle manufacturers test their vehicles against emission standards, they place their vehicles on dynamometers (large rollers) and then perform a series of specific manoeuvres prescribed by federal regulations. Bosch’s EDC-17 gave Volkswagen, FCA, and other manufacturers the power to detect test conditions by monitoring vehicle speed, acceleration, engine operation, air pressure, and the steering wheel position. When the EDC-17’s detection algorithm identified that the vehicle was on a dynamometer (undergoing an emission test), additional software code within the EDC-17 downgraded the engine’s power and performance and upgraded the emissions control systems’ performance by switching to a “dyno calibration” to cause a reduction in emissions to legal levels. Once the EDC-17

detected that the emission test was complete, it would then enable a different “road calibration” that caused the engine to return to full power while reducing the emissions control systems’ performance, and consequently caused the vehicle to spew the full amount of illegal NO_x emissions, as appears from a copy of the BBC News article entitled “Volkswagen: The scandal explained” dated December 10, 2015, produced herein as **Exhibit R-41**;

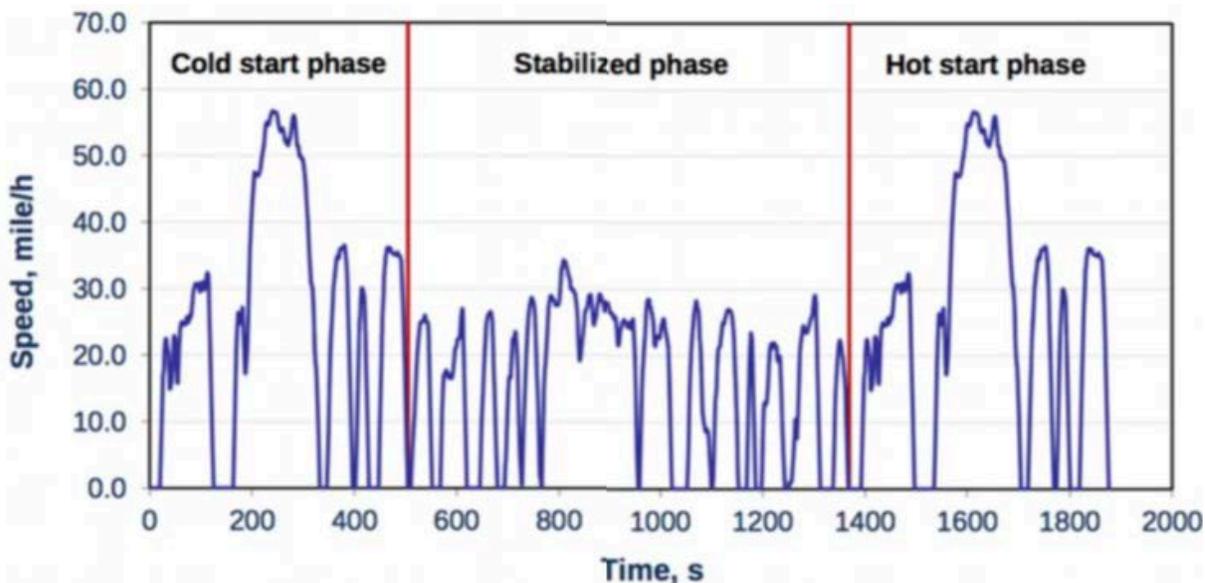
111. The following diagram illustrates the process:



112. The below graph is an example of the FTP⁶-75 driving cycle used for emission certification and fuel economy testing of vehicles. This particular cycle simulates an

⁶ U.S. Federal Test Procedure.

urban route with frequent changes in speed, acceleration, and stops, combined with both a cold and a hot start transient phase⁷:



113. While the FTP-75 is the primary dynamometer cycle used to certify the light- and medium-duty passenger vehicles, there are also cycles that simulate driving patterns under different conditions. To assess conformity, several of these tests are carried out on a chassis dynamometer, a fixture that holds a car in place while allowing its wheel to turn with varying resistance. Emissions are measured during the test and compared to an emissions standard that defines the maximum pollutant levels that can be released during such a test, as appears from a copy of the DieselNet article entitled “Emission Test Cycles”, produced herein as **Exhibit R-42**;
114. Emissions testing requires a “cold start” cycle; i.e. the vehicles must emit low levels of NO_x even when they have just started and are not yet operating at a high temperature. That means the vehicle starts the cycle with the engine having been off for at least eight hours and in a completely cold state. The “cold start” portion of the test is challenging for diesel engines employing SCR because catalysts meant to control emissions are not yet at temperatures where they work (i.e., above their “light-off” temperature);
115. The SCR requires hot exhaust to be effective at reducing NO_x emissions; i.e. for the urea catalyst to function properly. The system takes time to warm up and does not work well when the engine system is cold; the diesel particulate filter (DPF)

⁷ The cycle lasts 1,877 seconds (about 31 minutes) and covers a distance of 17.77 km (11.04 miles) at an average speed of 34.12 km/h (21.2 mph)

absorbs much of the heat during exhaust warmup and delays the time for the SCR catalyst to reach its light-off temperature;

116. The Respondents did not want to increase Engine Gas Recirculation (EGR) or use other inefficient methods to reduce “cold start” emissions, so they designed the EcoDiesel engines with the SCR system closer to the engine than the DPF;
117. This arrangement allows the SCR system to warm up quicker, thus allowing sufficiently reduced NO_x emissions to pass the cold start test; however, there is a drawback. Because the NO_x is reduced before the exhaust reaches the DPF filter, there is little passive regeneration⁸ in the DPF. This, in turn, requires more active regenerations, resulting in reduced fuel economy, reduced lifetime of the SCR catalysts, and a significant increase in overall NO_x emissions;

ix) Testing of the Subject Vehicles

118. In connection with the U.S. litigation, engineering experts in emissions testing have tested the 2015 Ram 1500 pickup using a Portable Emissions Measurement System (PEMS)⁹. Testing revealed that Ram 1500 spews more than the legal amount of emissions;
119. The applicable federal standard is 80 mg/km (50 mg/mile) of NO_x for city driving. Testing was conducted with a PEMS unit to simulate driving conditions under both city conditions and highway conditions. The Ram 1500 emits an average of 254 mg/km (159 mg/mile) of NO_x and a maximum of 2,052mg/km (1,283 mg/mile) on flat roads, and 355 mg/km (222 mg/mile) of NO_x with a maximum of 2,974 mg/km (1,859 mg/mile) on hills. For highway driving, the average was 371 mg/km (232 mg/mile) and a maximum of 2584 mg/km (1,615 mg/mile), compared to the 112 mg/km standard. On hills, the numbers are 565mg/km (353 mg/mile) and 5184 mg/km (3,240 mg/mile);
120. Testing also revealed a device triggered by ambient temperature that significantly derates (lowers) the performance of the NO_x emission reduction system, with threshold temperatures above approximately 35°C (95°F) and below 4-10°C (40-50°F). The resulting NO_x emissions increase by a factor of 10 when above or below these temperatures. Testing also revealed the presence of a device that is triggered when ascending hills, as the emission control system appears to be significantly derated after a short period of steady driving on hills. As a result, NO_x emissions increase after about 500-1000 seconds on hills with grades as low as 1%, where

⁸ Passive regeneration occurs at any time that the vehicle is in operation and the exhaust gas temperature is high enough to burn the particulate matter trapped by the filter. It is a continuously occurring process, meaning that it naturally occurs whenever the conditions are met. Active regeneration occurs only when the engine senses that the DPF requires cleaning.

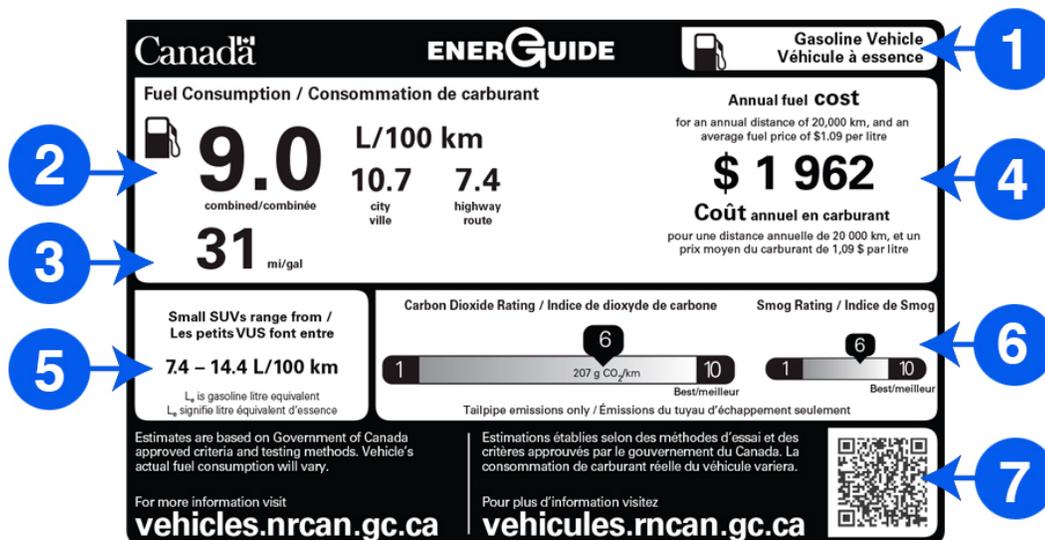
⁹ A portable emissions measurement system (PEMS) is essentially a lightweight ‘laboratory’ that is used to test and/or assess mobile source emissions (i.e. cars, trucks, buses, construction equipment, generators, trains, cranes, etc.) for the purposes of compliance, regulation, or decision-making.

emissions are often 10 times the highway standard. For grades as little as 0.4%, emissions were found to be as high as 6 times the highway standard;

121. The Ram 1500's emission software is a Bosch EDC-17, as is the Jeep Grand Cherokee's emission software. The same basic emission system is in the Grand Cherokee EcoDiesel and the engines are identical (Exhibit R-65);
122. In separate testing by counsel for the plaintiffs in the U.S. litigation (Exhibit R-9), a 2014 Ram 1500 equipped with an EcoDiesel engine was tested on a chassis dynamometer as well as on the road. In both scenarios, gaseous exhaust emissions, including NO_x, nitrogen oxide (NO), carbon monoxide (CO), carbon dioxide (CO₂), and total hydrocarbons (THC) were measured on a continuous basis using a PEMS;
123. The tests showed significantly increased NO_x emissions during on-road testing as opposed to testing on a chassis dynamometer (i.e., in the laboratory). On the road, over an urban/suburban route, the vehicle produced average NO_x emissions that exceeded federal standards by approximately 15-19 times;

x) Claims of Fuel Economy/ Efficiency

124. EnerGuide is the official Government of Canada mark for rating and labelling the energy consumption or energy efficiency of products, including new vehicles, as appears from a copy of an extract for the Natural Resources Canada website at www.nrcan.gc.ca, produced herein as **Exhibit R-76**;
125. The EnerGuide label, which appears on all new vehicles, gives model-specific fuel consumption information for new light-duty vehicles available for sale in Canada and remains on the vehicle until it is sold (Exhibit R-33). It gives information about (1) the vehicle technology and fuel, (2) fuel consumption combined and separate as to city and highway fuel consumption, (3) fuel economy (expressed in miles per gallon), (4) annual fuel cost (expressed by 20,000 km/ year and the fuel price indicated), (5) vehicle class range, (6) CO₂ and smog ratings, (7) the quick-response code to guide users to Natural Resources Canada's fuel consumption ratings search tool. Below is a sample EnerGuide label:



126. The Respondents' misleading test results are sent to the Government of Canada to be used as the basis for fuel economy information provided on the EnerGuide Label as well as in the Fuel Consumption Guide. The 2014 Fuel Consumption Guide, which is published by natural Resources Canada provided the following:

- RAM 1500 Diesel: 10.2 L/100 kms city and 7.1 L/100 kms highway and estimated fuel costs of \$2,270 per year for 1760 litres of fuel,
- RAM 1500 4x4 Diesel: 10.6 L/100 kms city and 7.4 L/100 kms highway and estimated fuel costs of \$2,374 per year for 1840 litres of fuel
- Jeep Grand Cherokee 4x4 Diesel: 9.8 L/100 kms city and 7.0 L/100 kms highway and estimated fuel costs of \$2,219 per year for 1720 litres of fuel,

As appears from a copy of the 2014 Fuel Consumption Guide, produced herein as **Exhibit R-77**;

127. A vehicle's advertised fuel economy is determined by driving a vehicle over many standardized driving patterns (or drive cycles), all of which are performed in a laboratory on a dynamometer where the conditions for all tests can be controlled. These driving cycles include cold starts, hot starts, highway driving, aggressive and high-speed driving, driving with the air conditioner in use under conditions similar to a hot summer day and driving in cold temperatures. Data from the drive cycles are combined and adjusted for "real world" conditions in a way to represent "City" driving and "Highway" driving. The "combined" fuel economy is the average of the City and Highway values with weights of 55% and 45% respectively, as appears from a copy of an extract from the book "Assessment of Fuel Economy Technologies for Light-Duty Vehicles – Chapter 2, dated 2011, produced herein as **Exhibit R-5**;

128. During each of the drive cycles – all of which are performed in a lab, under the Subject Vehicles' low power/low emissions/low fuel consumption mode – the amount of each pollutant is measured. This includes un-combusted or partially combusted

gasoline (hydrocarbons or HC), NO_x, oxygen, carbon monoxide (CO) and carbon dioxide (CO₂). The amount of carbon produced is then converted to amount of gasoline which was required to produce the carbon in the exhaust. The amount of gasoline produced during the tests is divided into the distance driven on the test to produce the fuel economy;

129. Based on this equation, as the amount of NO_x produced increases, the gasoline used increases and the fuel economy decreases. Therefore, if a Subject Vehicle produced less NO_x during laboratory testing, but higher NO_x when driven on road, then the vehicle would have better estimated fuel efficiency than the vehicle would actually achieve on road;

130. FCA promises that the EcoDiesel vehicles provide greater fuel economy, “30% better than a comparable gasoline engine...A Jeep Grand Cherokee or Ram 1500 with the EcoDiesel V-6 has a driving range of about 730 miles on one tank of fuel”, as appears from a copy of an extract from the FCA Respondents’ website at <https://blog.fcanorthamerica.com>, produced herein as **Exhibit R-13**;

