

**Appendix B
Vehicle Recall and Emissions Modification Program
For 3.0 Liter Subject Vehicles**

APPENDIX B

VEHICLE RECALL AND EMISSIONS MODIFICATION PROGRAM FOR 3.0 LITER SUBJECT VEHICLES

I. PURPOSE

This Appendix B establishes how Defendants shall submit Proposed Emissions Modifications, and how the United States Environmental Protection Agency (“EPA”) and the California Air Resources Board (“CARB”) (collectively, “EPA and CARB” or “EPA/CARB”) will approve or disapprove any such proposal, should Defendants choose, at their election, to submit a Proposed Emissions Modification. Defendants must comply with the requirements of this Appendix B. No Emissions Modification may be performed by, or on behalf of, Defendants unless and until EPA/CARB approve the applicable Proposed Emissions Modification. Following approval, any Emissions Modification performed by, or on behalf of, Defendants must conform to the applicable Approved Emissions Modification and the requirements set forth herein.

If Defendants submit a Proposed Emissions Modification according to the terms of this Appendix B, and EPA/CARB determine the proposal satisfies the requirements set forth herein, then EPA/CARB will approve that Proposed Emissions Modification. EPA/CARB will issue decisions, including decisions concerning the approval or disapproval of Proposed Emissions Modifications, in accordance with the definitions and decision-making authorities set forth in Paragraphs 21-23 of the Consent Decree. EPA/CARB will review any proposal according to this Appendix B, rather than according to the regulatory processes for reviewing applications for Certificates of Conformity, Executive Orders, or administrative recalls; provided, however, except as otherwise expressly stated herein, the applicable regulatory calculation methods, test procedures, protocols, processes, or procedures shall apply unless an alternative approach is approved by the agencies.

II. DEFINITIONS

2.1 Terms used in this Appendix B shall have the meanings set forth below. Terms that are not defined below but are defined in Section III (Definitions) of the Consent Decree shall have the meanings set forth therein.

2.2 “20° F FTP” means the FTP conducted at 20° Fahrenheit, as specified in 40 C.F.R. Part 1066, Subpart H.

2.3 “50° F FTP” means the FTP conducted at 50° Fahrenheit, as specified in Cal. Code Regs. tit. 13, § 1961 and the incorporated test procedures.

2.4 “A-to-B Emissions Demonstration Vehicle” means the vehicle(s) identified for use in A-to-B emissions demonstration purposes in Appendix B-3 to this Consent Decree.

2.5 “A-to-B Fuel Economy Demonstration Vehicle” means the vehicle(s) identified for use in A-to-B fuel economy demonstration purposes in Appendix B-3 to this Consent Decree.

2.6 “Adaptive Dosing to Prevent Deposits” (online dosing) means an AECD included in the Master Series Calibration that modifies DEF dosing such that NH₃ storage mode is no longer active. In the Master Series Calibration, Adaptive Dosing to Prevent Deposits does not activate and online dosing is inhibited during US06 and HWY emissions tests.

2.7 “Approved Emissions Modification” means an Emissions Modification submitted by Defendants and approved by EPA/CARB.

2.8 “Auxiliary Emission Control Device” or “AECD” has the meaning set forth in 40 C.F.R. § 86.1803-01.

2.9 “Calibration” means a specific parameterization of a vehicle computers’ software, such as the ECU software, that determines how various processes in engine and exhaust aftertreatment are controlled under many different operating conditions, or the TCU software that determines when the transmission will shift gears and operate various actuators in the transmission. A common example of a process is fuel injection (timing and quantity) under different engine loads and ambient conditions.

2.10 “Combined Uphill/Downhill and Highway Route” means the driving route shown and described in Appendix B-4 to this Consent Decree.

2.11 “Critical OBD Demonstration” means the minimum set of OBD emission demonstration tests, pursuant to Cal. Code Regs. tit. 13, § 1968.2(h) (2013), that must be completed and included in the Emissions Modification Proposal, as follows: SCR Catalyst efficiency, SCR Dosing delivery performance underdosing, all injectors Fuel System Quantity and Timing minimum, all injectors Fuel System Quantity and Timing maximum, EGR Low Flow, EGR High Flow, EGR Slow Response, EGR cooling, Boost system over-boost, Boost system under-boost, Charge Air Under Cooling, DOC efficiency, Too Frequent Regeneration, NOx Sensors Upstream, and PM Filter efficiency. Additionally, for the Audi Q7 Generation 2.1 vehicle, Defendants must complete and submit with the applicable Emissions Modification Proposal a Critical OBD Demonstration of the DEF dosing delivery performance monitor.

2.12 “Customized SRC” means the mileage accumulation cycle used to age the 3.0 Liter Subject Vehicles for purposes of durability demonstrations and OBD demonstrations to achieve an acceleration factor of up to 1.8 for mileage accumulation to the equivalent of Full Useful Life, provided that if an acceleration factor of less than 1.8 is used for this purpose, that factor value must replace the 1.8 factor value for all purposes under this Appendix B, where (a) the TCM Step 3 mileage share is raised to at least 20 percent on average by artificially lifting the exit/entry modeled SCR-temperature during mileage accumulation; (b) the Mileage Safety Out Parameter is set to an applicable value, which is calculated by dividing the distance between two regenerations determined during the regulated SRC procedure by the acceleration factor; (c) the emission testing intervals will equate to equivalent mileage based on the acceleration factor up to 1.8, meaning 30,000 equivalent miles will result in a delta odometer mileage of 16,667 miles;

and (d) to adjust for accelerated aging, the Defendants must modify the mileage based aftertreatment device aging factors by dividing the existing distance based axis points by up to 1.8. Except as otherwise set forth in subparagraph 4.3.2, the Customized SRC shall be run on the DDVs for each Generation, and on any other vehicles for which the Customized SRC is applicable (as set forth in Appendix B-3), starting at the agreed mileage parameters set forth in subparagraph 4.3.2 for each test vehicle.

2.13 “Cylinder Pressure Sensor” means a sensor located in the cylinder head which directly or indirectly measures pressure or related characteristics inside the cylinder.

2.14 “Dealers” means Volkswagen, Audi, and Porsche authorized dealers and Volkswagen, Audi, and Porsche authorized service facilities.

2.15 “DEF System” means the combination of vehicle components used to store, filter, measure the level and quality of, thaw, and inject the DEF into the exhaust.

2.16 “Defeat Device” has the meaning provided under 42 U.S.C. § 7522(a)(3)(B) and 40 C.F.R. § 86.1803-01.

2.17 “Deterioration Factor” or “DF” means the number, determined pursuant to 40 C.F.R. § 86.1823-08, that represents the change in emissions performance during a vehicle’s Full Useful Life. The DF is applied to emission results from the required test cycles, as provided in 40 C.F.R. § 86.1841-01 except as provided herein. DFs are used to estimate increases in emissions caused by deterioration of the emission control system as a vehicle ages over its Full Useful Life.