131. FCA’s website claimed that the Ram 1500 engine delivers the highest fuel economy among all full-size truck competitors – 12% higher than the next-closest competitor. On the Jeep Grand Cherokee, it offers fuel economy of 30 miles per gallon highway with a driving range of more than 730 miles”; however, its own scandal began to emerge, it removed that representation from its website, as appears from copies of two extracts from the FCA Respondents’ website at www.fcanorthamerica.com, produced herein *en l’asse* as **Exhibit R-14**;

132. FCA further claims that the 2014 Ram 1500 “exceeds the EPA highway rating for the top-ranked small pickup. The breakthrough results mean Ram keeps the half-ton fuel-economy record set last year by the 2013 Ram 1500”, as appears from a copy of the FCA Respondents Press Release entitled “2014 Ram 1500 EcoDiesel Orders Top More Than 8,000 Units in Three Days, Filling Initial Allocation” dated February 19, 2014, produced herein as **Exhibit R-15**;

133. FCA’s advertising has been effective. According to one press release, “[i]t’s every truck manufacturer’s dream to have this kind of initial order demand for a product. Fuel economy is the No. 1 request of half-ton buyers and the Ram 1500 EcoDiesel delivers without compromising capability” (Exhibit R-15);

xi) The Respondents’ Marketing Practices

- The EcoDiesel Brand

134. In order to counter the public perception that diesel engines produce dirty emissions and to capitalize on consumers’ desire to protect the environment, FCA aggressively marketed the EcoDiesel engine as being environmentally friendly, fuel efficient, and high-performing using either a leaf and green colouring in its logo for the Jeep Grand Cherokees or the more rugged red look for the Ram 1500s, placed prominently on every single Subject Vehicle:



135. In researching potential terms to distinguish and market the Subject Vehicles back in 2012, FCA had engaged a consumer research firm to evaluate consumer reactions to nine potential engine identifying terms. FCA's study indicated that "green" names like "Eco-Diesel" were the best because they suggest that the diesel is cleaner, more efficient, and better for the environment. Accordingly, FCA decided to combine the terms "Eco", "Diesel", and "3.0L" with the above designs to refer to the engine because the engine is an economical, fuel-efficient, more environmentally friendly 3.0 litre diesel engine, as appears from a copy of the "Declaration of James Cameron Morrison in Support of Chrysler Group LLC's Brief in Opposition to Unitek's Motion for Preliminary Injunction" dated June 4, 2013 in the case of *Unitek Solvent Services, Inc. v. Chrysler Group LLC*, No. 1:12-cv-00704-DKW-RLP, produced herein as **Exhibit R-68**;
136. The Expert Report of Dr. Elisabeth Honka, produced in the context of the U.S. Litigation, discusses the marketing process for the EcoDiesel Subject Vehicles from start to finish. In so doing, Dr. Honka advised that:
9. FCA conducted naming research to evaluate consumer reactions to potential names for a new diesel engine in 2012. The name "Eco-Diesel" was the most preferred name, scoring best in terms of preference, appeal, and fit with the Jeep Grand Cherokee. The Executive Summary states that "'Green' names are the best" and "suggest the diesel is cleaner, more efficient, and better for the environment."
 10. FCA conducted competitive and positioning research for the Jeep Grand Cherokee "Eco-Diesel" in 2012. Among other things, the goal of this research was to "identify the theme that best resonates with consumers." The first priority was that the "Jeep Grand Cherokee diesel must be overtly understood to be clean for the individual first, the environment second."
 11. Both the Jeep and the Ram vehicles in this lawsuit bear the EcoDiesel badge.

...

13. Two internal briefing notes to FCA managers on how to communicate about the 2014 Jeep Grand Cherokee EcoDiesel to the press and public provide insights into FCA's own view and intentions for its marketing strategy for the 2014 Jeep Grand Cherokee EcoDiesel. For example, FCA employees are asked to "Always refer to the Diesel engine as EcoDiesel V6" to emphasize the theme that it is "The cleanest Diesel engine within the full-size segment." Furthermore, the Key Messages/Q&A script talks about the "new 3.0-liter clean EcoDiesel" having the "Cleanest emissions in the diesel segment."

14. FCA also thoroughly planned a specific marketing campaign accompanying the launch of the 2014 RAM 1500 EcoDiesel—above and beyond the general marketing campaign accompanying the launch of the 2014 RAM trucks—as evidenced by an FCA presentation titled "2014MY RAM 1500 EcoDiesel Launch." This 2014 RAM 1500 EcoDiesel marketing campaign included TV, print, radio, social media, direct mail, and e-newsletter elements prominently containing the EcoDiesel logo. FCA also set up a separate EcoDiesel landing page on the Ramtrucks.com website and distributed point-of-sale kits about the Class Vehicle. As part of this campaign, FCA also set up a schedule to ensure that dealers were educated about the Class Vehicle. In its marketing campaign for the 2014 RAM vehicles, FCA stated that it wanted to "invest most heavily in priority launches: EcoDiesel..." and that "the media plans are aligned to support key priorities and messaging: Consistent presence through out the year in TV, Print, Digital."

As appears from a copy of the Declaration of Dr. Elisabeth Honka in Support of Plaintiffs' Motion for Class Certification dated June 5, 2018 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, produced herein as **Exhibit R-69**;

137. FCA's marketing of its Subject Vehicles and its "EcoDiesel" engines has consistently been to promise clean diesel and the word "EcoDiesel" was used in virtually every consumer-facing communication;

- The Marketing Campaign – "Clean" Diesel

138. FCA engaged in a comprehensive marketing campaign, through a variety of media, all with the consistent objective of convincing consumers that the EcoDiesel vehicles were environmentally friendly, fuel efficient, and high performing. FCA knew the importance of communicating this consistent message across all channels, and it invested heavily in its marketing and advertising campaign. The central theme in FCA's diesel engine marketing is the promise of "clean" diesel (Exhibit R-37);



139. For years, the FCA Respondents marketed their diesel vehicles as fuel efficient trucks with low emissions, for example they have made the following non-exhaustive representations:

a. 3.0L Jeep Grand Cherokee EcoDiesel V6

The 3.0L EcoDiesel V6 is a three-time winner of Ward's '10 Best Engine' and delivers 240 horsepower and 420 lb-ft of torque. This diesel engine gives the Jeep® Grand Cherokee a Best-in-Class towing capacity of up to 3,265 kg (7,200 lb).

You'll also enjoy savings with fuel economy as efficient as 8.4 L/100 km (34 mpg) highway, and a driving range up to 1,100 km that no other SUV in its class can match.

2016 Jeep Grand Cherokee EcoDiesel: Best-in-Class fuel economy

City
11.2 L/100KM
25 IMP. MPG

Highway
8.4 L/100KM
34 IMP. MPG

Yearly Fuel Cost \$2,227
Up to \$565 Savings

b. 3.0L Dodge Ram 1500 EcoDiesel

Canada's Most Fuel-Efficient Full-Size Pickup

Legendary durability and capability combine with advanced features like the Class-Exclusive 3.0L EcoDiesel V6 to give you Canada's most fuel-efficient full-size pickup ever, winner of Four Wheeler's 2016 Pickup Truck of the Year and the 2016 Canadian Truck King Challenge winner. The available EcoDiesel engine dominates with Best-in-Class 420 lb-ft of low-end torque and makes the Ram 1500 the only half-ton pickup in the industry to offer a diesel engine.

(i) 3.0L EcoDiesel V6

A true benchmark, the Class-Exclusive 3.0L EcoDiesel V6 delivers 240 horsepower and Class-Leading 420 lb-ft of low-end torque at an impressive 2,000 rpm. If you want diesel power, you can forget the competition. The Ram 1500 is the only half-ton truck in the industry to offer a diesel engine.

The 3.0L EcoDiesel engine also delivers Best-in-Class fuel economy as efficient as 8.0 L/100 km (35 mpg) highway and has recommend oil change intervals of up to 16,000 km to lower your total operating costs. No matter how you look at it, this engine dominates across the performance spectrum - which is why Wards named it one of their '10 Best Engines' two years in a row.

Transmission(s)

Mated to the 3.0L EcoDiesel is a TorqueFlite® 8-speed automatic transmission. With 40 different shift maps, it optimizes the engine's performance, giving you stronger power when needed and fuel economy that makes the Ram 1500 Canada's most fuel-efficient full-size pickup.

2016 RAM 1500

Best-in-Class fuel economy that dominates the competition

CANADA'S MOST FUEL-EFFICIENT FULL-SIZE PICKUP AS EFFICIENT AS 35 MPG (8.0L/100 KM) HIGHWAY

The dominating performance of the 3.0L EcoDiesel V6 runs deep. Not only is it Class-Exclusive, but it also puts an impressive 420 lb-ft of low-end torque in your hands along with exhilarating power. This massive capability is balanced by Best-in-Class fuel economy thanks to a Segment-First 8-speed automatic transmission. The Ram 1500 is the complete package, which is why it beat all competitors to become the back-to-back winner of the Canadian Truck King Challenge,

(ii) 3.0L EcoDiesel V6 (HFE Model)

City
11.3 L/100KM
25 IMP. MPG

Highway
8.0 L/100KM
35 IMP. MPG

Estimated fuel cost with EcoDiesel:

\$2,199 Yearly Fuel Cost

Up to \$676 in Savings,

As appears from copies of various extracts from the FCA Respondents' website(s) as well as copies of various vehicle brochures and leaflets from 2014 to 2016, produced herein *en liasse* as **Exhibit R-3**;

140. FCA also released many press releases extolling the Subject Vehicles' performance, environmental friendliness, fuel efficiency, emissions compliance, and popularity, as appears from copies of the FCA Press Releases entitled "2014 Ram 1500's Breakthrough 3.0-liter EcoDiesel V-6 Delivers Best-in-Class Fuel Economy" dated September 8, 2013, "Chrysler Canada: Ram Launches 2015 Heavy Duty Models with a Trifecta of Claims: Best-in-class Power, Towing Capacity and Payload Capacity" dated August 25, 2014, "Chrysler Canada Reports Highest August Sales Ever" dated September 3, 2014, "Ram Truck Increases EcoDiesel Mix to 20 Percent of Ram 1500 Pickup Production" dated September 30, 2014, "Ram 1500 EcoDiesel Named 2015 Green Truck of the Year™ by Green Car Journal" dated November 6, 2014, "FCA Canada: FCA US LLC Scores Wards 10 Best Engines 'Three-Peat' With EcoDiesel V6; Lone Diesel on List for Second Straight Year" dated December 10, 2015, "Chrysler Canada – New 2015 Ram 1500 Rebel Makes a Statement" dated January 13, 2015, "Jeep® Grand Cherokee EcoDiesel Named 2015 Green SUV of the Year™ by Green Car Journal" dated January 22, 2015, produced herein *en liasse* as **Exhibit R-74**;
141. FCA specifically targets consumers "who want to drive an efficient, environmentally friendly truck without sacrificing capability or performance." It claims that the Ram 1500 was "the NAFTA market's first and only light-duty pickup powered by clean diesel technology", as appears from a copy of an extract from the FCA Respondents' website at blog.ramtrucks.com, produced herein as **Exhibit R-45**;
142. FCA further claims that "the Bosch emissions control system helps ensure that virtually no particulates and minimal [NO_x] exit the tailpipe" (Exhibit R-37);
143. FCA went so far as to hold itself out as a protector of the environment: "We are in a race against time. Climate change and the increasing scarcity of traditional sources of energy require new approaches to mobility. Fiat Group is addressing this

challenge head-on by ensuring individual freedom of movement with maximum consideration for the environment and local communities.” Step one, according to FCA, is to “minimize environmental impacts related to the use of our products”, as appears from a copy of the FCA Respondents’ 2014 Sustainability Report, produced herein as **Exhibit R-46**;

144. VM Motori marketed its EcoDiesel engine as “the ultimate in diesel engines” and stated that it “can be tailored to meet each individual customer’s requirements”. In addition, VM Motori represented that the EcoDiesel engine “match[ed] refinement with power with ultra-low emissions” was the “ultimate in diesel engines”. The Subject Vehicles were equipped with the L 630 DOHC engine, as appears from copies of extracts from the FCA and VM Motori Respondents’ website at www.vmmotori.com from 2016 and from a copy of the Engine Specification, produced herein *en liasse* as **Exhibit R-70** and as appears from copies of extracts from the VM Motori website at www.vmmotori.com from 2015, 2016 and 2017, produced herein *en liasse* as **Exhibit R-71**;

145. The 2016 Dodge Ram 1500 EcoDiesel vehicle repeatedly won the Canadian Truck King Challenge, as appears from a copy of the Driving.ca article entitled “Ram EcoDiesel wins 2016 Canadian Truck King Challenge” dated October 19, 2015, produced herein as **Exhibit R-4**;

146. The FCA Respondents’ sales figures in Canada for 2016 indicate that approximately 39,000 Subject Vehicles were sold in that year alone (Exhibit R-7);

147. The Expert Report of Dr. Honka (Exhibit R-69) opined the following on FCA’s marketing:

15. FCA’s advertising for both Class Vehicles was wide-reaching and pervasive.

...

29. In most consumer-facing print marketing materials that I have reviewed, for both the Ram and Jeep brands, FCA communicated that the EcoDiesel engines are (i) fuel efficient, (ii) powerful, and (iii) environmentally friendly and have low emissions. For example, the 2014 Jeep Grand Cherokee EcoDiesel is described as “an exceptionally luxurious, environmentally friendly SUV” and its “Clean diesel technology reduces CO2 emissions to the lowest amount yet” and “Meets and even exceeds the low-emission requirements in all 50 states.”

30. Ram introduced the 2014 Ram 1500 EcoDiesel with the headline “Capable, efficient and easy on the environment” in an email intended to be sent to consumers.