2.18 “Diesel Exhaust Fluid” or “DEF” means a liquid reducing agent used in conjunction with selective catalytic reduction to reduce NO_x emissions. DEF is generally understood to be an aqueous solution of urea conforming to the specification of ISO 22241. DEF is used in each Generation of the 3.0 Liter Subject Vehicles and is sometimes referred to by the trademarked name, “AdBlue.”

2.19 “Diesel Oxidation Catalyst” or “DOC” means part of the emission control system that promotes chemical oxidation of CO, NO, and HC, as well as the SOF portion of diesel particulates. For 3.0 Liter Subject Vehicles that are passenger vehicles, the DOC is housed in the same housing part as the DPF and SCR components. All 3.0 Liter Subject Vehicles that are sport utility vehicles have separate housings for the DOC and the DPF.

2.20 “Diesel Particulate Filter” or “DPF” means part of the emissions control system designed to capture particle emissions through a combination of filtration mechanisms, such as diffusional deposition, inertial deposition, or flow-line interception. The process of regeneration removes collected particulates from the DPF. During active regeneration, the emissions control system is modulated to increase exhaust temperature to promote combustion of the particulate matter by oxygen. Additionally, particulate matter is passively and continuously regenerated by reaction with NO₂ at lower temperatures (the Continuously Regenerating Trap or CRT effect).

2.21 “Drivability” means the smooth delivery of power, as demanded by the driver or operator. Typical elements of Drivability degradation are rough idling, misfiring, surging, increased hesitation, or insufficient power.

2.22 “Durability Demonstration Vehicle,” “DDV,” or “Official Durability Vehicle” means a vehicle with the final emission Calibration that is run on the Customized SRC to the equivalent of Full Useful Life. For Generation 1.2, Generation 2.1, and Generation 2.2 SUV, running the Customized SRC to the equivalent of Full Useful Life requires execution of at least 143 DPF regenerations. For Generation 2 PC, running the Customized SRC to the equivalent of Full Useful Life requires execution of at least 190 DPF regenerations. For Generation 1.1, Defendants must determine the number of regenerations required according to Paragraph 2.12 of this Appendix B. In accordance with the mileage intervals set forth in subparagraph 4.3.2 of this Appendix B, Defendants shall conduct emissions testing in the FTP75 on the Durability Demonstration Vehicle, and shall calculate the DF based on such periodic emissions tests. After completion of mileage accumulation to the equivalent of Full Useful Life and all applicable emissions tests, the vehicle must be reflashed with the final engine Calibration, which includes the final emissions Calibration (used during mileage accumulation to the equivalent of Full Useful Life) and the final OBD Calibration. To adjust such final engine Calibration for accelerated aging, Defendants must set the mileage based aftertreatment device aging factors by dividing the existing distance based axis points by 1.8. The reflashed vehicle is used for Full Useful Life emissions compliance and Final OBD Demonstration testing that shall be submitted according to subparagraph 3.1.11 of this Appendix B. The Durability Demonstration Vehicles for each Generation are set forth in Appendix B-3 to this Appendix B.

2.23 “Engine Control Unit” or “ECU” means the computer, including associated software, that controls various engine functions, including emission control system functions, and/or other functions that may impact vehicle emissions or OBD compliance by processing electrical signals from sensors and/or electronic signals from other electronic control modules on the vehicle (e.g., TCU, SCR control unit, stability control units, brake control units, the body control module, and the instrument cluster).

2.24 “Exhaust Gas Recirculation” or “EGR” means a device that directs a portion of the exhaust gas into the intake air stream for the purpose of controlling emissions.

2.25 “Emission Control System” means a unique group of emission control devices, auxiliary emission control devices, engine modifications and strategies, and other elements of design designated by EPA/CARB and used to control exhaust emissions of a vehicle.

2.26 “Emission Control System Data Parameters” means the data parameters that Defendants must record while conducting the Required Emissions Test Procedures, including the preconditioning cycles, and such other tests as set forth in this Appendix B. The Emission Control System Data Parameters applicable to each Generation are subject to prior-authorization of EPA/CARB. Prior to conducting the required test procedures for each Generation, Defendants must submit for EPA/CARB review and approval, the proposed emission control system data parameters to be recorded during test procedures for the applicable Generation.

2.27 “Emissions Increasing Auxiliary Emissions Control Device” or “EI-AECD” means any AECD, as defined in Cal. Code. Regs. tit. 13, § 1968.2(c), that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use, provided that the need for such AECD is justified by the protection it provides against vehicle damage or accident. EI-AECDs do not include AECDs that do not sense, measure, or calculate any parameter or command or trigger any action, algorithm, or alternate strategy; or AECDs that are activated solely due to any of the following conditions: (1) operation of the vehicle above 8,000 feet in elevation; (2) ambient temperature; (3) when the engine is warming up and is not reactivated once the engine has warmed up in the same driving cycle; (4) failure detection (storage of a fault code) by the OBD system; (5) execution of an OBD monitor; or (6) execution of an infrequent regeneration event.

2.28 “Emissions Modification” means the alterations to 3.0 Liter Subject Vehicles including all software recalibrations, and the replacement, repair, installation, or upgrading of parts related to the Emission Control System, that are designed to reduce emissions, remove all Defeat Devices and bring the vehicles into compliance with the applicable emissions standards or limits, and the other requirements specified in this Appendix B.

2.29 “Emissions Modification Database” means a searchable database that Defendants make available online, by which users, including Eligible Owners, Eligible Lessees, and potential purchasers, may conduct a free-of-charge search by vehicle VIN to determine whether the Emissions Modification is available for, or has been applied to, a specific vehicle.

2.30 “Emissions Modification Proposal” means the required materials Defendants provide in a Submission or multiple Submissions for EPA/CARB review and approval or disapproval of any Proposed Emissions Modification, if Defendants elect to submit such a proposal.

2.31 “Engineering Durability Data” means data which is used to estimate the Official Durability Data. It may be based on a preliminary design of the Emission Modification. It may also be determined from an extrapolation of incomplete Official Durability Data or by simulating the mileage accumulation required under 40 C.F.R. § 86.1823-08.

2.32 “Engineering Durability Vehicle” means a vehicle used for testing to obtain Engineering Durability Data.

2.33 “EPA/CARB” means EPA and CARB when the agencies evaluate Defendants’ Submissions and issue decisions, including decisions concerning the approval or disapproval of Proposed Emissions Modifications, in accordance with the definitions and decision-making authorities set forth in Paragraphs 21-23 of the Consent Decree.

2.34 “Federal Test Procedure” or “FTP75” means the driving schedule in 40 C.F.R. Part 86, Appendix I, Section (a) (EPA Urban Dynamometer Driving Schedule for Light-Duty Vehicles and Light-Duty Trucks).

2.35 “FTP-72” means the driving schedule defined in 40 C.F.R. Part 86, Appendix I(a)(3).

2.36 “Final OBD Demonstration” means all OBD emission demonstration testing required under Cal. Code. Regs. tit. 13, § 1968.2(h) (2013), provided, however, if Defendants assert that only a functional test is required because no failure or deterioration of the specific tested system could result in an engine’s emissions exceeding the emission malfunction criteria, Defendants must still complete the OBD demonstration and submit with the proposal all emission and fault detection data from vehicles equipped with the Proposed Emissions Modification used to determine that only a functional test of the system(s) is required.

2.37 “FTP@1620m” means FTP testing at high-altitude conditions, i.e., a test altitude of 1,620 meters (5,315 feet), plus or minus 100 meters (328 feet), or equivalent observed barometric test conditions of 83.3 ± 1 kilopascals.

2.38 “Full Useful Life” or “FUL” means the regulatory period in years or miles during which vehicles must meet the applicable emissions standards or limitations specified in this Appendix B. Full Useful Life is 10 years or 120,000 miles, whichever occurs first, for Model Year 2009-2016 3.0 Liter Subject Vehicles.

2.39 “Full Useful Life Emissions Demonstration Vehicle” means the vehicle(s) identified for demonstrating emissions compliance with the Full Useful Life Standards, set forth in Appendix B-3. Such standards are demonstrated with the inclusions of IRAF.

2.40 “Generation” means the different versions of emission control technology installed in various configurations of 3.0 Liter Subject Vehicles.

2.41 “Generation 1.1” or “GEN 1.1” means the following 3.0 Liter Subject Vehicles: Model Year 2009-2010 Audi Q7 and VW Touareg, within the Test Groups specified in Paragraph 2.9 of Appendix A to this Consent Decree.

2.42 “Generation 1.2” or “GEN 1.2” means the following 3.0 Liter Subject Vehicles: Model Year 2011-2012 Audi Q7 and VW Touareg, within the Test Groups specified in Paragraph 2.9 of Appendix A to this Consent Decree.

2.43 “Generation 2.1” or “GEN 2.1” means the following 3.0 Liter Subject Vehicles: Model Year 2013-2015 Audi Q7, and Model Year 2013-2014 VW Touareg and Porsche Cayenne, within the Test Groups specified in Paragraph 2.9 of Appendix A to this Consent Decree.

2.44 “Generation 2.2 SUV” or “GEN 2.2 SUV” means the following 3.0 Liter Subject Vehicles: Model Year 2015-2016 VW Touareg and Porsche Cayenne, within the Test Groups specified in Paragraph 2.9 of Appendix A to this Consent Decree.

2.45 “Generation 2 Passenger Cars” or “GEN 2 PCs” means the following 3.0 Liter Subject Vehicles: Model Year 2014-2016 Audi A6, A7, A8, A8L, and Q5, within the Test Groups specified in Paragraph 2.9 of Appendix A to this Consent Decree.

2.46 “Generation 2 SUV” or “GEN 2 SUV” means Generation 2.1 and Generation 2.2 SUV, collectively.

2.47 “Highway Fuel Economy Test,” “HWFET,” or “HWY FE” mean the test cycle that represents highway driving as described in 40 C.F.R. Part 600, Appendix I.

2.48 “Hydrocarbon Poisoning SCR Catalyst Strategy” means an AECD in the Master Series Calibration that models the amount of hydrocarbons stored on the SCR catalyst and that diminishes the ability to store NH₃ on the SCR catalyst so that the SCR efficiency is reduced, and therefore DEF dosing amount will be reduced within ammonia storage mode. The adjusted SCR efficiency was not employed during emissions testing. If the amount of hydrocarbons stored on the SCR catalyst exceeds a calibrated value, the Adaptive Dosing to Prevent Deposits AECD will activate.

2.49 “Include” and “Including,” as used in this Appendix B, are not limiting terms.

2.50 “Infrequent Regeneration Adjustment Factor” or “IRAF” means the adjustment factor for each pollutant used to account for increased emissions caused by periodic regeneration of certain control devices, such as DPFs, performed by burning particulates that have accumulated in the control device. The increased emissions caused by such regeneration are accounted for by adjustment factors, or IRAFs, applicable to the pollutants NMOG, NOx, CO, and PM. Defendants shall calculate the IRAF using the method specified in 40 C.F.R. § 86.004-28(i) based on test vehicles at a minimum of 75% of Full Useful Life. For purposes of the IRAF calculation for GEN 1.1, Defendants shall use the method specified in 40 C.F.R. § 86.004-28(i), with the regulated SRC for the regeneration interval determination. For purposes of the IRAF calculation for GEN 2 PC, the regeneration frequency shall be 636 miles between regenerations. For purposes of the IRAF calculation for GEN 1.2 and GEN 2 SUV, the regeneration frequency shall be 840 miles between regenerations.

2.51 “Lambda Sensor” means a sensor located in a vehicle’s exhaust system that measures oxygen or a related characteristic.

2.52 “Master Series Calibration” means the Calibration installed on Subject 3.0 Liter Vehicles when originally certified and introduced into commerce that controls Emission Control Systems in the vehicle. The Master Series Calibration includes the Temperature Conditioning Mode, Adaptive Dosing to Prevent Deposits, Hydrocarbon Poisoning SCR Catalyst Strategy, and the Transmission Warmup Mode.

2.53 “Maximum Emissions Modification Limits” means the emissions levels specified in Appendix B-1 to this Appendix B that the Modified Vehicles may not exceed.

2.54 “Mileage Safety Out Parameter” means the mileage value that is set within a Calibration which, when reached, is treated as the equivalent of a full DPF and triggers a DPF regeneration.

2.55 “Modified Vehicle” means a 3.0 Liter Subject Vehicle that Defendants, or an entity acting on behalf of Defendants, have modified in accordance with an Approved Emissions Modification.

2.56 “Noise Vibration and Harshness” means a measure of the noise level heard during driving, the vibrations felt during driving, and the harshness of the ride of the vehicle.

2.57 “Non-Methane Organic Gases” or “NMOG” means the sum of oxygenated and non-oxygenated hydrocarbons contained in a gas sample as measured using the procedures described in 40 C.F.R. § 1066.635.

2.58 “NOx” means oxides of nitrogen, i.e., the sum of the nitric oxide and nitrogen dioxide contained in a gas sample as if the nitric oxide were in the form of nitrogen dioxide.

2.59 “NOx Sensor” means a sensor located in a vehicle’s exhaust system which directly or indirectly measures NOx or related characteristics.

2.60 “Official Durability Data” means emissions data obtained by periodic testing during the accumulation of the equivalent of at least 100% of Full Useful Life mileage accumulated using the Customized SRC on Durability Demonstration Vehicles, as described in 40 C.F.R. § 1823-08, and as required under this Appendix B. Official Durability Data is used to determine DFs.

2.61 “OBD Demonstration Vehicle” means the vehicle(s) identified for each Generation for OBD demonstration purposes in Appendix B-3 to this Consent Decree.

2.62 “Particulate Matter” or “PM” means particulates formed during the diesel combustion process and measured by the procedures specified in 40 C.F.R. Part 86, Subpart B.

2.63 “Particulate Matter Sensor” or “PM Sensor” means a sensor located in a vehicle’s exhaust system which directly or indirectly measures particulate matter or related characteristics.