31. Ram and Jeep EcoDiesel vehicles were featured on FCA’s social media. For example, Ram advertised on its social media account on November 6, 2014, that the Ram 1500 EcoDiesel was named Green

Truck of the Year by the Green Car Journal. Ram described the Ram 1500 EcoDiesel as a “lean, green, efficient machine.” Ram advertised its diesel trucks as “rugged, clean diesel power” on its social media account on June 23, 2015. Jeep advertised its EcoDiesel engine as “an eco-friendly engine. E is for EcoDiesel” on its social media account on July 5, 2014.²² Jeep described its new 3.0L Diesel engine as “Capable. Fuel efficient. Environmentally friendly” on its social media account on November 18, 2013;

148. Dr. Honka (Exhibit R-69) concluded the following:

38. Based on the evidence described above and the other FCA documents I have reviewed, it is my opinion that FCA:

- a. intentionally chose the name EcoDiesel for its new diesel engine to evoke the perception of environmental friendliness in consumers;
- b. intentionally chose the same name-EcoDiesel-to brand both Jeep and Ram vehicles;
- c. pervasively advertised the EcoDiesel engine, reaching a wide range of consumers across the United States via all major media channels;
- d. consistently communicated the environmental friendliness (i.e. low emissions) of the EcoDiesel engine in print and on line advertisements for both Jeep and Ram vehicles;
- e. provided both Jeep and Ram dealerships with consistent material on how to address consumers’ environmental concerns about diesel engines and emphasize the EcoDiesel engines’ environmental qualities;

- The Warranty

149. FCA provided Class Members with written warranties stating that the Subject Vehicles complied with emissions standards *inter alia* as follows:

EMISSION WARRANTIES

FCA Canada warrants that your new vehicle was designed, built and equipped to conform at the time of sale with applicable federal and provincial emissions standards, and that the vehicle is at the time of sale free from defects in material and workmanship which would cause it to fail to conform to the applicable emission standards within the warranty periods specified. A covered defect is one which causes your vehicle to fail to meet applicable emission control regulations.

...

EMISSION DEFECT WARRANTY

The 3/60 Basic Warranty covers all emission control components for 3 years or 60,000 kilometres, whichever occurs first. The Emission Defect warranty provides longer coverage for specified components.

LIGHT-DUTY TRUCKS

For light-duty trucks, the Defect Warranty covers the following major emission control parts, if so equipped, for 8 years or 130,000 kilometres, whichever occurs first:

- catalytic converter
- powertrain control module

To receive this coverage the vehicles onboard diagnostic system must indicate a failed emission component.

...

EMISSION PERFORMANCE WARRANTY

The Emission Performance Warranty only applies to cars and trucks with a GVW less than 3855 kg (8500 lb).

For 2 years or 40,000 kilometres, whichever occurs first, the Performance Warranty will cover the cost of repairing or adjusting any components or parts of your vehicle that might be necessary to pass an approved provincial Inspection/Maintenance (I/M) program's emissions test, but only if:

- your vehicle failed an approved provincial I/M emissions test; and
- your vehicle was properly maintained and operated until it failed the test; and
- warranty service is required in order for your vehicle to pass the provincial I/M test

Provincial test fees, if any, are not covered by this warranty.

If your province does not require emission testing, this 2/40 Emission Performance Warranty does not apply.

As appears from copies of the 2014, 2015, and 2016 Warranty/Maintenance booklets for the Ram Subject Vehicles and from copies of the 2014, 2015, and 2016 Warranty/Maintenance booklets for the Jeep Grand Cherokee Subject Vehicles, produced herein *en liasse* as **Exhibit R-75**;

150. FCA has represented *inter alia* that:

- (a) The Subject Vehicles either met or exceeded emissions standards and regulations;
- (b) The Subject Vehicles had a certain fuel economy, which had been accurately reported to regulators;
- (c) The Subject Vehicles produced a specific amount of NO_x, which had been accurately reported to regulators;
- (d) The Subject Vehicles were environmentally friendly,
- (e) The Subject Vehicles provided a superior driving experience, including by virtue of their superior fuel economy and emissions;
- (f) The Subject Vehicles would live up to high performance standards and specifications and a particular level of fuel economy, while emitting a low level of pollutants and emissions;

151. FCA failed to state any or all of the following:

- (a) The Subject Vehicles were not free from defects;
- (b) The Defeat Devices in the Subject Vehicles generated inaccurate and false emissions testing results and were designed for this purpose;
- (c) The Defeat Devices in the Subject Vehicles misled persons who tested emissions in the Subject Vehicles;
- (d) The Subject Vehicles emitted more pollutants than the test results indicated and that they had publicly stated; and
- (e) The Subject Vehicles were not an environmentally friendly, clean or “green” purchasing option that would be beneficial to the environment due to their low fuel consumption or low emissions;

152. The VM Motori Respondent made, approved, or authorized a number of representations in its advertising, website(s), sales brochures, posters and other marketing materials in relation to its EcoDiesel engine, including:

- (a) Vehicles equipped with their EcoDiesel engine met or exceeded emissions standards and regulations;
- (b) Vehicles equipped with their EcoDiesel engine had “match[ed] refinement with power with ultra-low emissions” and that it had been “specifically developed to meet the challenging emission norms of North America market” (Exhibit R-70);

- (c) Vehicles equipped with their EcoDiesel engine were environmentally friendly and environmentally compliant;
 - (d) The Subject Vehicles provided a superior driving experience, including by virtue of their fuel economy, torque and low emissions;
153. The Bosch Respondents made, approved, or authorized a number of representations in their advertising, website(s), sales brochures, posters and other marketing materials in relation to their diesel technology, including:
- (a) Vehicles equipped with their diesel technology met or exceeded emissions standards and regulations;
 - (b) Vehicles equipped with their diesel technology had “low fuel consumption” and “more efficient fuel combustion”;
 - (c) Vehicles equipped with their diesel technology were environmentally friendly, environmentally compliant, “clean”, “conserve our natural resources and thus contribute toward saving the planet”;
 - (d) The Subject Vehicles provided a superior driving experience, including by virtue of their fuel economy, torque and low emissions;
154. Class Members were sold, thought they were getting, and paid a premium for an EcoDiesel package deal that purportedly combined low emissions, high fuel efficiency, and the performance of a diesel engine. But the badge lied, and the Respondents’ conduct was designed to hide the truth from the public and from every buyer and lessor in the Class. In actual operation, the EcoDiesel Subject Vehicles were “dirty” indeed;

xii) The Damages

155. The Expert Report of Steven P. Gaskin, produced in the context of the U.S. Litigation, discusses his assignment of designing, conducting, and analyzing market research surveys in order to assess the reduction in economic value resulting from the use of EcoDiesel engines with the Defeat Devices in the Subject Vehicles, as appears from a copy of the Report of Steven P. Gaskin dated June 6, 2018 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, produced herein as **Exhibit R-90**;
156. Choice-based conjoint analysis surveys¹⁰ were conducted with product profiles for the Subject Vehicles composed of six features: (i) engine performance, (ii)

¹⁰ Conjoint analysis is a survey-based statistical technique used in market research that helps determine how people value different attributes (feature, function, benefits) that make up an individual product or service. It is a technique used to evaluate products and services, and determine how consumers perceive them. Products are broken-down into distinguishable attributes or features, which are presented to consumers for ratings on a scale. Choice-based conjoint analysis lets the researcher include a “None” option for respondents, such as “I wouldn’t choose any of these.”

steering performance, (iii) trim level, (iv) drive type, (v) car connectivity system performance, and (vi) price. Mr. Gaskin was able to conclude that the Subject Vehicles experienced a reduction in economic value of approximately 16.8% for the Jeep Grand Cherokee vehicles and 18.5% for the Ram 1500 vehicles, due solely to the cheating software (Exhibit R-90);

157. The Expert Report of Colin B. Weir, produced in the context of the U.S. Litigation, opined on the Expert Report of Mr. Gaskin (Exhibit R-90) and concluded that the conjoint survey was properly designed to measure the reduction in economic value of the Subject Vehicles at the time and point of first sale and lease as a result of the cheating software (termed “Overpayment Damages”). Mr. Weir also suggests the alternative methodology of isolating price premium that class members paid for the EcoDiesel feature to calculate what is termed the “EcoDiesel Premium”. This alternate method of calculation was based on the documents that the defendants in the U.S. Litigation had produced listing the MSRP¹¹ for each model, model year, and trimline including optional packages. Each of the models and model years offered a base engine for no additional cost, and the EcoDiesel package for an additional, stand-alone price. For each relevant model year of the Jeep Grand Cherokee, the upgrade to the EcoDiesel engine adds \$4,500 or \$5,000 to the MSRP, depending on the trimline. For the 2014 Ram 1500, the EcoDiesel upgrade adds \$4,500, and for the 2015-2016 Ram 1500 it adds \$4,770, as appears from a copy of the Declaration of Colin B. Weir dated June 6, 2018 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, produced herein as **Exhibit R-91**;

158. Mr. Weir made the following chart to graphically depict the “Overpayment Damages” (Exhibit R-91):

Vehicle	Units	Dollars	Overpayment %	Damages
Jeep	25,690	\$1,328,257,461	16.8%	\$223,147,253.45
RAM	75,538	\$3,825,585,851	18.5%	\$707,733,382.44

159. Mr. Weir also made the following chart to graphically depict the “EcoDiesel Premium” (Exhibit R-91):

¹¹ MSRP stands for the Manufacturer Suggested Retail Price — also known as “sticker” price — which is a recommended selling price that automakers give a new car. A dealer uses the MSRP as a price to sell each vehicle; it's different from invoice price on a car, which can stand thousands below the sale price.

Table 3.				
Sample Estimate of Total Class Vehicle Damages				
Vehicle	Units	Dollars	EcoDiesel Premium	Damages
Jeep	25,690	\$1,328,257,461	\$4,500	\$115,605,000
RAM (2014)	14,092	\$692,530,299	\$4,500	\$63,414,000
RAM (2015-2016)	61,446	\$3,133,055,552	\$4,770	\$293,097,420

160. The Expert Report of Edward M. Stockton, produced in the context of the U.S. Litigation, discusses *inter alia* the economic harm suffered by class members and the methods by which to assess this harm. Mr. Stockton concludes that if “a) FCA, indeed, sold the Subject Vehicles with an emissions defects present at the time of sale, consumers suffered economic harm therefrom, b) overpayment at the time of purchase or acquisition is a reasonable method to assess this prospective harm”, as appears from a copy of the Declaration of Edward M. Stockton in Support of Plaintiffs’ Motion for Preliminary Approval of Class Settlement and Direction of Notice Under Fed. R. Civ. P. 23(E) dated January 9, 2019 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, produced herein as **Exhibit R-92**;

161. Mr. Stockton opined on the nature of the harm suffered as follows (Exhibit R-92):

Assuming these allegations to be true, consumers who purchased Subject Vehicles did so under conditions that were inherently different from those for which they bargained. Instead, consumers overpaid for the Subject Vehicles because the vehicles lacked certain attributes that FCA marketed as being present in the vehicles, such as emissions performance and regulatory emissions compliance. The vehicles also included negative attributes for which consumers did not bargain, including but not limited to an alleged defect that caused the release of excess and potentially harmful amounts of NO_x emissions, and a device that was alleged to elude detection by emissions testing equipment (“defeat device”).

...

In accordance with economic theory, concealing a design defect from consumers and potential consumers directly impairs the consumer’s assessment of a potential transaction and leads to a different outcome (price and/or purchase probability) than what would have occurred had the defect been disclosed. This means that a vehicle with an unknown emissions defect is different from the vehicle that the consumer perceives it to be. Furthermore, if concealment of a defect occurs, it interferes with and short-circuits the consumer’s process for assessing the expected utility of a transaction. The consumer would reach a

different perception of utility and value a transaction differently, depending upon whether a seller revealed or concealed the defect.

...

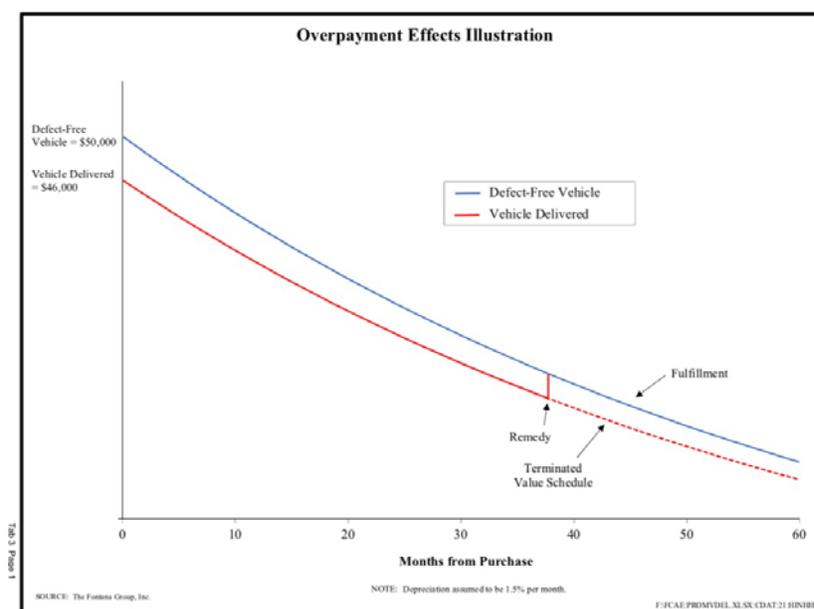
In cases in which a seller remedies an initial defect, the initial overpayment amount may not entirely represent economic damages to the consumer. Nor does a competent repair remedy all economic damage suffered by the consumer. Rather, in a generalized case, economic damages that flow from an initial defect that the seller eventually remedies are a function of the initial overpayment increment and a schedule of the consumer's consumption of the good's value.

162. In quantifying what he terms the "diesel premium", Mr. Stockton assumed it to be 90% of the MSRP of the EcoDiesel option cost (to account for certain discounts and product bundling) associated with the Subject Vehicles as follows (in USD):

Table 2: Estimated Diesel Premium:

Diesel Option Cost	2014	2015	2016
Grand Cherokee	\$4,050	\$4,050	\$4,050
Ram 1500	\$4,050	\$4,293	\$4,293

163. Mr. Stockton proceeds to graphically depict the effect of the overpayment over time. Because depreciation of a vehicle as a whole tends to decrease the effect of the overpayment, the vehicle would have higher sales price or lease payments. Mr. Stockton states that even absent market knowledge of the alleged defect or the presence of excess depreciation, the depreciation of the premium vehicle is higher in absolute terms than that of the alternate vehicle; i.e. the vehicle actually delivered



164. In order to estimate the economic harm to class members, one must take the initial overpayment and multiply it by the depreciation of the vehicle; i.e. multiply the rate of depreciation by the amount of years that have elapsed. Mr. Stockton assumes a 12.5% depreciation rate. This is because class members have suffered for a number of years with a vehicle that contained an emissions defect, which is something that even a proper repair cannot remedy;
165. In the present case, if we use this formula to calculate Petitioner Garage Poirier's damages in terms of overpayment, they would be assessed at USD\$2,531.25 ($\$4,050 \times 0.125 \times 5$ years) and for Petitioner Bouffard, they would be USD\$2,146.50 ($\$4,293 \times 0.125 \times 4$ years);
166. The Expert Report of Brandon Schaufele, PhD and Adam Fremeth, PhD, produced in the context of the Ontario litigation, discussed existing methodologies to quantify the loss to Class Members for (i) the overpayment of the purchase price of the Subject Vehicles (premium price theory), (ii) the decreased market value of the Subject Vehicles, and (iii) the loss in fuel economy, performance, environmental, that a fix would engender. These methodologies include:
- (i) Premium price paid: the hedonic price model, which is a widely applied and accepted method in economics, specifically in quantifying consumers' willingness to pay for specific vehicle attributes such as an EcoDiesel engine. Once the value of the EcoDiesel Engine is quantified, the aggregate loss to the class is straightforward to calculate;
 - (ii) Impact on resale market values: a combination of two methods is used (i) the difference-in-difference regression methodology, which calculates the loss in market value to class members as the difference between the market value of the Subject Vehicles and the counterfactual market value of the unaffected vehicles had the wrongdoing not occurred and (ii) the synthetic control methodology, which calculates a weighted average of other vehicles that were not the subject of a violation announcement and the subsequent divergence in value pre-and post-announcement is attributed to the announcement. Used together, these methodologies can calculate the decrease in market rate beyond normal depreciation;
 - (iii) Assessment of loss related to fix: various methodologies would be used, including the hedonic model described above, assessing the statistical elasticities of fuel price, valuing Class Member time, and using stated preference methodology and choice modelling with respect to environmental attributes. The damages here relate to: (i) performance and vehicle attributes, (ii) operating costs, (iii) fuel economy, (iv) value of time during period of repair using mean wage rates, and (v) foregone environmental and health benefits using stated preference analysis, choice modelling or conjoint analysis;

As appears from a copy of the Affidavit of Brandon Schaufele sworn March 1, 2019 in *Maginnis et al. v. FCA Canada Inc. et al*, Court File No. CV-17-567691-00CP, produced herein as **Exhibit R-93**;

167. Mr. Schaufele concluded that in order to calculate the aggregate damages for the Class from all sources of economic loss, we shall sum the estimated economic loss from the (i) *ex-ante*¹² premium paid for the Vehicles, (ii) the ex post impact on the market value of the Vehicles, and (iii) loss should the vehicles be fixed and multiply those figures by the total number of Class Members. The data necessary to calculate damages (much of which will emanate from the Respondents) includes: (i) number of vehicles sold and leased and the location of registration, (ii) transaction prices for all vehicles including financing terms and warranties, (iii) resale prices of the Subject Vehicles for both dealers and private sales, (iv) vehicle usage rates such as annual kilometres travelled and commuting times, (v) a list of vehicle attributes including engine size, fuel economy, trim, weight, horsepower, fuel type, drivetrain among other characteristics, (vi) marketing intelligence reports and market research for the EcoDiesel engine, and (vii) basic economic data such as fuel prices and wage rates (Exhibit R-93);

168. In the alternate, and assuming that the various fix(es) did actually resolve the problem (it is alleged herein that they did not), Class Members were deprived of the money that they laid out for the EcoDiesel premium overpayment (calculated in the present section) from the date of purchase or lease until the “supposed” fix(es) ultimately resolved the issue. In accordance with the *Interest Act*, R.S.C., 1985, c. I-15, the applicable interest rate is 5% per annum;

169. In the present case, if we use this formula to calculate Petitioner Garage Poirier’s damages in terms of interest on the overpayment, they would be assessed at USD\$1,012.50 ($\$4,050 \times 0.05 \times 5$ years) and for Petitioner Bouffard, they would be USD\$858.60 ($\$4,293 \times 0.05 \times 4$ years);

xiii) The U.S. Litigation

- Procedural Steps

170. On April 5, 2017, the U.S. Judicial Panel on Multidistrict Litigation (“JPML”) consolidated pretrial proceedings for *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777 in the United States District Court for the Northern District of California (the “U.S. MDL Court”) and assigned the case to the Honorable Edward M. Chen, as appears from a copy of the MDL Transfer Order dated April 5, 2017 *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, produced herein as **Exhibit R-94**;

¹² Latin for “before the event”.

171. On September 29, 2017, the Amended Consolidated Consumer Class Action Complaint was filed in the U.S. MDL Court (Exhibit R-9);

172. On March 15, 2018, the U.S. MDL Court granted in part and dismissed in part the defendants' motion to dismiss, giving the U.S. plaintiffs leave to amend, holding the following:

- Given this level of control, it is highly plausible that the Bosch Defendants played a role in developing and implementing the AECs.
- Additional support for this conclusion comes from allegations that researchers...have analyzed technical documents showing that code written by the Bosch Defendants was used in a defeat device found in the Fiat 500X...Although the Fiat 500X is not a Class Vehicle, these allegations show that the Bosch Defendants knew how to develop a defeat device, and were willing to do so.
- Together, these allegations plausibly support that the Bosch Defendants were actively involved in developing the hidden AECs used in the Class Vehicles, and not only concealed their use but also falsely touted to the market and lawmakers that 'clean diesel' vehicles, including the Class Vehicles, were compliant with emission standards
- Together, these allegations plausibly support that the VM Motori Defendants were knowing participants in the scheme to deceive regulators into certifying that the Class Vehicles. They participated in the scheme by developing and customizing the EcoDiesel engine, and by working with the other Defendants to knowingly customize the EDC Unit 17 to simulate passing emissions tests.
- These allegations are sufficient to plausibly support the FCA Defendants' participation in the emissions scheme... Two other allegations also support the plausibility of the FCA Defendants' involvement with the hidden AECs.
- [C]ontrary to what Defendants argue, it is plausible that a reasonable consumer would understand "EcoDiesel" to mean environmentally friendly or reduced emissions.
- Here, it is a reasonable inference that Defendants marketed the Class Vehicles as "EcoDiesel" intending and expecting to cash in on the consumer interest in "green" products.

As appears from a copy of the Order Granting in Part and Denying in Part Defendants' Motions to Dismiss dated March 15, 2018 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, produced herein as **Exhibit R-95**;

On May 16, 2018, the Second Amended Consolidated Consumer Class Action Complaint was filed in the U.S. MDL Court, as appears from a copy of the Second Amended Consolidated Consumer Class Action dated May 23, 2018 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, produced herein as **Exhibit R-96**;

- Discovery Material

173. In the course of the related U.S. litigation, it was revealed that VM Motori and Bosch had discussed the illegal use of software to pass emissions tests as early as 2010. According to emails that were disclosed:

Fiat Chrysler wanted to use software in its diesel engines that was capable of “cycle detection,” meaning it could sense when the vehicle was undergoing emissions evaluations and activate controls to pass tests, Sergio Pasini, the controls and calibration director at supplier VM Motori, wrote in a 2010 email to colleagues. An employee within the automaker’s powertrain division had tried to convince him the software, called “t_engine,” didn’t count as cycle detection.

The automaker’s emissions control “will be managed mainly on t_engine which is, no matter what Fiat says, a cycle detection,” Pasini wrote in an email, according to a court document that was unsealed on Wednesday.

...

In 2012, another VM Motori employee, Emanuele Palma, wrote to colleagues that Fiat Chrysler “knows tEng is the only way to get to 30 mpg, so don’t worry about this topic.”

Thus, FCA approved of and VM Motori was fully aware that the EGR rate would be managed on the T_Eng Defeat Device, which was a cycle detection software and that it would not be disclosed to the EPA (Bosch’s knowledge is discussed hereinbelow), as appears from a copy of the Automotive News article entitled “FCA emails suggest alleged diesel emissions violations surfaced in 2010” dated May 18, 2018, produced herein as **Exhibit R-97**;

174. Documents produced in the United States reveal various high-level FCA personnel discussing *inter alia*:

- The impact of FCA having Bosch engines in their vehicles with regards to what that means for emissions cheating allegations,
- CARB having identified certain Defeat Devices in the end of 2014 as to 2015 Subject Vehicles
- Not disclosing to CARB if a specific test FCA was performing did not meet emissions limits:
- Using discretion when discussing the Defeat Devices with CARB:

- How to revise the Subject Vehicles’ On Board Diagnostics (OBD) Statement to obtain the EPA certification:
- The determination of which Defeat Devices FCA would disclose to the EPA and CARB:
- Early concerns about the Defeat Devices and not disclosing them to the EPA
- VM Motori expressing FCA’s lack of desire to understand certain “red flags” regarding the implementation of certain AECDs:
- How to “trick the system” to not comport with emissions regulations:
- The Mechanism of cheating, including “online dosing”, which was accomplished through AECD #7:
- FCA’s knowledge of the Defeat Devices:
- Communications between Bosch and FCA regarding the “T-Eng” functionality, which was AECD #5, that it was a method of detecting an emissions cycle, and that there could be serious penalties:

As appears from a copy of the Declaration of Jeremy A. Lieberman dated May 14, 2018, filed in the case of *Pirnik v. Fiat Chrysler Automobiles N.V. et al.*, No. 15-cv-07199 (S.D.N.Y. Sept. 11, 2015), produced herein as **Exhibit R-98**;

- The U.S. MDL Settlement

175. On January 10, 2019, a settlement was reached in the U.S. Litigation in order to bring the vehicles into compliance with emissions regulations, to incentivize class members to bring them in for approved emissions fixes, and to compensate owners and lessees for the lost part of the diesel premium package they paid for, but did not receive (the “U.S. MDL Settlement”). The U.S. MDL Settlement provided for the following benefits to the class:

- Eligible Owners: Owner Payment of \$3,075 (\$2,460 if there is a Former Owner Payment), an Approved Emissions Modification and an Extended Warranty
- Eligible Former Owners: Former Owner Payment of \$990
- Eligible Lessees: Lessee Payment of \$990, an Approved Emissions Modification and an Extended Warranty
- Eligible Former Lessees: Former Lessee Payment of \$990

Category	Benefits	Class Member Payment*
Eligible Owner (acquired vehicle on or before January 12, 2017)	Owner Payment + Approved Emissions Modification + Extended Warranty	\$3,075
Eligible Owner (acquired vehicle after January 12, 2017) (does not apply to owners of vehicles that were leased as of January 10, 2019, who are treated as Eligible Lessees, and not Eligible Owners)	Owner Payment + Approved Emissions Modification + Extended Warranty	\$2,460 (if an Eligible Former Owner or Eligible Former Lessee of the vehicle also makes a valid claim for benefits) <u>OR</u> \$3,075 (if no other Class Member makes a valid claim for benefits related to the same vehicle)
Eligible Former Owner	Former Owner Payment	\$990
Eligible Lessee	Lessee Payment + Approved Emissions Modification + Extended Warranty	\$990
Eligible Former Lessee	Lessee Payment	\$990

As appears from a copy of the Amended Consumer and Reseller Dealership Class Action Settlement Agreement and Release dated January 18, 2019 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, produced herein as **Exhibit R-99**;

176. The “Approved Emissions Modification” provided for in the U.S. MDL Settlement (Exhibit R-99) was a change to the emissions software of the U.S. Subject Vehicles to render the vehicles in compliance with emissions standards. It involved replacing powertrain software and calibrations with an approved version that extended emission control to the expected range of real-world driving conditions;
177. The “Extended Warranty” provided for in the U.S. MDL Settlement (Exhibit R-99) related to the parts and systems affected by the emissions modification and consisted of the greater of either (i) 10 years from initial sale or 120,000 miles, whichever comes first or (ii) 4 years or 48,000 miles from the installation of the emissions modification, whichever comes first;

178. The estimated maximum settlement value of cash compensation to class members (if every U.S. class member made a claim) was USD\$307,460,800 and the estimated per vehicle cost was USD\$1,050. The U.S. MDL Settlement was specifically designed in conjunction with Consent Decrees (discussed hereinbelow) to incentivize and to facilitate the achievement of a minimum claims rate of 85% (See Section 4.12 of the U.S. MDL Settlement – Exhibit R-99);
179. Outside of the MDL, all states reached settlements with FCA, VM Motori, and Bosch. For example, both FCA and Bosch entered into Consent Orders and Judgments with the state of New York, as appears from a copy of the letter from the Office of the Attorney General of the State of New York to the U.S. MDL Court dated January 18, 2019, including its attachments and from a copy of the Bosch press release entitled “Bosch reaches settlements with 50 U.S. States and Territories as well as with U.S. civil plaintiffs with regard to diesel vehicles” dated January 10, 2019, produced herein *en liasse* as **Exhibit R-100**;
180. On February 11, 2019, the U.S. MDL Court preliminarily approved the U.S. MDL Settlement and certified the U.S. class for the purposes of settlement. On May 3, 2019, final approval was granted, as appears from a copy of the Order granting Motion for Preliminary Approval of Class Settlement dated February 11, 2019, from a copy of the Order granting Preliminary Approval of Class Settlement and Direction of Notice Under Rule 23(e) dated February 11, 2019, and from a copy of the Order Granting Final Approval of Class Action Settlement and Attorneys’ Fees and costs dated May 3, 2019 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, produced herein *en liasse* as **Exhibit R-101**;
181. Concurrent with the U.S. MDL Settlement, the U.S. defendants entered into a Consent Decree with the EPA and with the state of California (the “U.S.-CA Consent Decree”) to resolve the EPA and CARB allegations (Exhibits R-6, R-16, and R-81). The U.S-CA Consent Decree described the corrective actions required to bring the U.S. Subject Vehicles in compliance with emissions standards, including the removal of the Defeat Devices, extending the warranties and provided for civil penalties, as appears from a copy of the Consent Decree dated May 3, 2019, from a copy of the First California Partial Consent Decree dated May 3, 2019, and from a copy of the Second California Partial Consent Decree dated May 3, 2019 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, produced herein *en liasse* as **Exhibit R-102**;
182. The U.S.-CA Consent Decree provided that any money the defendants could potentially save by not compensating U.S. class members would be lost, in the form of penalties of more than USD\$6,000 per vehicle for failing to achieve the required 85% participation rate within two years’ time (See paras. 37, 41 of Exhibit R-102);
183. The Consent Decree (Exhibit R-102) provided that *inter alia* the following disclosure be made before applying the Approved Emissions Modification to the U.S. Subject Vehicles:

2. Key Vehicle Attributes. This AEM is not expected to change any of your key vehicle attributes, such as reliability, durability, vehicle performance, drivability, engine noise or vibration, or other driving characteristics.

3. DEF Consumption. The AEM is not expected to change your Diesel Exhaust Fluid (DEF) tank refill interval. If your previous refill rate coincided with your oil change interval, that should not change with this software update. However, you may notice that under certain conditions your vehicle may use slightly more DEF as compared to prior usage.