2.64 “Portable Emissions Measurement System” or “PEMS” means an emissions measurement system that complies with 40 C.F.R. Part 1065 and that measures emissions while a vehicle is driven on the road.

2.65 “Preconditioning” means taking steps consistent with the regulations to ensure that the exhaust system is stabilized. Preconditioning may include an initial one hour minimum soak and up to three driving cycles of the UDDS, as specified in 40 C.F.R. § 86.132-96(e)(2). Subject to prior authorization by EPA/CARB and provided that Defendants demonstrate a need for any additional preconditioning measure(s) specified in § 86.132-96(e)(2), EPA/CARB may allow such preconditioning, pursuant to 40 C.F.R. § 86.132-96(d).

2.66 “Proposed Emissions Modification” means the alterations to 3.0 Liter Subject Vehicles, including all software recalibrations, and, if applicable, the replacement, repair, installation, or upgrading of parts related to the Emission Control System, that Defendants may propose for EPA/CARB approval, and that are designed to reduce emissions, remove all Defeat

Devices, and bring the vehicles into compliance with the requirements specified in this Appendix B.

2.67 “Required Emissions Test Procedures” shall have the meaning specified in subparagraph 4.3.2(i) of this Appendix B.

2.68 “SC03” means the test cycle, described in 40 C.F.R. § 86.160-00 and listed in 40 C.F.R. Part 86, Appendix I, paragraph (h), which is designed to represent driving under urban conditions at elevated temperatures and high solar loading with the air conditioner on.

2.69 “Selective Catalytic Reduction” or “SCR” means an active emissions control technology system that injects a liquid-reductant agent into the exhaust stream onto a special catalyst. The reductant source is Diesel Exhaust Fluid (DEF).

2.70 “SCR Inducements” or “Inducements” means the limitations imposed on vehicle operation that occur when a vehicle runs out of DEF, has poor quality DEF, or when tampering occurs to the SCR system. Inducements might include limitations on vehicle speed or rendering inoperable the restart function of the vehicle.

2.71 “SCR System” means the combination of components necessary for NOx to be reduced by selective catalytic reduction. These components include the DEF tank, DEF injection system, SCR catalyst(s), and associated sensors and controllers.

2.72 “Standard Road Cycle” or “SRC” means the mileage accumulation cycle described in 40 C.F.R. Part 86, Appendix V. To accumulate miles on the SRC, the vehicle may be run on a track or on a mileage accumulation dynamometer.

2.73 “Sea Level” means common altitudes at which Defendants conduct certain tests (0-500 meters height).

2.74 “SFTP Composite” means emissions result weighted over three test cycles according to the following formula: SFTP Composite = $0.35 \times (\text{FTP}) + 0.28 \times (\text{US06}) + 0.37 \times (\text{SC03})$.

2.75 “Supplemental FTP” or “SFTP” mean the additional test procedures designed to measure emissions during aggressive and microtransient driving, as described in 40 C.F.R. § 86.159-00 over the US06 cycle, and also the test procedure designed to measure urban driving emissions while the vehicle’s air conditioning system is operating, as described in 40 C.F.R. § 86.160-00 over the SC03 cycle.

2.76 “Temperature Conditioning Mode” or “TCM” means the AECD that controls engine out emissions and exhaust temperatures when the SCR system is below specified temperatures, consisting of three or more emission control strategy steps. As originally calibrated in the Master Series Calibration, the TCM operated the strategy steps during the regulatory test cycles in a different manner than when driving on the road.

2.77 “Test Group” means the basic classification unit within a durability group used for the purpose of demonstrating compliance with exhaust emission standards in accordance with 40 C.F.R. § 86.1841-01.

2.78 “Transmission Control Unit” or “TCU” means a computer module that regulates or impacts shifting and clutch functions of a vehicle’s automatic transmission (which may impact fuel economy and emissions control) by processing electrical signals from the vehicle’s ECU, other electronic control units (e.g., stability control units, brake control units) and/or sensors, potentially including the steering wheel position sensor, accelerometers, the brake pedal position sensor, the transmission fluid temperature sensor, the vehicle speed sensor, and the throttle position sensor.

2.79 “Transmission Warmup Mode” or “TWM” means a transmission control strategy designed to change transmission control during warm up to optimize emissions which may impact fuel economy (e.g., altered shift maps that achieve higher engine speed by preventing the gearbox from selecting the next gear, resulting in faster engine warm-up and decreased engine load which lowers raw NOx emissions).

2.80 “Urban/Downtown Los Angeles Route” means the driving route shown and described in Appendix B-4 to this Consent Decree.

2.81 “US06” means the driving schedule described in 40 C.F.R. § 86.159-08 and listed in 40 C.F.R. 86, Appendix I, section (g), as amended July 13, 2005, entitled, “EPA US06 Driving Schedule for Light-Duty Vehicles and Light-Duty Trucks” (e.g., hard acceleration, more power requirement, high speed, high load).

III. EMISSIONS MODIFICATION CRITERIA

3.1 Each Proposed Emissions Modification for any 3.0 Liter Subject Vehicle must meet the following criteria.

3.1.1 Required Emissions Performance.

- i. For Generations 1.1, Modified Vehicles must comply with the emissions standards of Tier 2, Bin 7, as set forth in 40 C.F.R. §§ 86.1811-04(c)(6), (f) and (j) (hereafter “Tier 2, Bin 7”), with the exception of PM, which must be 0.01 g/mile.
- ii. For Generation 1.2, Modified Vehicles must comply with the emissions standards of Tier 2, Bin 6, as set forth in 40 C.F.R. §§ 86.1811-04(c)(6), (f) and (j) (hereafter “Tier 2, Bin 6”).
- iii. Defendants must offer a Buyback for each Eligible 3.0 Liter Generation 1.1 and Generation 1.2 Vehicle. Eligible Owners and Eligible Lessees may elect such Buyback as an alternative to an Approved Emissions Modification or in the event a Proposed Emissions Modification is not available, as further specified in Appendix A to the Consent Decree.

- iv. For Generation 2.1, Generation 2.2 SUV and Generation 2 PC, Modified Vehicles must comply with the emissions standards of Tier 2, Bin 5, as set forth in 40 C.F.R. §§ 86.1811-04(c)(6), (f), and (j) (hereafter “Tier 2, Bin 5”), and LEV 2/ULEV, as set forth in Cal. Code Regs. tit. 13, § 1961 (hereafter “LEV2/ULEV”). In the event EPA/CARB determine that Defendants have failed to demonstrate in the applicable proposal that a Proposed Emissions Modification for Generation 2.1, Generation 2.2 SUV, or Generation 2 PC will result in Modified Vehicles that comply with Tier 2, Bin 5 and LEV2/ULEV or meet the other requirements for approval pursuant to Section V of this Appendix B, then, as further specified in Appendix A to the Consent Decree, Defendants must offer a Buyback for each Eligible 3.0 Liter Vehicle within the relevant Test Group. For any Emissions Modification Proposal that fails to demonstrate that Modified Vehicles comply with Tier 2, Bin 5 and LEV2/ULEV, the Modified Vehicles must comply with the applicable Maximum Emissions Modification Limits of this Appendix B.
- v. For each Generation, Defendants must demonstrate that Modified Vehicles comply with the applicable emissions standard or limitations by submitting the applicable Proposed Emissions Modification, including all results from the Required Emissions Test Procedures, and including all applicable data generated during any preconditioning cycles. Defendants must also submit all data from the Emission Control System Data Parameters recorded during the Required Emissions Test Procedures, and during any preconditioning cycles. Modified Vehicles must have the same Calibration as the test vehicles used to make this demonstration. For all Generations, Modified Vehicles must operate with the same transmission performance (including warm up) on the road and the dynamometer. Defendants must demonstrate that acceleration sensor malfunctions and any other sensors that are used directly or indirectly as part of the transmission warm up strategy will either (1) be monitored by the OBD system as required by Cal. Code. Regs. tit. 13, § 1968.2 or (2) do not affect the transmission warm up strategy and control strategies outside of transmission warm up conditions, either directly or indirectly, when the sensor is malfunctioning.
- vi. Preconditioning cycles are subject to prior authorization by EPA/CARB. At least thirty (30) Days prior to running the Required Emissions Test Procedures, Defendants must submit for EPA/CARB review and approval a description of any proposed preconditioning cycles. Notwithstanding the approval by EPA/CARB of any preconditioning cycle, EPA/CARB may conduct emissions tests, and Defendants’ vehicles are subject to applicable emissions limits, without such preconditioning measures. For purposes of this Appendix B, EPA/CARB have approved the following additional preconditioning measures: (1) an on-road regeneration if the DPF soot load is greater than 22 grams for SUVs, or greater than 19 grams for

Passenger Cars; and (2) for high altitude testing only, up to three FTP-72 test cycles separated by one hour soak times.

- vii. For all emissions testing, Defendants must ensure that aging factors that adjust for aging by mechanisms other than mileage (e.g., temperature based aging) are representative of the equivalent mileage for which the vehicle is being tested.

3.1.2 Quantifiable Reduction in NOx. For any Proposed Emissions Modification that does not result in compliance with Tier 2, Bin 5 and LEV 2/ULEV, Defendants must demonstrate that the vehicles meet the Maximum Emissions Modification Limits and that the Proposed Emissions Modification results in a quantifiable reduction in NOx emissions over the Required Emissions Test Procedures, based on the results of the Required Emissions Test Procedures, and in A-to-B comparisons run on the applicable A-to-B Emissions Demonstration Vehicle for each of the Required Emissions Test Procedures that compare “Condition A” vehicles with “Condition B” vehicles as follows: Condition A vehicles are test vehicles with the Master Series Calibration installed and purposefully modified to represent on road emissions. At a minimum, this includes executing the procedure submitted by Defendants to EPA/CARB on November 28, 2016, or an alternative proposal approved by EPA and CARB. The Emission Control System Data Parameters must be recorded during the A-to-B comparison tests required under this subparagraph. Defendants must submit with each applicable Emissions Modification, a detailed description of the procedure that was executed when conducting the Condition A portion of these tests, including the Emission Control System Data Parameters, and, within ten (10) Days of EPA/CARB’s request, provide any software and other devices not within EPA/CARB’s reasonable possession, so that EPA/CARB are able to replicate Condition A. Condition B vehicles are the same test vehicles with the applicable Proposed Emissions Modification installed.

3.1.3 Emissions Durability Requirement. Modified Vehicles in each Generation must comply with the applicable emissions standard or limitation for such Test Group until the vehicle accumulates 120,000 miles. Defendants must demonstrate compliance with such durability requirement by submitting in-use durability test results in accordance with Section VI of this Appendix B (In-use Compliance Assurance for Modified Vehicles).

3.1.4 AECD Disclosure Requirement and Defeat Device, Unapproved AECD, and Previously Noncompliant Calibration Prohibition. Defendants must fully disclose all previously undisclosed AECDs. Defendants also must, as applicable, remove, or modify to make compliant, all Defeat Devices, unapproved AECDs, and previously noncompliant Calibrations, from each and every electronic control module on each and every Modified Vehicle. The requirements of this subparagraph 3.1.4 apply to, at least, but are not limited to the following functions, whether or not they constitute an AECD: the Temperature Conditioning Mode, Transmission Warmup Mode, Adaptive Dosing to Prevent Deposits, and the Hydrocarbon Poisoning SCR Catalyst Calibrations. Defendants must also provide evidence, as described in subparagraphs 4.3.6, 4.3.14, and 4.3.16, and

as may be additionally requested by EPA/CARB, to EPA and CARB that demonstrates that no electronic control module on the Modified Vehicles contains a Defeat Device or undisclosed AECD, and the Modified Vehicles do not otherwise have Defeat Devices or undisclosed AECDs.

3.1.5 General OBD Requirements. Modified Vehicles must comply with the OBD requirements, including the regulatory protocol, process, and test requirements, set forth in Cal. Code Regs. tit. 13, § 1968.2 (2013), except for any applicable permitted OBD noncompliances approved by EPA/CARB in accordance with this Appendix B, and except that (1) allowances for permitted OBD noncompliances set forth in this Appendix B shall apply instead of the deficiency provisions for OBD noncompliances in Cal. Code Regs. tit 13, § 1968.2(k) (2013); (2) test vehicle aging for monitoring system demonstration testing shall be conducted based on the provisions set forth in this Appendix B instead of Cal. Code Regs. tit. 13, § 1968.2(h)(2.3) (2013); and (3) the required demonstration tests shall be conducted based on this Appendix B instead of Cal. Code Regs. tit. 13, § 1968.2(h)(4) (2013). Other than as set forth in this Appendix B, the requirements under Cal. Code Regs. tit. 13, § 1968.2 related to OBD requirements for the corresponding model years shall apply to the respective Generations.

3.1.6 Permissible OBD Noncompliances. The permissible noncompliances applicable to each Generation are identified in Appendix B-2 and further described in the list submitted by Defendants to EPA/CARB on November 28, 2016 (together, the “Permissible OBD Noncompliances List”). In any Emissions Modification Proposal, Defendants may propose for EPA/CARB approval permitted OBD noncompliances in accordance with this Appendix B. Except as specified herein, each proposed permitted noncompliance must be drawn from the noncompliances specified in the Permissible OBD Noncompliances List applicable to each Generation, up to the total number allowed under subparagraph 3.1.8. If Defendants propose to use fewer than the total number of allowed noncompliances specified herein, Defendants may propose for EPA/CARB approval additional noncompliances within the limitations specified below (“Alternate Noncompliances”).