4. Fuel Economy. Average fuel economy is not expected to change as a result of this AEM. The AEM may, under sustained low speed driving (e.g. under 21 mph) with frequent stops, decrease your fuel economy or, under sustained high speed driving conditions, may increase or decrease your fuel economy. As with all vehicles, however, several factors can affect your actual fuel economy such as: how and where you drive, vehicle condition, maintenance and age, fuel variations, and vehicle variations;

184. Following driver complaints of a hesitation in acceleration for a five-minute period after the engines were started, the above disclosure was modified as follows:

2. Key Vehicle Attributes: The AEM is not expected to change any of your key vehicle attributes, such as reliability, durability, vehicle performance, drivability, engine noise or vibration, or other driving characteristics. The original version of the AEM released in May of 2019 caused a slight hesitation or lag in acceleration during approximately the initial five minutes of driving after engine start until the engine and exhaust warm up. This problem, which was reported by only a small percentage of drivers, has been addressed by an updated AEM that the U.S. Environmental Protection Agency and the California Air Resources Board approved in December of 2019. With the updated AEM, for a short period of time after engine start, some customers may have to depress the accelerator pedal further to minimize any hesitation or lag in acceleration.

As appears from a copy of the Stipulation and Agreement Regarding Non-Material Changes to the Consent Decree dated December 17, 2019 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, produced herein as **Exhibit R-103**;

ix) The Aftermath

185. Following *inter alia* the issuance of the Notices of Violation and the ensuing investigations, FCA was unable to obtain a certificate of conformity from the EPA for its 2017 model year Ram 1500 and Jeep Grand Cherokee vehicles equipped with 3.0-litre EcoDiesel engines (the “2017 Vehicles”) until it addressed the emissions issues. After several months, FCA presented updates to the 2017 Vehicles including

modified emissions calibrations and on July 28, 2017, announced its intentions to make updates to the emissions control software in the Subject Vehicles, as appears from a copy of the FCA Respondents' press release entitled "FCA Announces Certification of 2017 Model-year Diesel Vehicles" dated July 28, 2017, from copies of the Certificates of Conformity numbered as: HCRXT03.05PV-064 and JCRXT03.05PV-058, produced herein *en liasse* as **Exhibit R-104**;

186. FCA also received conditional certification from CARB for the 2017 Vehicles, as appears from a copy of the CARB Executive Order: A-009-1321 to FCA US, dated July 27, 2017, produced herein as **Exhibit R-105**;

187. Due to a collapse in demand and spiralling costs following the public exposure of the Defeat Devices in the Subject Vehicles, on February 26, 2018, FCA announced that it will abandon diesel engines in most of its passenger cars by 2022, as appears from a copy of the Financial Times article entitled "Fiat Chrysler to kill off diesel in all cars by 2022" dated February 25, 2018, produced herein as **Exhibit R-106**;

188. As part of the U.S. MDL Settlement, FCA provided a change to the emissions software in the U.S. Subject Vehicles called the "Approved Emissions Modification" to ostensibly render the vehicles in compliance with emissions standards (Exhibit R-99);

189. In approximately April/May 2019 and in the absence of any Canadian settlement similar to that in effect in the U.S. (i.e. monetary compensation and an extended warranty to U.S. residents), FCA launched a Canadian campaign notifying Canadian Class Members that it was offering the same change to the emissions software to the Subject Vehicles: Campaign V16 – Emission Control System Software (the "Emissions Related Recall 1"), as appears from a copy of the Emissions Related Recall letter that was sent out to Class Members in Canada, in English and in French, produced herein *en liasse* as **Exhibit R-107**;

190. The letter that FCA sent out to Class Members regarding the Emissions Related Recall 1 (Exhibit R-107) stated the following:

...WE ARE CONTACTING YOU ON IMPROVEMENTS THAT INVOLVE REPROGRAMMING THE EMISSION CONTROL SYSTEM SOFTWARE IN 2014, 2015, AND 2016 MODEL YEAR RAM 1500 AND JEEP GRAND CHEROKEE VEHICLES EQUIPPED WITH THE 3.0L DIESEL ENGINE TO ENHANCE THE EXHAUST EMISSION CONTROL AND ON- BOARD DIAGNOSTIC (OBD) MONITORING OF THOSE ENGINES.

Your vehicle must be repaired because:

The emission control system needs to be reprogrammed to enhance exhaust emissions control and OBD monitoring.

We apologize for any inconvenience and thank you for your attention to this very important matter.

191. According to the Supplemental Expert Report of Dr. M. David Checkel, P.Eng, which was produced in the context of the Ontario litigation:

...there are trade-offs between minimizing emissions and maximizing vehicle attributes, such as responsiveness and fuel economy. The subject vehicles, which were previously optimized for responsiveness and fuel economy at the expense of tailpipe emissions over much of the real-world operating range, can be expected to lose some vehicle responsiveness and fuel economy in normal operation. That is, the additional responsiveness and fuel economy previously gained by compromising emission control when operating outside of certification test cycle conditions could be lost.

...

...The V16 Recall involves replacing the original software and calibrations with Approved Emission Control (AEM) software which optimizes emission control over the full range of normal driving conditions. This change is confidently expected to compromise other powertrain attributes which were previously optimized at the expense of emission control. To put it simply, the incentive for using an illegal defeat device was to provide enhanced vehicle attributes, such as responsiveness, fuel economy and extended DEF refill intervals. It is my opinion that, to the extent that those enhancements were made possible by defeat devices which compromised emission controls, the V16 Recall which removes those defeat devices is expected to eliminate the related enhancements. The effect is expected to be the same for all vehicles subjected to the V16 Recall.

... My opinion is that the unchanged official fuel economy ratings are not relevant to fuel economy changes in real world driving conditions. The official fuel economy ratings were originally measured and have been subsequently re-measured on the same official test cycles. The V16 Recall is not expected to change vehicle operations on official test cycles since the defeat devices were not active on official test cycles. Hence, no significant changes in the official fuel economy ratings measured on official test cycles would be expected.

... Because the V16 recall eliminates defeat devices that operated in real-world driving conditions (and not in official test conditions) the measurable changes in vehicle performance attributes and fuel economy are expected to occur in real world driving, not on official test cycles. In contrast to FCA's assurance that the V16 Recall has no effect on driveability and economy of the subject vehicles, a number of sources suggest that drivers have experienced significant changes in vehicle response and fuel economy of their in-use vehicles. While it is difficult to

verify the accuracy of those sources, the frequency and commonality of those complaints suggests that the effects are real and measurable.

As appears from a copy of the Supplemental Affidavit of M. David Checkel sworn September 16, 2019 in *Maginnis et al. v. FCA Canada Inc. et al*, Court File No. CV-17-567691-00CP, produced herein as **Exhibit R-108**;

192. Following receipt of the Emissions Related Recall 1 letter (Exhibit R-107) many owners and lessees of the Subject Vehicles visited online forums to discuss *inter alia* the software upgrade, the existence of the U.S.-only settlement, and issues from having done the software upgrade, including disappointment, sluggish performance, shift points changed, harder shifts, requiring more downshifts on hills, extreme lag from dead stop, turbo lag, poor acceleration response, waiting to get into an accident, sometimes floored with no response for 2-4 seconds, reduced fuel economy, use of much more DEF, extreme throttle delay, safety concerns, and dead pedal, as appears from a copy of the discussions on the following online forums (i) EcoDieselRam.com entitled “Unhappy with Performance after Emissions Recall Update” from June 3, 2019 to February 4, 2020; (ii) EcoDieselRam.com entitled “Campaign v16 emission control system software” from May 14, 2019 to May 26, 2019, (iii) DieselRamForum.com entitled “FCA Campaign V16 – Emission Control System Software” from June/July 2019, (iv) Ram1500Diesel.com entitled “FCA 3.0L Diesel emissions recall (CANADA)” from May 2019 to May 2020, (v) Ram1500Diesel.com entitled “FCA Class Action in Canada” from January 11, 2019 to November 2019, (vi) RAM Forumz from June 2019, and (vii) DieselJeeps.com entitled “Problem after Diesel Emission Fix” from June 2019 to May 2020, produced herein *en liasse* as **Exhibit R-109**;
193. One forum member posted a video of his 2015 Ram 1500 which demonstrates the major lag, as appears from a copy of the video entitled “Ram 1500 ecodiesel emissions recall test” dated July 14, 2019, produced herein as **Exhibit R-110**;
194. The NHTSA Engine Problems site “2015 RAM 1500” has 184 complaints about the Ram 1500 Subject Vehicle, with most of the most of the 2019 complaints relating to deterioration in responsiveness and/or fuel economy after the Emissions Related Recall, as appears from a copy of an extract from the website www.carcomplaints.com, produced herein as **Exhibit R-111**;
195. According to the Supplemental Expert Report of Dr. M. David Checkel, P.Eng (Exhibit R-108), which was produced in the context of the Ontario litigation:

“It is well understood in the industry that changing transmission control strategy and calibration can have a significant impact on vehicle performance attributes like vehicle responsiveness and fuel economy. The EPA/CARB/FCA Consent Decree requires FCA to replace the Transmission Control Unit software and calibration by reflashing the TCU. This re-flash would not be expected to change transmission behaviour on certification test cycles where it already met EPA/CARB

requirements. However, the Consent Decree and the subsequent FCA response provide no indication of how significantly this re-flash changes transmission operating characteristics in real-world driving. The anecdotal reports based on driver experience suggest that some combination of engine calibration and transmission control effects can be very significant, particularly during the engine warm-up period. Several owners report [] the vehicle running in higher gears after the re-flash and not shifting down to low gear even when starting from rest.

The documents at the heart of this matter do not clarify why or to what extent the V16 Recall alters the transmission shift behaviour of the subject FCA vehicles. However, it is relatively simple and relatively important to observe transmission shift patterns during controlled on-road testing so changes in transmission behaviour in real-world driving conditions would be observable.

Publicly available reports from Dodge Ram and Jeep Cherokee owners whose vehicles have received the FCA V16 Recall consistently state that vehicle responsiveness in real-world driving conditions was negatively affected. When reports include fuel consumption they generally state that fuel consumption in real-world driving conditions increased after the FCA V16 Recall. One report from an automotive technical author cites the same issues while providing more detail than others.

This anecdotal evidence is consistent with the changes expected when emissions defeat devices that operate in real-world driving conditions are corrected.

196. Following FCA's Emissions Related Recall 1 (Exhibit R-107), many owners and lessees of the Subject Vehicles reported issues with the performance of their vehicles, including a decrease in fuel economy. Specifically, after publishing a report on the U.S. settlement and the related performance issues with the Subject Vehicles, TFL Truck received hundreds of emails from concerned owners and lessees regarding the performance of their Subject Vehicles after the Approved Emissions Modification reflash i.e. the Emissions Related Recall, as appears from copies of 2 TFL Truck videos entitled "Last-Gen Ram EcoDiesel Owners Are FURIOUS About Their Trucks' Performance After Emissions Fix!" dated August 6, 2019 (TFL Video 1) and entitled "Did a Recall Ruin the 2016 Ram EcoDiesel? We Drive One and Find Out!" dated September 1, 2019 (TFL Video 2), produced herein *en liasse* as **Exhibit R-112**;

197. In TFL Video 1, after TFL Truck had received a lot of responses by disappointed owners and lessees by the lack of performance after the emissions recall, including performance degradation, accelerator lag, and poor fuel economy. Many of the emails were read out including the following:

- Phil: ...I have noticeable change in power and acceleration...I did the AEM fix in June and have driven the truck about 1,500 miles since. Since performing this recall procedure...I have noticed 2 issues, first a significant acceleration delay, especially from stop when under a light load or an uphill climb. The second issue is loss of highway fuel economy. My average long trip mileage used to be 26-28 mpg, but after the fix, it never has exceeded 23 mpg...
- David: I have a 2016 Ram EcoDiesel and had the emission repair as well. I noticed a very significant lag of almost 5 seconds from a slow after the repair and almost got hit because I couldn't get out of the way.

Two Ram dealers said there is no fix per Fiat Chrysler.

- Kyle: I have a 2015 Ram 1500 EcoDiesel with the new emissions update. I have poor throttle response and more noticeable when cold. I think its very dangerous because you expect to pull into traffic and have it respond. It is not the case.

I have to be particularly careful when entering intersections. Have had 2 close calls so far. I have to warn people to use extreme caution if they use my truck...

- Brett: The settlement info states you are not suppose[d] to have performance changes. I lost power and 3 miles to the gallon. I took it back to the dealer and was basically told there was nothing they could do. I liked my truck but it is no longer fun to drive and no longer safe, especially if I'm puling anything.

I don't recommend the update unless you plan to get rid of the truck anyway. I feel the settlement information misrepresented the performance impact and that I'm ending up in a worse position for doing it.

- WM: Yes, there is a noticeable difference in the throttle response after the recall was performed. The turbo lag is significant. It makes you push the accelerator further causing a turbo leap and lose fuel economy...

198. In TFL Video 2, it was reported that owners/lessees of the Subject Vehicles experienced performance issues after the emissions recall, with many people writing emails to the TFL staff to complain. The drivers complained about a "really big delay in acceleration when taking off with a cold engine and a decrease in fuel economy. In performing a test drive of a 2015 Ram 1500 Subject Vehicle, the acceleration was found to be noticeably worse both at start up and during the drive, with no downshift, and that you need to force down your foot to accelerate for regular driving needs;

199. On October 25, 2019, Transport Canada issued a recall in Canada for 50,259 Ram 1500 vehicles model year 2014-2019 to replace the EGR cooler due to its propensity to crack internally and leak, as appears from a copy of the Transport Canada Recall #2019535 dated October 25, 2019, produced herein as **Exhibit R-113**;

200. On April 3, 2020, FCA initiated another Canadian recall of the Subject Vehicles by sending a letter to Class Members stating that there were more “improvements” to be made (FCA’s Emissions Related Recall 2), stating the following:

Your vehicle must be repaired because:

After the emission control system was reprogrammed (V16), some vehicles may have experienced a slight engine hesitation or lag in acceleration from engine start-up until the engine and exhaust warmed up.

This improvement (Customer Satisfaction Notification – VA7) for your vehicle reduces the hesitation or lag in acceleration from engine start-up.