3.1.7 Alternate OBD Noncompliances. If Defendants reach the maximum number of permitted noncompliances with noncompliances specified in the applicable Permissible OBD Noncompliances List, no Alternate Noncompliances shall be allowed. If Defendants demonstrate that the number of noncompliances specified in the Permissible OBD Noncompliances List is less than the maximum number allowed, Defendants may propose for EPA/CARB approval the substitution of an Alternate Noncompliance for each permissible noncompliance not needed, up to the number allowed. For Alternate Noncompliances, Defendants may propose OBD noncompliances that are not listed in the Permissible OBD Noncompliances List, provided that (1) no monitor that fails to demonstrate compliance within the regulatory OBD emission threshold will be approved; (2) no OBD deficiency or noncompliance that would trigger a recall under the OBD regulation, Cal. Code Reg. tit. 13, § 1968.5, will be approved; and

(3) Defendants must submit such a proposal no later than the submission deadline for the Final OBD Demonstration.

3.1.8 The number of permitted noncompliances and Alternate Noncompliances applicable to each Generation follows.

- i. Generation 1.1: No more than a total of twenty-five (25) noncompliances shall be allowed, including five (5) carry-over noncompliances from the certification of the Master Series Calibration. If applicable, Defendants may propose up to four (4) Alternate Noncompliances.
- ii. Generation 1.2: No more than a total of eighteen (18) noncompliances shall be allowed, including two (2) carry-over noncompliances from the certification of the Master Series Calibration. If applicable, Defendants may propose up to four (4) Alternate Noncompliances.
- iii. Generation 2.1, Generation 2.2 SUV, and Generation 2 PC: No more than a total of sixteen (16) permitted noncompliances shall be allowed. If applicable, Defendants may propose up to four (4) Alternate Noncompliances.

3.1.9 Additional Warranty Extensions. If Defendants are unable to comply with the OBD requirements in subparagraphs 3.1.6 – 3.1.8 of this Appendix B, Defendants may propose and EPA/CARB may approve an increase in the number of permitted OBD noncompliances, provided that: (1) no monitor that fails to demonstrate compliance within the regulatory OBD threshold will be approved; (2) no OBD noncompliance that would trigger a recall under the OBD regulation will be approved; (3) Defendants must submit such a proposal no later than the applicable deadline for the Final OBD Demonstration; and (4) for each additional permitted OBD noncompliance, Defendants must extend by 6 months and 6,000 miles the Extended Emissions Warranty periods specified in subparagraph 3.9.3 (“Additional Warranty Extensions”). If such Additional Warranty Extension is approved after Defendants issued an Emissions Modification Disclosure pursuant to an Approved Emissions Modification, Defendants must issue an Additional Warranty Disclosure to Eligible Owners and Eligible Lessees, and include the Additional Warranty Extension in the Emissions Modification Database, pursuant to the disclosure requirements of this Appendix B, and the applicable notice requirements of Appendix A.

3.1.10 Critical OBD Demonstrations. For purposes of demonstrating in an Emissions Modification Proposal that Modified Vehicles meet the General OBD Requirements described in subparagraph 3.1.5, Defendants must conduct Critical OBD Demonstration testing on the Critical OBD Demonstration Vehicles for each Generation, aged to (a) 75% of the equivalent of Full Useful Life on the Customized SRC, and pursuant to 40 C.F.R. § 86.1823-08, or (b) for Generation 2 SUV, the mileage accumulated on the OBD Demonstration Vehicles must be no less than 70,000 miles; provided, however, that Defendants must also complete Final OBD Demonstrations in

accordance with subparagraph 3.1.11 of this Appendix B. To obtain EPA/CARB approval to sell or lease vehicles, Defendants must conduct the Critical OBD Demonstration testing, as further specified in subparagraph 7.2.2. For purposes of Critical OBD Demonstrations, pursuant to this subparagraph 3.1.10 and Final OBD Demonstrations, pursuant to subparagraph 3.1.11, the following vehicles shall be tested: GEN 1.1 SUV, LDT3 configuration; GEN 1.2 SUV, LDT3 configuration; GEN 2 SUV; and GEN 2 PC (PC Configuration). Additionally, for the GEN 2.1 Audi Q7 vehicle, the DEF dosing delivery performance monitor shall be demonstrated as this vehicle has a unique dosing system.

3.1.11 Final OBD Demonstrations. After approval of a Proposed Emissions Modification, and for each Generation, Defendants must also demonstrate compliance with applicable OBD requirements by completing Final OBD Demonstration testing on the applicable OBD Demonstration Vehicles. To complete the Final OBD Demonstration, Defendants must continue the Critical OBD Demonstration using the same Durability Demonstration Vehicle(s) for each Generation, as specified in Appendix B-3, aged to the equivalent of Full Useful Life on the Customized SRC. Except as otherwise provided in this Appendix B, Engineering Durability Data vehicles may not be used for Final OBD Demonstration testing. Defendants must complete Final OBD Demonstration testing no later than August 10, 2018, for Generation 1.1 and Generation 1.2 vehicles; March 16, 2018, for Generation 2 SUV vehicles; and July 20, 2018, for Generation 2 Passenger Cars. Defendants may not use oven-aged parts to represent Full Useful Life aging during Final OBD Demonstration testing. Relaxed soak times (8-hour minimum to 60-hour maximum) may only be used for Final OBD demonstration testing; provided that EPA/CARB may use soak times described in the official test procedures during confirmatory and/or enforcement testing. Defendants must supply all results of the Final OBD Demonstration tests for each Generation to EPA and CARB upon completion of such tests. If the Final OBD Demonstration indicates additional OBD noncompliances that were not described in the applicable Proposed Emissions Modification, Defendants may propose to use Alternate Noncompliances, if applicable under subparagraph 3.1.7, or to extend the Emissions Modification Warranty in accordance with subparagraph 3.1.9. For any OBD noncompliance discovered in use or during the Final OBD Demonstration that is not permitted under this Appendix B (as a Permitted Noncompliance, or an Alternate Noncompliance, or for which Defendants offer an Additional Warranty Extension), Defendants must pay a Stipulated Penalty pursuant to subparagraph 8.2.8 of this Appendix B. Defendants must certify the Final OBD Demonstration test results in

accordance with subparagraph 4.3.18 of this Appendix B. With respect to the test vehicle for Final OBD Demonstration testing, Defendants must:

- i. Test vehicles that meet the mileage and other requirements described in subparagraph 4.3.2(i).
- ii. Upon request by EPA/CARB, for each Generation, provide a vehicle and all test equipment (e.g., malfunction simulators, deteriorated components, etc.) necessary to duplicate the Defendants' tests.

3.1.12 Fuel Economy and Emissions Impacts. Defendants must measure, and provide to EPA and CARB, the fuel economy and emissions impacts of the Proposed Emissions Modification by using the FTP, US06, SC03, HWFET, and 20° F and 50° F FTP test cycles, based on A-to-B testing on the applicable A-to-B Fuel Economy Demonstration Vehicles that compares "Condition A" vehicles with "Condition B" vehicles as follows: Condition A vehicles are test vehicles with the Master Series Calibration installed and purposefully modified to represent on road emissions. At a minimum, this includes executing the procedure submitted by Defendants to EPA/CARB on November 28, 2016, or an alternative procedure subject to EPA/CARB approval. The Emission Control System Data Parameters must be recorded during all A-to-B comparison tests required under this subparagraph. Defendants must submit with each applicable Emissions Modification, a detailed description of the procedure that was executed when conducting the Condition A portion of these tests, including the Emission Control System Data Parameters, and, within ten (10) Days of EPA/CARB's request, provide any software and other devices not within EPA/CARB's reasonable possession, so that EPA/CARB are able to replicate Condition A. Condition B vehicles are test vehicles to which Defendants have applied the Proposed Emissions Modification. This comparison testing must be conducted on the same vehicle, and using the same testing parameters that could affect emissions, including but not limited to fuel. Defendants must conduct such test cycles on the A-to-B Emission and A-to-B Fuel Economy Demonstration Vehicles. The comparisons may be conducted in "D" mode. Defendants must provide all emissions and fuel consumption data for all cycles for the tests described in this subparagraph. Fuel economy must be calculated according to the vehicle specific five-cycle methodology described in 40 C.F.R. Part 600. Additionally, new fuel economy label values must be calculated based on the Proposed Emissions Modification. These fuel economy label values may be determined by applying a percentage difference between the fuel economy of the test vehicles for each Generation tested in Condition B above and the fuel economy of the same vehicle tested under Condition C, which is the Master Series Calibration as originally produced. The fuel economy label values will be calculated for each model type by applying the B-to-C percentage difference to all fuel economy test data used to determine the original fuel economy label values for all vehicles for such model type, unless Defendants choose to provide specific measurements for specific vehicle types.

- i. If the Defendants choose to utilize the percent difference from the B-to-C testing to determine the fuel economy label values, the Defendants must

make a reasonable attempt to provide to EPA and CARB a vehicle from the same configuration or sub-configuration, and for Generation 2 PC and Generation 2 SUV, with mileage that is within 4,000 miles of the mileage accumulated on the vehicle used to make the comparison. For Generation 1.1 and Generation 1.2, Defendants must provide a vehicle pursuant to section 3.1.14 within 10,000 miles of the mileage accumulated on the vehicle used to make the comparison. Such vehicle(s) submitted pursuant to this subparagraph shall be counted as test vehicles submitted to EPA/CARB pursuant to subparagraph 3.1.14.

- ii. As an alternative, Defendants have the option of providing to EPA/CARB the vehicle used to make this B-to-C comparison.

3.1.13 Labeling Requirements. Defendants must permanently affix the labels described in this subparagraph 3.1.13, and in the form approved by EPA/CARB, to each and every Modified Vehicle. Such labels must (1) not cover any previously affixed labels; (2) inform potential vehicle purchasers and potential Lessees that the vehicle has received the applicable Approved Emissions Modification, in accordance with this Appendix B; (3) clearly specify, in the form and manner required for the applicable labels, the applicable emissions standard, and the fuel economy rating of the Modified Vehicle; and (4) identify all emission control components installed in accordance with the applicable Approved Emissions Modification. The form of, information contained in, and application of the labels must conform with the Vehicle Emissions Compliance Information (“VECI”) label required under 40 C.F.R. § 86.1807-01, the recall label required under 40 C.F.R. Part 85, Subpart S, and the current EPA fuel economy label. Defendants may provide the required fuel economy information to Eligible Owners and Eligible Lessees that elect the Emissions Modification in a notice printed on paper, provided that the Defendants provide such notice upon returning the Modified Vehicle to such Owners and Lessees. For each Modified Vehicle offered for sale or lease by Defendants or Dealers, a temporary Monroney fuel economy label must be affixed by Defendants or Dealers on the window of such Modified Vehicle.

3.1.14 Test Vehicles Submittal. Defendants must, within 10 Days of submitting a Proposed Emissions Modification, provide EPA and CARB with the applicable test vehicles for each Proposed Emissions Modification, as follows: four test vehicles from each of the following Generations: Generation 1.1, Generation 1.2, and Generation 2 PC; and two test vehicles from each of the following Generations: Generation 2.1 and Generation 2.2 SUV; for a total of sixteen (16) vehicles. EPA and CARB will notify Defendants of the place for delivery for each vehicle, and whether such vehicles should have the Master Series Calibration or the final Calibration under the applicable Proposed Emissions Modification installed. If test vehicles are delivered with the Master Series Calibration installed, subsequently, and within 5 Days of EPA/CARB’s request, Defendants must install on such vehicles the final Calibration under the applicable Proposed Emissions Modification. EPA/CARB will maintain such test vehicles for the purpose of (1) evaluating the Proposed Emissions Modification to determine whether such vehicles meet the requirements of this Appendix B, and (2) conducting in-use

compliance testing after approval. If Defendants deliver such test vehicles after 10 Days following submission of any proposal, the EPA/CARB expected response dates shall be extended by the length of delay in delivery, beginning from the date the proposal was submitted. Upon delivering Modified Vehicles for testing purposes, and upon modifying unmodified test vehicles as described above, Defendants must certify, in accordance with the certification requirements of subparagraph 4.3.18 of this Appendix B, that each such test vehicle provided to EPA and CARB has the same Calibration as Eligible Vehicles will receive with the applicable Proposed Emissions Modification.

3.1.15 Limited Export of Vehicles for Testing Purposes. Subject to prior authorization by EPA, Defendants may export a reasonable number of Subject 3.0 Liter Vehicles for testing purposes only. Prior to exporting such vehicles, Defendants must inform EPA of the configuration, VIN number, and mileage of such vehicles for tracking purposes. Subject to prior authorization by EPA, vehicles exported pursuant to this subparagraph may be reimported and delivered to EPA for testing purposes only. Nothing in this subparagraph shall affect Defendants' obligations to comply with other applicable export, import, customs, or other law, including under 40 C.F.R. §§ 85.1709 and 85.1511 with respect to export or reimport of such vehicles. In no event may any such vehicles be sold, leased, or transferred to any other party, or used on public roads except for purposes related to testing. Exporting any such vehicles shall have no impact on the Generation 1.x Recall Rate or the Generation 2.x Recall Rate, as those terms are defined in Appendix A to this Consent Decree.

3.1.16 Test Vehicle Criteria. With respect to the vehicle used for Official Durability Demonstration, in the event parts that are not part of the emission control system, or are not covered by the Extended Emissions Warranty described in Paragraph 3.9, break down, the parties will meet and confer and, subject to EPA/CARB approval, Defendants may replace such failed parts with parts from an Engineering Durability Vehicle, in accordance with the requirements of 40 C.F.R. § 86.1834-01. If during the durability testing, the Defendants determine that an emission control system has a catastrophic failure, then the Official Durability Demonstration must be restarted or, subject to EPA/CARB approval, may be completed on the respective Backup Durability Demonstration Vehicles, as specified in Appendix B-3. In the event of catastrophic failure, and prior to completing the demonstration on a Backup DDV, Defendants must submit to EPA/CARB a proposal for the agencies to review and approve or disapprove. Such proposal must describe the catastrophic failure event and explain the justification for using a Backup DDV in place of the DDV. Aging procedures for, and emissions tests of, Backup Durability Demonstration Vehicles are to be run concurrently with the respective DDVs and must be of the same generation, model, and meet similar mileage requirements and other characteristics as the respective test vehicle identified in Appendix B-3. Defendants will age the Backup DDV in accordance with 40 C.F.R. § 86.1823-08(c)(1)(i), provided, however, that Defendants may not age the Backup DDV on the engine dynamometer.