As appears from a copy of the Emissions Related Recall letter re: VA7 dated April 3, 2020, in English and in French, produced herein *en liasse* as **Exhibit R-114**;

xiii) Summative Remarks

201. The Respondents were well aware that emissions, performance, and fuel consumption were significant factors for customers making vehicle purchase decisions – the misrepresentations regarding these factors were designed to influence customers to purchase their Subject Vehicles based on false information;
202. Because of the Respondents’ actions, the vehicles that were sold to the Petitioners and the Class are not what they had promised. During normal operation, the Subject Vehicles polluted the atmosphere with much higher levels of NO_x than the artificially-manipulated test results disclosed and than are permitted by federal and environmental protection laws. Meanwhile, when the engine and transmission are operated in a manner that actually limits pollution to legal levels, the Subject Vehicles cannot deliver the performance that the Respondents advertise;
203. FCA would not have been able to achieve the promised fuel economy and/or towing power for the Subject Vehicles without having deactivated or having reduced the emission control system during real-world driving conditions. FCA’s two recalls to date for the emissions systems in the Subject Vehicles has resulted in decreased engine performance and the Class Members that performed the supposed “fix” must spend additional sums of money on fuel and have not retained the promised performance and towing power. Subject Vehicles that did undergo the recalls are also necessarily worth significantly less in the marketplace because of their decreased performance and fuel efficiency and increased wear on their engines;
204. Taken together, the above facts reveal that the Respondents have intentionally concealed the functions of the emission control technology from regulators and consumers alike. Further, they demonstrate that the Respondents’ claims about their EcoDiesel Subject Vehicles as “clean diesel” with “ultralow emissions” and “no NO_x” emitted through the tailpipe is false and/or misleading;

205. As a result of the Respondents' surreptitious use of the Defeat Devices to downplay the NO_x emissions and to exaggerate the fuel economy of the Subject Vehicles, owners and/or lessees of the Subject Vehicles have suffered damages upon which they are entitled to claim, including, the premium price paid for the EcoDiesel option for fuel-efficient and powerful vehicles that were environmentally friendly;

II. FACTS GIVING RISE TO INDIVIDUAL ACTIONS BY THE PETITIONERS

i) Petitioner Garage Poirier

206. On March 31, 2015, Petitioner Garage Poirier purchased a used 2014 Ram 1500 Laramie Longhorn Crew Cab 4x4 EcoDiesel pick-up truck (VIN 1C6RR7WM4ES352033) from Trois Diamants Autos (1987) Ltée at 3035 Chemin Gascon, in Mascouche, Quebec for a purchase price of \$46,000.00 plus taxes, as appears from a copy of the sales contract dated March 31, 2015, produced herein as **Exhibit R-8**;

207. Petitioner Garage Poirier purchased the Subject Vehicle after visiting the Respondents' website(s) based on its advertised fuel economy and based on its appearance and it assumed that it met all federal regulations;

208. At the time, the Respondents represented that the vehicle had a fuel consumption of 12.1 litres per 100 kilometres in city driving and 8.0 litres per 100 kilometres on the highway;

209. Petitioner Garage Poirier noticed that its vehicle was consuming more fuel than was represented and that the fuel consumption was much higher than it would have expected given the Respondents' representations relating to the vehicle's fuel efficiency;

210. Petitioner Garage Poirier has become aware of the news stories about this Defeat Device that the Respondents had installed in his Subject Vehicle and also noticed that several class actions were filed in the United States due to this same issue, as appears from copies of several of the U.S. Class Action Complaints and from a copy of the Amended Consolidated Consumer Class Action Complaint, produced herein, *en liasse*, as **Exhibit R-9**;

211. Since the institution of the U.S. Class Action Complaints (Exhibit R-9) as well as the EPA Complaint (Exhibit R-6), the United States Judicial Panel on Multidistrict Litigation has transferred them to the Northern District of California under the supervision of the Honourable Judge Chen under MDL No. 2777 and a Second Amended Class Action Complaint has been filed, as appears from a copy of the Second Amended Class Action Complaint in *In Re Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices, and Products Liability* dated May 16, 2017, produced herein as **Exhibit R-17**;

212. In April/May 2019, Petitioner Garage Poirier received a letter (Exhibit R-107) from FCA about the Emissions Related Recall (Campaign V16) and it had its emission control system reprogrammed. Petitioner Garage Poirier had the Emissions Related Recall performed based on FCA's letter, which informed it that it consisted of improvements and enhancements and did not inform of the potential for performance issues and lower fuel economy;

213. More recently, in April, 2020, Petitioner Garage Poirier received another letter from FCA informing it that there were more "improvements" to be made on its Subject Vehicle stating the following (Exhibit R-114):

Your vehicle must be repaired because:

After the emission control system was reprogrammed (V16), some vehicles may have experienced a slight engine hesitation or lag in acceleration from engine start-up until the engine and exhaust warmed up.

This improvement (Customer Satisfaction Notification - VA7) for your vehicle reduces the hesitation or lag in acceleration from engine start-up;

214. Petitioner Garage Poirier has suffered ascertainable loss as a result of the Respondents' omissions and/or misrepresentations associated with the Defeat Device, including, but not limited to, overpayment for the Subject Vehicles, past, present, and future excessive gasoline charges, reduced resale value, and trouble and inconvenience;

215. Had Petitioner Garage Poirier known about the Defeat Device, it would not have purchased the Subject Vehicle or would not have paid such a price;

ii) Petitioner Bouffard

216. In May of 2016, Petitioner Bouffard purchased a used 2016 Dodge Ram 1500 Outdoorsman EcoDiesel pick-up truck from Blainville Chrysler at 249 Boulevard de la Seigneurie West, in Blainville, Quebec for a purchase price of \$44,500.00 plus taxes;

217. Petitioner Bouffard purchased the Subject Vehicle based on its advertised fuel economy, torque, and power as advertised on the Respondents website(s) and he assumed that it met all federal regulations;

218. At the time, the Respondents represented that the vehicle had a fuel consumption of 11.6 litres per 100 kilometres in city driving and 8.4 litres per 100 kilometres on the highway;

219. Petitioner Bouffard noticed that his vehicle was consuming more fuel than; much higher than he would have expected given the Respondents' representations relating to the vehicle's fuel efficiency;
220. Petitioner Bouffard has become aware of the news stories about this Defeat Device that the Respondents had installed in his Subject Vehicle and also noticed that several class actions were filed in the United States due to this same issue (Exhibit R-9);
221. Petitioner Bouffard has suffered ascertainable loss as a result of the Respondents' omissions and/or misrepresentations associated with the Defeat Device, including, but not limited to, overpayment for the Subject Vehicles, past, present, and future excessive gasoline charges, reduced resale value, and trouble and inconvenience;
222. Had Petitioner Bouffard known about the Defeat Device, he would not have purchased the Subject Vehicle or would not have paid such a price;
223. Both Petitioners' damages are a direct and proximate result of the Respondents' conduct;
224. In consequence of the foregoing, the Petitioners are justified in claiming damages;

III. FACTS GIVING RISE TO INDIVIDUAL ACTIONS BY EACH MEMBER OF THE CLASS

225. Every member of the Class has purchased and/or leased a Subject Vehicle and is justified in claiming at least one or more of the following as damages:
- a. Overpayment of the purchase price and/or lease payments of the Subject Vehicles assessed *ex-ante* at the time that the purchase and/or lease payment was made,
 - Alternately, if one of the various fix(es) are presumed to have resolved the problem, the above calculation multiplied by a percentage of such overpayment for a certain number of years [i.e. from the date of purchase or lease to the date of the fix(es)], or an annual interest rate of 5% per annum in accordance with the federal *Interest Act* on such overpayment for a certain number of years [i.e. from the date of purchase or lease to the date of the fix(es)],
 - b. Lower resale value/ diminished value of the Subject Vehicles,
 - c. Increased fuel expenditures (past, present, and future),
 - d. Out-of-pocket loss,

- e. Cost of future attempted repairs,
- f. Higher interest charges, increased sales tax, and higher insurance premiums;
- g. Trouble and inconvenience, and
- h. Punitive and/or exemplary damages;

226. The Respondents have attempted to repair the Defeat Devices in the Subject Vehicles so that they comply with emissions requirements (the V16 recall and the VA7 recall; Exhibits R-107 and R-114); however, the repair has resulted in lack of performance, performance lags, and decreased fuel economy. In addition, even if this were not the case, simply recalling the Subject Vehicles after having Class Members experience damages for 4-6 years would not compensate the Class for the significant harm that the Respondents have caused;

227. All of these damages to the Class Members are a direct and proximate result of the Respondents' conduct;

IV. CONDITIONS REQUIRED TO INSTITUTE A CLASS ACTION

A) The composition of the Class makes it difficult or impractical to apply the rules for mandates to sue on behalf of others or for consolidation of proceedings

228. Petitioners are unaware of the specific number of persons who purchased and/or leased the Subject Vehicles; however, it is safe to estimate that it is in the thousands. Evidence produced in the U.S. Litigation indicated that there were approximately 100,000 Subject Vehicles sold or leased in the United States (Exhibit R-83);

229. Class Members are numerous and are scattered across the province;

230. In addition, given the costs and risks inherent in an action before the courts, many people will hesitate to institute an individual action against the Respondents. Even if the Class Members themselves could afford such individual litigation, the court system could not as it would be overloaded and, at the very least, is not in the interests of judicial economy. Further, individual litigation of the factual and legal issues raised by the conduct of the Respondents would increase delay and expense to all parties and to the court system;

231. This class action overcomes the dilemma inherent in an individual action whereby the legal fees alone would deter recovery and thereby in empowering the consumer, it realizes both individual and social justice as well as rectifies the imbalance and restore the parties to parity;

232. Also, a multitude of actions instituted in different jurisdictions, both territorial and judicial districts, risks having contradictory judgments on issues of fact and law that are similar or related to all members of the Class;

233. These facts demonstrate that it would be impractical, if not impossible, to contact every member of the Class to obtain mandates and to join them in one action;
234. In these circumstances, a class action is the only appropriate procedure and the only viable means for all of the members of the Class to effectively pursue their respective rights and have access to justice;
- B) The claims of the members of the Class raise identical, similar or related issues of law or fact
235. Individual issues, if any, pale by comparison to the numerous common issues that will advance the litigation significantly;
236. The damages sustained by the Class Members flow, in each instance, from a common nucleus of operative facts, namely, Respondents' misconduct;
237. The claims of the Class Members raise identical, similar or related issues of fact or law as outlined hereinbelow;
238. The interests of justice favour that this application be granted in accordance with its conclusions;

V. NATURE OF THE ACTION AND CONCLUSIONS SOUGHT

239. The action that the Petitioners wish to institute on behalf of the members of the Class is an action in damages, injunctive relief, and declaratory judgment;
240. The conclusions that the Petitioners wish to introduce by way of an application to institute proceedings appear hereinbelow;
- A) Petitioners request that they be attributed the status of representatives of the Class
241. Petitioners are members of the Class;
242. Petitioners are ready and available to manage and direct the present action in the interest of the members of the Class that they wish to represent and are determined to lead the present file to a final resolution of the matter, the whole for the benefit of the Class, as well as, to dedicate the time necessary for the present action before the Courts and the *Fonds d'aide aux actions collectives*, as the case may be, and to collaborate with their attorneys;
243. Petitioners have the capacity and interest to fairly, properly, and adequately protect and represent the interest of the members of the Class;
244. Petitioners have given the mandate to their attorneys to obtain all relevant information with respect to the present action and intend to keep informed of all developments;

245. Petitioners, with the assistance of their attorneys, are ready and available to dedicate the time necessary for this action and to collaborate with other members of the Class and to keep them informed;
246. Petitioners are in good faith and have instituted this action for the sole goal of having their rights, as well as the rights of other Class Members, recognized and protected so that they may be compensated for the damages that they have suffered as a consequence of the Respondents' conduct;
247. Petitioners understand the nature of the action;
248. Petitioners' interests are not antagonistic to those of other members of the Class;
249. Petitioners are prepared to be examined out-of-court on their allegations (as may be authorized by the Court) and to be present for Court hearings, as may be required and necessary;
250. Petitioners, with the assistance of their attorneys, have created a webpage at www.clg.org wherein other Class Members can enter their coordinates to join the class action and be kept up to date on its development; as of the date indicated at the end of this third amended application, 1,921 Quebec-resident Class Members have entered their contact information, as appears from a redacted copy of these Class Member's details, produced herein as **Exhibit R-50**;
- B) Petitioners suggest that this class action be exercised before the Superior Court of justice in the district of Montreal
251. A great number of the members of the Class reside in the judicial district of Montreal and in the appeal district of Montreal;
252. Petitioners' attorneys practice their profession in the judicial district of Montreal;
253. The present application is well founded in fact and in law.

FOR THESE REASONS, MAY IT PLEASE THE COURT:

GRANT the present third amended application;

AUTHORIZE the bringing of a class action in the form of an application to institute proceedings in damages, injunctive relief, and declaratory relief;

APPOINT the Petitioners as representatives of the persons included in the class herein described as:

- All persons, entities or organizations resident in Quebec that purchased and/or leased one or more of the Subject Vehicles, or any other group to be determined by the Court;

IDENTIFY the principle issues of fact and law to be treated collectively as the following:

- a) Did the Respondents either install the Defeat Devices or have the Defeat Devices installed in the Subject Vehicles and/or in their engines and/or did they participate in and/or enable their installation?
- b) Did the Respondents know or should they have known about the Defeat Devices and, if so, for how long?
- c) Did the Respondents conceal the existence of the Defeat Devices from federal regulators and from the public?
- d) Were the Respondents knowing and/or active participants in a common course of conduct to defraud federal regulators and/or consumers?
- e) Did the Respondents engage in unfair, false, misleading, or deceptive acts or practices regarding the manufacture, marketing, distribution, warranting, lease and/or sale of the Subject Vehicles, their EcoDiesel engines, and/or their diesel technology?
- f) Are the Petitioners and the Class Members entitled to a declaratory judgment stating that the Respondents committed misconduct in utilizing the Defeat Devices and/or in misstating the qualities of the Subject Vehicles?
- g) Should an injunctive remedy be order to force the FCA Respondents to buy back the Subject Vehicles or otherwise, free of charge, remove the Defeat Devices while ensuring that the Subject Vehicles conform to promised performance and fuel economy guarantees?
- h) Are the Respondents responsible for all related damages (including, but not limited to: the overpayment of the purchase price and/or lease payments of the Subject Vehicles or a percentage of such overpayment for a certain number of years on either a depreciation rate basis or an annual interest rate of 5% per annum on such overpayment, the lower resale value/diminished value of the Subject Vehicles, increased fuel expenditures, out-of-pocket loss, the cost of future attempted repairs, higher interest charges, increased sales tax, and higher insurance premiums and trouble and inconvenience) to Class Members as a result of their misconduct and in what amount?
- i) Are the Respondents responsible to pay punitive damages to Class Members and in what amount?

IDENTIFY the conclusions sought by the class action to be instituted as being the following:

GRANT the class action of the Plaintiffs and each of the members of the Class;

DECLARE the FCA Defendants have committed unfair, false, misleading, and/or deceptive conduct with respect to their designing, marketing, advertising, leasing, selling and/or representing the Subject Vehicles as having certain levels of lower fuel economy and lower emissions than in reality;

DECLARE the VM Motori Defendant has committed unfair, false, misleading, and/or deceptive conduct with respect to its designing, manufacturing, calibrating, and/or delivery of the EcoDiesel engine system for inclusion in the Subject Vehicles, knowing and intending that the Subject Vehicles, along with its engine system, would be marketed, distributed, warranted, leased and/or sold by itself and by the FCA Defendants;

DECLARE the Bosch Defendants have committed unfair, false, misleading, and/or deceptive conduct with respect to their creation, design, development, manufacture, testing, supply, and/or sale of the Defeat Devices and marketing of same;

ORDER the FCA Defendants to cease from continuing their unfair, false, misleading, and/or deceptive conduct by designing, marketing, advertising, leasing, selling and/or representing the Subject Vehicles in a false manner and/or ORDER all Respondents to cease from continuing their unfair, false, misleading, and/or deceptive conduct in enabling same;

ORDER the FCA Defendants to recall and properly repair the Subject Vehicles free of charge, or otherwise, to buy back the Subject Vehicles at the original sale price or return any and all lease payments;

DECLARE the Defendants solidarily liable for the damages suffered by the Plaintiffs and each of the members of the Class;

CONDEMN the Defendants to pay to each member of the Class a sum to be determined in compensation of the damages suffered, and ORDER collective recovery of these sums;

CONDEMN the Defendants to pay to each of the members of the Class, punitive damages, and ORDER collective recovery of these sums;

CONDEMN the Defendants to pay interest and additional indemnity on the above sums according to law from the date of service of the application to authorize a class action;

ORDER the Defendants to deposit in the office of this court the totality of the sums which forms part of the collective recovery, with interest and costs;

ORDER that the claims of individual Class Members be the object of collective liquidation if the proof permits and alternately, by individual liquidation;

CONDEMN the Defendants to bear the costs of the present action including expert and notice fees;

RENDER any other order that this Honourable Court shall determine and that is in the interest of the members of the Class;

DECLARE that all members of the Class that have not requested their exclusion, be bound by any judgment to be rendered on the class action to be instituted in the manner provided for by the law;

FIX the delay of exclusion at thirty (30) days from the date of the publication of the notice to the members, date upon which the members of the Class that have not exercised their means of exclusion will be bound by any judgment to be rendered herein;

ORDER the publication of a notice to the members of the group in accordance with article 579 C.C.P. within sixty (60) days from the judgment to be rendered herein in the Montreal Gazette and La Presse;

ORDER that said notice be available on the Respondents' websites, Facebook pages, and Twitter accounts with a link stating "Notice to current and former 2014-2016 Ram and Jeep Grand Cherokee EcoDiesel Vehicle Owners/Lessees";

ORDER that said notice be sent by individual letters emailed and/or mailed to Class Members by using the Respondents' customer list;

RENDER any other order that this Honourable Court shall determine and that is in the interest of the members of the Class;

THE WHOLE with costs, including all publication and dissemination fees.

Montreal, November 16, 2020

(s) Andrea Grass

CONSUMER LAW GROUP INC.

Per: Me Andrea Grass

Attorneys for the Petitioners

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CANADA

(Class Action)
SUPERIOR COURTPROVINCE OF QUEBEC
DISTRICT OF MONTREAL

NO: 500-06-000837-175

GARAGE POIRIER & POIRIER INC.
and
A. BOUFFARD*Petitioners*

-vs.-

FCA CANADA INC.
and
FCA US LLC
and
VM MOTORI NORTH AMERICA, INC.
and
ROBERT BOSCH INC.
and
**ROBERT BOSCH NORTH AMERICA
CORPORATION**
and
ROBERT BOSCH LLC*Respondents*

NOTICE OF DISCLOSURE OF EXHIBITS

TAKE NOTICE that the Petitioners intend on producing the following exhibits at the hearing:

- R-1: Copy of the Respondent FCA Canada Inc.'s report from the *Registraire des entreprises*;
Copies of trade-marks from the CIPO trade-mark database, *en liasse*;
- R-2: Copy of the DieselNet article entitled "Emission Standards: Canada";
Copy of an extract from the TransportPolicy.net website at www.transportpolicy.net, *en liasse*;
- R-3: Copies of various extracts from the Respondents' website(s) and
Copies of various vehicle brochures from 2014 to 2016, *en liasse*;



- a) 2014 Ram 1500 leaflet
- b) 2014 Ram 1500 brochure
- c) Ram Fuel Consumption – 2015
- d) Website of 2016 Ram vehicles
- e) 2015 Ram 1500 brochure
- f) Website of 2016 Ram 1500
- g) Website of 2016 Ram 1500
- h) Website of 2016 Ram 1500
- i) Website of 2016 Ram 1500
- j) Website of 2016 Ram 1500
- k) Website of 2016 Ram 1500
- l) Website of 2016 Ram 1500
- m) Website of 2016 Ram 1500
- n) 2016 Ram 1500 Specifications
- o) 2016 Ram 1500 brochure
- p) 2014 Jeep Grand Cherokee brochure
- q) 2015 Jeep Grand Cherokee brochure
- r) Website of 2016 Jeep Grand Cherokee
- s) Website of 2016 Jeep Grand Cherokee
- t) Website of 2016 Jeep Grand Cherokee
- u) Website of 2016 Jeep Grand Cherokee
- v) Website of 2016 Jeep Grand Cherokee
- w) Website of 2016 Jeep Grand Cherokee
- x) Website of 2016 Jeep Grand Cherokee
- y) Website of 2016 Jeep Grand Cherokee
- z) Website of 2016 Jeep Grand Cherokee
- aa) Website of 2016 Jeep Grand Cherokee
- bb) 2016 Jeep Grand Cherokee brochure

R-4: Copy of the Driving.ca article entitled “Ram EcoDiesel wins 2016 Canadian Truck King Challenge” dated October 19, 2015;

R-5: Copy of an extract from the book “Assessment of Fuel Economy Technologies for Light-Duty Vehicles – Chapter 2, dated 2011;

R-6: Copy of the United States Environmental Protection Agency – Notice of Violation dated January 12, 2017;

Copy of the EPA News Release entitled “EPA Notifies Fiat Chrysler of Clean Air Act Violations” dated January 12, 2017;

Copy of an extract from the EPA website www.epa.gov entitled “Learn About FCA Violations”;

Copy of The New York Times article entitled “E.P.A. Accuses Fiat Chrysler of Secretly Violating Emissions Standards” dated January 12, 2017, *en liasse*;

R-7: Copy of the CBC News article entitled “U.S. alleges Fiat Chrysler cheated on diesel engine emissions” dated January 12, 2017;

R-8: Copy of the sales contract dated March 31, 2015;

R-9: Copies of the U.S. Class Action Complaints, *en liasse*.

R-10: Copies of trade-marks from the CIPO trade-mark database, *en liasse*;

R-11: Copy of International Agency for Research on Cancer (WHO) Press Release entitled “IARC: Diesel Engine Exhaust Carcinogenic” dated June 12, 2012;

Copy of the Toronto Star article entitled “Diesel exhaust as cancerous as asbestos, says WHO” dated June 13, 2012, *en liasse*;

R-12: Copy of an extract from Environment Canada’s website at www.ec.gc.ca;

R-13: Copy of an extract from the FCA Respondents’ website at <https://blog.fcanorthamerica.com>;

R-14: Copies of two extracts from the FCA Respondents’ website at www.fcanorthamerica.com;

R-15: Copy of the FCA Respondents’ Press Release entitled “2014 Ram 1500 EcoDiesel Orders Top More Than 8,000 Units in Three Days, Filling Initial Allocation” dated February 19, 2014;

R-16: Copy of the U.S. Complaint (2:17-cv-11633-JCO-EAS) dated May 23, 2017;

Copy of the Conditional Transfer Order dated June 7, 2017;

Copy of the U.S. Department of Justice news release entitled “United States Files Complaint Against Fiat Chrysler Automobiles for Alleged Clean Air Act Violations” dated May 23, 2017;

Copy of the EPA news release entitled “EPA Announces 2017 Annual Environmental Enforcement Results” dated February 8, 2018, *en liasse*;

R-17: Copy of the Second Amended Class Action Complaint in In Re Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices, and Products Liability dated May 16, 2017;

- R-18: Copy of Respondent Robert Bosch Inc.'s report from the *Registraire des entreprises*;
- R-19: Copy of an extract from the Bosch Respondents' website at www.bosch.com;
- Copy of an extract from the Bosch Respondents' website at www.wearebosch.com, *en liasse*;
- R-20: Copy of an extract from Bosch's 2014 Annual Report;
- R-21: Copy of the EPA Notice of Violation dated September 18, 2015;
- R-22: Copy of the Forbes article entitled "Audi Admits 2.1 Million Vehicles Are Also Fitted With Emissions Cheat Software" dated September 28, 2015;
- Copy of the Financial Times article entitled "VW admits second illegal device in 85,000 Audi engines" dated November 23, 2015;
- Copy of the USA Today article entitled "Volkswagen emission scandal widens: 11 million cars affected" dated September 22, 2015, *en liasse*;
- R-23: Copy of the Checksumm article entitled "New Bosch EDC17 Engine Management System" dated August 17, 2006;
- Copy of the Quantum Tuning article entitled "Bosch EDC-17 Remap",
- Copy of the Bosch press release entitled "The brain of diesel injection: New Bosch EDC17 engine management system" dated February 28, 2006, *en liasse*;
- R-24: Copy of the report entitled "How They Did It: An Analysis of Emission Defeat Devices in Modern Automobiles" undated;
- R-25: Copy of the Fiat and GM Press Release entitled "Fiat Powertrain Purchases Penske Corporations's Fifty-Percent Stake in VM Motori VM Motori to be co-owned by GM and Fiat Powertrain" dated February 11, 2011;
- Copy of the Reuters article entitled "Italy's Fiat to take full control of VM Motori" dated September 21, 2013;
- Copy of the Automotive News article entitled "Fiat buys remainder of diesel maker VM Motori from GM" dated October 28, 2013, *en liasse*;

- R-26: Copy of the Engine Labs article entitled “An Inside Look At The Ram 1500 3.0L EcoDiesel” dated January 11, 2015;
- R-27: Copy of an extract from VM Motori’s website at www.vmmotori.com;
- R-28: Copy of Bosch LLC’s Press Release entitled “Bosch Announces Clean Diesel Technology On 2014 Jeep Grand Cherokee” dated January 24, 2013;
- R-29: Copy of an extract from the Bosch Respondents’ website at de.bosch-automotive.com;
- R-30: Copy of a Bloomberg article entitled “Study of VW’s Cheating on Diesels Examines Role of Bosch Code” dated June 9, 2017;
- R-31: Copy of the Automotive News article entitled “Bosch probes whether its staff helped VW’s emissions rigging” dated January 27, 2016;
- R-32: Copy of the EsCrypt article entitled “Reliable Protection for ECUs” dated December 5, 2016;
- R-33: Copy of the Car and Driver article entitled “EPA Investigating Bosch over VW Diesel Cheater Software” dated November 23, 2015;
- R-34: Copy of the Automotive News article entitled “Bosch warned VW about illegal software use in diesel cars, report says” dated September 25, 2015;
- Copy of the BBC article entitled “VW scandal: Company warned over test cheating years ago” dated September 27, 2015, *en liasse*;
- R-35: Copy of the Automotive News article entitled “Bosch boosts US diesel lobbying” dated March 8, 2004;
- Copy of the Bosch Press Release entitled “Bosch: Clean Diesel is Key Part of Future Technology Mix” dated October 2008, *en liasse*;
- R-36: Copy of an extract from the website www.californiadieseldays.com;
- Copy of an extract from the Bosch Respondents’ website at www.bosch.us entitled “Bosch drives clean diesel in California”;
- Copy of the presenter biographies for the California Diesel Days program,
- Copy of an extract from the Bosch Respondents’ website at www.bosch.us entitled “Bosch brings innovation, green technology to SAE 2009 World Congress”, *en liasse*;

- R-37: Copy of an extract from FCA's website at blog.fcanorthamerica.com entitled "EcoDiesel: An Essential Tool For Every Outdoorsman" dated May 22, 2015;
- R-38: Copy of the Automotive News article entitled "New Coalition aims to promote diesel cars" dated February 2, 2009;
- Copy of a screenshot of the U.S. Coalition for Advanced Diesel Cars' website at <http://cleandieseldelivers.com>, dated April 24, 2016, *en liasse*;
- R-39: Copy of an extract from the Registrar of Imported Vehicles' website at www.riv.ca;
- Copy of an extract from Environment and Climate Change Canada's website at www.ec.gc.ca entitled "Workplan for General Areas of Collaboration On Vehicle and Engine Emission Control Under the Agreement Between the Government of the United States of America and the Government of Canada on Air Quality";
- Copy of the Canadian Council of Ministers of the Environment's Environmental Code of Practice for On-Road Heavy-Duty Vehicle Emission Inspection and Maintenance Programs dated 2003, *en liasse*;
- R-40: Copy of The Globe and Mail article entitled "The problem with car emissions tests" dated September 24, 2015;
- R-41: Copy of the BBC News article entitled "Volkswagen: The scandal explained" dated December 10, 2015;
- R-42: Copy of the DieselNet article entitled "Emission Test Cycles";
- R-43: Copy of the Motor Trend article entitled "CEO Sergio Marchionne and Co. Outline Future Strategy" dated November 6, 2009;
- Copy of the Motor Trend article entitled "Fiatapalooza! Chrysler's Five-Year Plan" dated November 7, 2009, *en liasse*;
- R-44: Copy of Los Angeles Times article entitled "Fiat Chrysler unveils aggressive five-year plan" dated May 6, 2014;
- Copy of the Motor Trend article entitled "RAM and Ferrari's Place in Fiat Chrysler's Five-Year Plan" dated May 6, 2014, *en liasse*;
- R-45: Copy of an extract from the FCA Respondents' website at blog.ramtrucks.com;



- R-46: Copy of the FCA Respondents' 2014 Sustainability Report;
- R-47: Copy of the report entitled "On-Road and Chassis Dynamometer Testing of Light-Duty Diesel Passenger Cars" undated;
- R-48: Copy of the Reuters article entitled "Stuttgart prosecutor targets Bosch in Daimler diesel investigation" dated May 26, 2017;
- R-49: Copy of the Jalopnik article entitled "Here's How Fiat Might Also Be Cheating On Emissions Tests: Report" dated April 25, 2016;
- Copy of the Reuter's article entitled "Test of Fiat diesel model shows irregular emissions: Bild am Sonntag" dated April 24, 2016, *en liasse*;
- R-50: Copy of a redacted list of Quebec-resident Class Member details;
- R-51: Copy of the trade-mark "VM" from the CIPO trade-mark database;
- R-52: Copy of the *On-Road Vehicle and Engine Emission Regulations*, SOR/2003-2;
- R-53: Copy of an extract from the TransportPolicy.net's website at www.transportpolicy.net;
- R-54: Copy of the British Columbia Ministry of Transportation and Infrastructure brochure entitled "Gross Vehicle Weight Rating – Frequently Asked Questions";
- R-55: Copy of the Greenhouse Gas Emissions Performance for the 2011 to 2016 Light-Duty Vehicle Fleet Report
- Copy of the Environment and Climate Change Canada report entitled "Greenhouse Gas Emissions Performance for the 2017 Model Year Light-Duty Vehicle Fleet", *en liasse*;
- R-56: Copy of the Axios article entitled "Emissions credits are like gold for automakers" dated August 30, 2019;
- R-57: Copy of the Reuters article entitled "US probes Bosch in VW cheating scandal" dated November 19, 2015;
- R-58: Copy of the Order Denying Bosch's Motion to Dismiss the Volkswagen-Branded Franchise Dealers' Second Amended Consolidated Class Action Complaint in the case of *In re: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation* in MDL No. 2672 CRB (JSC);

- R-59: Copy of a Bosch brochure entitled “Diesel Systems: Efficiency is what drives us – solutions for on-and off-highway”;
- R-60: Copies of extract from The Center for Responsive Politics’ website at <http://opensecrets.org>, *en liasse*;
- R-61: Copy of the Diesel Technology Forum News Release entitled ““Clean Diesel. Clearly Better.” Campaign for Clean Diesel Cars Welcomed” dated December 12, 2012;
- R-62: Copy of the letter from the U.S. Coalition for Advanced Diesel Cars to CARB dated January 8, 2016;
- Copies of extracts from the Bosch Respondents’ website at www.bosch.us, *en liasse*;
- R-63: Copy of an extract from the Natural Resources Canada website at www.nrcan.gc.ca;
- R-64: Copy of the Wards Auto article entitled “Chrysler Eyes Different Path to Meeting New CAFE Standards” dated August 29, 2012;
- R-65: Copy of an excerpt from the deposition testimony of Robert J. Hegbloom dated March 23, 2018;
- R-66: Copies of extracts from the FCA Respondents’ website at allpar.com, *en liasse*;
- R-67: Copy of the Affidavit of Dr. M. David Checkel, P.Eng sworn March 29, 2017 in *Maginnis et al. v. FCA Canada Inc. et al*, Court File No. CV-17-567691-00CP;
- R-68: Copy of the “Declaration of James Cameron Morrison in Support of Chrysler Group LLC’s Brief in Opposition to Unitek’s Motion for Preliminary Injunction” dated June 4, 2013 in the case of *Unitek Solvent Services, Inc. v. Chrysler Group LLC*, No. 1:12-cv-00704-DKW-RLP;
- R-69: Copy of the Declaration of Dr. Elisabeth Honka in Support of Plaintiffs’ Motion for Class Certification dated June 5, 2018 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777;
- R-70: Copies of extracts from the FCA and VM Motori Respondents’ website at www.vmmotori.com from 2016 and from a copy of the Engine Specification, *en liasse*;

- R-71: Copies of extracts from the VM Motori website at www.vmmotori.com from 2015, 2016 and 2017, *en liasse*;
- R-72: Copy of the Autoblog article entitled “Ram/Jeep EcoDiesel engine has Maserati roots” dated March 16, 2014;
- Copy of the Torque News article entitled “Ram 1500, Jeep EcoDiesel Engine on Ward’s 10 Best for 3rd Straight Year” dated December 10, 2015, *en liasse*;
- R-73: Copy of the Ward’s Auto article entitled “Ram EcoDiesel Has High-Class Lineage” dated March 13, 2014;
- R-74: Copies of the FCA Press Releases entitled:
- (a) “2014 Ram 1500’s Breakthrough 3.0-liter EcoDiesel V-6 Delivers Best-in-Class Fuel Economy” dated September 8, 2013,
 - (b) “Chrysler Canada: Ram Launches 2015 Heavy Duty Models with a Trifecta of Claims: Best-in-class Power, Towing Capacity and Payload Capacity” dated August 25, 2014,
 - (c) “Chrysler Canada Reports Highest August Sales Ever” dated September 3, 2014, “Ram Truck Increases EcoDiesel Mix to 20 Percent of Ram 1500 Pickup Production” dated September 30, 2014,
 - (d) “Ram 1500 EcoDiesel Named 2015 Green Truck of the Year™ by Green Car Journal” dated November 6, 2014,
 - (e) “FCA Canada: FCA US LLC Scores Wards 10 Best Engines ‘Three-Peat’ With EcoDiesel V6; Lone Diesel on List for Second Straight Year” dated December 10, 2015,
 - (f) “Chrysler Canada – New 2015 Ram 1500 Rebel Makes a Statement” dated January 13, 2015, “Jeep® Grand Cherokee EcoDiesel Named 2015 Green SUV of the Year™ by Green Car Journal” dated January 22, 2015, *en liasse*;
- R-75: Copies of the 2014, 2015, and 2016 Warranty/Maintenance booklets for the Ram Subject Vehicles;
- Copies of the 2014, 2015, and 2016 Warranty/Maintenance booklets for the Jeep Grand Cherokee Subject Vehicles, *en liasse*;
- R-76: Copy of an extract for the Natural Resources Canada website at www.nrcan.gc.ca;



- R-77: Copy of the 2014 Fuel Consumption Guide;
- R-78: Copy of the Environment and Climate Change Canada Guidance document – Heavy-duty Vehicle and Engine Greenhouse Gas Emission Regulations;
- R-79: Copies of the Certificates of Conformity numbered as: ECRXT03.05PV-049, ECRXT03.05PV-049-R01, FCRXT03.05PV-055, FCRXT03.05PV-055-R01, FCRXD03.05VV-057, GCRXT03.05PV-045, and GCRXD03.05VV-048, *en liasse*;
- R-80: Copies of the associated Applications for Certification, *en liasse*;
- R-81: Copy of the California Air Resources Board Enforcement Division’s Notice of Violation for Fiat Chrysler Automobiles N.V., FCA US LLC, and Chrysler Group LLC, dated January 12, 2017;
- Copy of the California Air Resources Board letter with the Reference No. IUC-2015-008 dated September 25, 2015;
- Copy of an extract from the California Air Resources Board website at ww3.arb.ca.gov, *en liasse*;
- R-82: Copy of extracts from the FCA 2016 Annual Report;
- R-83: Copy of extracts from the FCA 2017 Annual Report;
- R-84: Copy of the European Union press release entitled “Car emissions: Commission opens infringement procedure against Italy for breach of EU rules on car type approval” dated May 17, 2017;
- Copy of the Reuters article entitled “German transport ministry says finds defeat device in Fiat car” dated March 31, 2017, *en liasse*;
- R-85: Copy of the BBC News article entitled “Fiat Chrysler diesel emissions investigated in France” dated March 21, 2017;
- R-86: Copy of the Go Auto article entitled “FCA confirms it is working with Australian officials over diesel allegations” dated May 18, 2017;
- R-87: Copy of the Office of the District Attorney of Stuttgart translated German press release entitled “Investigations against employees of Robert Bosch LLC, USA” dated January 31, 2018;
- Copy of the Associated Press release entitled “U.S. Bosch Workers Investigated Over ‘Dieselgate’” dated January 31, 2018, *en liasse*;

- R-88: Copy of the District Attorney of Stuttgart translated German press release entitled “Bosch must pay a fine” dated May 23, 2019;
- Copy of the Ghana Business News article entitled “Germany Hits Bosch with Fine of €90M in Diesel Scandal” dated May 23, 2019, *en liasse*;
- R-89: Copy of the New York Attorney General press release entitled “Attorney General James Announces Landmark Multistate Settlements With Fiat Chrysler And Bosch Totaling \$171 Million For Alleged Violations Of State Environmental And Consumer Protection Laws” dated January 10, 2019;
- R-90: Copy of the Report of Steven P. Gaskin dated June 6, 2018 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777;
- R-91: Copy of the Declaration of Colin B. Weir dated June 6, 2018 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777;
- R-92: Copy of the Declaration of Edward M. Stockton in Support of Plaintiffs’ Motion for Preliminary Approval of Class Settlement and Direction of Notice Under Fed. R. Civ. P. 23(E) dated January 9, 2019 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777;
- R-93: Copy of the Affidavit of Brandon Schaufele sworn March 1, 2019 in *Maginnis et al. v. FCA Canada Inc. et al*, Court File No. CV-17-567691-00CP;
- R-94: Copy of the MDL Transfer Order dated April 5, 2017 *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777;
- R-95: Copy of the Order Granting in Part and Denying in Part Defendants’ Motions to Dismiss dated March 15, 2018 *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777;
- R-96: Copy of the Second Amended Consolidated Consumer Class Action dated May 23, 2018 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777;
- R-97: Copy of the Automotive News article entitled “FCA emails suggest alleged diesel emissions violations surfaced in 2010” dated May 18, 2018;

- R-98: Copy of the Declaration of Jeremy A. Lieberman dated May 14, 2018, filed in the case of *Pirnik v. Fiat Chrysler Automobiles N.V. et al.*, No. 15-cv-07199 (S.D.N.Y. Sept. 11, 2015);
- R-99: Copy of the Amended Consumer and Reseller Dealership Class Action Settlement Agreement and Release dated January 18, 2019 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777;
- R-100: Copy of the letter from the Office of the Attorney General of the State of New York to the U.S. MDL Court dated January 18, 2019, including its attachments;
- Copy of the Bosch press release entitled “Bosch reaches settlements with 50 U.S. States and Territories as well as with U.S. civil plaintiffs with regard to diesel vehicles” dated January 10, 2019, *en liasse*;
- R-101: Copy of the Order granting Motion for Preliminary Approval of Class Settlement dated February 11, 2019;
- Copy of the Order granting Preliminary Approval of Class Settlement and Direction of Notice Under Rule 23(e) dated February 11, 2019;
- Copy of the Order Granting Final Approval of Class Action Settlement and Attorneys’ Fees and costs dated May 3, 2019 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, *en liasse*;
- R-102: Copy of the Consent Decree dated May 3, 2019;
- Copy of the First California Partial Consent Decree dated May 3, 2019;
- Copy of the Second California Partial Consent Decree dated May 3, 2019 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777, *en liasse*;
- R-103: Copy of the Stipulation and Agreement Regarding Non-Material Changes to the Consent Decree dated December 17, 2019 in *In re: Chrysler-Dodge-Jeep EcoDiesel Marketing, Sales Practices and Products Liability Litigation*, MDL No. 2777;
- R-104: Copy of the FCA Respondents’ press release entitled “FCA Announces Certification of 2017 Model-year Diesel Vehicles” dated July 28, 2017;

- Copies of the Certificates of Conformity numbered as: HCRXT03.05PV-064 and JCRXT03.05PV-058, *en liasse*;
- R-105: Copy of the CARB Executive Order: A-009-1321 to FCA US, dated July 27, 2017;
- R-106: Copy of the Financial Times article entitled “Fiat Chrysler to kill off diesel in all cars by 2022” dated February 25, 2018;
- R-107: Copy of the Emissions Related Recall letter that was sent out to Class Members in Canada, in English and in French, *en liasse*;
- R-108: Copy of the Supplemental Affidavit of M. David Checkel sworn September 16, 2019 in *Maginnis et al. v. FCA Canada Inc. et al*, Court File No. CV-17-567691-00CP;
- R-109: Copy of the discussions on the following online forums:
- (i) EcoDieselRam.com entitled “Unhappy with Performance after Emissions Recall Update” from June 3, 2019 to February 4, 2020;
 - (ii) EcoDieselRam.com entitled “Campaign v16 emission control system software” from May 14, 2019 to May 26, 2019;
 - (iii) DieselRamForum.com entitled “FCA Campaign V16 – Emission Control System Software” from June/July 2019;
 - (iv) Ram1500Diesel.com entitled “FCA 3.0L Diesel emissions recall (CANADA)” from May 2019 to May 2020;
 - (v) Ram1500Diesel.com entitled “FCA Class Action in Canada” from January 11, 2019 to November 2019;
 - (vi) RAM Forumz from June 2019;
 - (vii) DieselJeeps.com entitled “Problem after Diesel Emission Fix” from June 2019 to May 2020, *en liasse*;
- R-110: Copy of the video entitled “Ram 1500 ecodiesel emissions recall test” dated July 14, 2019;
- R-111: Copy of an extract from the website www.carcomplaints.com;
- R-112: Copies of 2 TFL Truck videos entitled “Last-Gen Ram EcoDiesel Owners Are FURIOUS About Their Trucks' Performance After Emissions Fix!” dated August 6, 2019 (TFL Video 1) and entitled “Did a Recall Ruin the

2016 Ram EcoDiesel? We Drive One and Find Out!" dated September 1, 2019 (TFL Video 2), *en liasse*;

- R-113: Copy of the Transport Canada Recall #2019535 dated October 25, 2019;
- R-114: Copy of the Emissions Related Recall letter re: VA7 dated April 3, 2020, in English and in French, *en liasse*.

Montreal, November 16, 2020

(s) Andrea Grass

CONSUMER LAW GROUP INC.
Per: Me Andrea Grass
Attorneys for the Petitioners

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N°: 500-06-000837-175

(Class Action)
SUPERIOR COURT
DISTRICT OF MONTREAL

GARAGE POIRIER & POIRIER INC.
and
A. BOUFFARD

Petitioners

-vs.-

FCA CANADA INC. et al.

Respondents

**NEW APPLICATION TO AUTHORIZE THE
BRINGING OF A CLASS ACTION & TO APPOINT
THE PETITIONERS AS REPRESENTATIVES**
(Art. 574 C.C.P. and following)

COPY

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