3.1.17 Emissions Modification Database. Defendants must make available online a searchable database, as defined in Paragraph 2.29, that includes all Subject 3.0 Liter

Vehicles, by which users, including Eligible Owners, Eligible Lessees, and prospective purchasers, may conduct a free-of-charge search by vehicle VIN to determine if an Emissions Modification is available for such vehicle. The website must display the Approved Emissions Modification disclosure and Approved Extended Emissions Warranty, including any Additional Warranty Extension under subparagraph 3.1.9, applicable to a specific vehicle when a user inputs the vehicle VIN.

3.1.18 Emissions Modification Disclosure. Defendants must disseminate the approved Emissions Modification Disclosure (1) within 15 Days of approval of each Proposed Emissions Modification, by mailing the Disclosure to each Eligible Owner and each Eligible Lessee and (2) within 2 business days of approval of each Proposed Emissions Modification, by posting and maintaining the applicable Disclosure on the webpage for each 3.0 Liter Subject Vehicle within the Emissions Modification Database.

3.2 Additional Requirements for Generation 1.1 3.0 Liter Subject Vehicles: In addition to the requirements of Paragraph 3.1, each Proposed Emissions Modification for any Generation 1.1 3.0 Liter Subject Vehicle must also:

3.2.1 Require the installation of two new Cylinder Pressure Sensors.

3.2.2 Comply with the OBD requirements under Cal. Code Regs. tit. 13, § 1968.2 (2013), except for the applicable permitted noncompliances specified in the Permitted Noncompliances Table and as set forth under this Appendix B.

3.3 Additional Requirements for Generation 1.2 3.0 Liter Subject Vehicles: In addition to the requirements of Paragraph 3.1, each Proposed Emissions Modification for any Generation 1.2 3.0 Liter Subject Vehicle must also:

3.3.1 Require the installation of two new Cylinder Pressure Sensors, a NOx Sensor (for model year 2011 only), and SCR catalyst DF500B, including a turbine mixer and DEF dosing valve, as proposed by Defendants to EPA and CARB on September 9, 2016.

3.3.2 Comply with the OBD requirements under Cal. Code Regs. tit. 13, § 1968.2 (2013), except for the applicable permitted noncompliances specified in the Permitted Noncompliances Table and as set forth in this Appendix B.

3.4 Additional Requirements for Generation 2.1 3.0 Liter Subject Vehicles: In addition to the requirements of Paragraph 3.1, each Proposed Emissions Modification for a Generation 2.1 3.0 Liter Subject Vehicle must also:

3.4.1 Require the installation of the SCR catalyst DF500B, including a turbine mixer and DEF dosing valve, on all Q7 model years within Generation 2.1. Require the installation of an updated Cylinder Pressure Sensor for all model year 2013-2014 vehicles. Require the installation of the SCR catalyst DF500B, including a turbine mixer and DEF dosing valve, on all Cayenne and Touareg model years within Generation 2.1. Require the replacement of a PM Sensor on all GEN 2.1 vehicles.

3.4.2 Comply with the OBD requirements under Cal. Code Regs. tit. 13, § 1968.2 (2013), except for the permitted noncompliances specified in the Permitted Noncompliances Table and as set forth under this Appendix B.

3.5 Additional Requirements for Generation 2.2 SUV 3.0 Liter Subject Vehicles:

In addition to the requirements of Paragraph 3.1, each Proposed Emissions Modification for a Generation 2.2 SUV 3.0 Liter Subject Vehicle must also:

3.5.1 Comply with the OBD requirements under Cal. Code Regs. tit. 13, § 1968.2 (2013), except for the permitted noncompliances set forth in the Permitted Noncompliances Table and as set forth under this Appendix B.

3.6 Additional Requirements for Generation 2 Passenger Car 3.0 Liter Subject Vehicles:

Vehicles: In addition to the requirements of Paragraph 3.1, each Proposed Emissions Modification for a Generation 2 PC 3.0 Liter Subject Vehicle must also:

3.6.1 Require the installation of a new Lambda Sensor for all model year vehicles within Generation 2 PC, and a new Cylinder Pressure Sensor for model year 2014 vehicles only.

3.6.2 Comply with the OBD requirements under Cal. Code Regs. tit. 13, § 1968.2 (2013), except for the applicable noncompliances specified in the Permitted Noncompliances Table and as set forth in this Appendix B.

3.7 Continued Compliance: Except as otherwise stated in this Appendix B, and as if the vehicles were originally certified to the applicable emissions standard required under any Approved Emissions Modification, if tested at any mileage or time during the useful life of the vehicles, Modified Vehicle test groups remain subject to, and Defendants must comply with: (1) all EPA and CARB requirements for in-use testing under 40 C.F.R. Part 86, Subpart S, and Cal. Code Regs. tit. 13, §§ 2111-2140; (2) OBD enforcement pursuant to Cal. Code Regs. tit. 13, § 1968.5; (3) federal defect reporting requirements under 40 C.F.R. Part 85, Subpart T; and (4) California Emissions Warranty and Information Reporting requirements under Cal. Code Regs. tit. 13, §§ 2141-2146. As stated in Section VIII of this Appendix B (Stipulated Penalties and Other Stipulated Remedies for Noncompliance), EPA and CARB reserve all rights and authorities to impose consequences if Defendants fail to comply with these testing and reporting requirements, including if such testing demonstrates that the Modified Vehicles exceed the applicable emissions standard, Maximum Emissions Modification Limits, or the OBD noncompliances set forth in and approved pursuant to this Appendix B. For OBD in-use compliance measurements, no add-ons are granted.

3.8 Costs: Defendants must incur and satisfy the costs associated with each Approved Emissions Modification, as specified in Appendix A.

3.9 Warranty: Defendants must provide an Emission Control System and an Engine Long Block warranty (collectively, the “Extended Emissions Warranty”) for each Subject 3.0 Liter Vehicle receiving an Approved Emissions Modification. The Extended Emissions

Warranty shall cover all parts and labor, as well as the cost or provision of a loaner vehicle for warranty service lasting longer than 3 hours. Defendants must not impose on consumers any fees or charges, and must pay any fees or charges imposed by its dealers related to the warranty service. The Extended Emissions Warranty shall provide warranty coverage as follows.

3.9.1 The Emission Control System warranty must cover the entire emission control system including (1) all components that are replaced, repaired, installed, upgraded, or otherwise modified as part of the Approved Emissions Modification; (2) all components listed in subparagraphs 3.9.1 and 3.9.2; (3) and any other component that can reasonably be impacted by effects of the Approved Emissions Modification. The Emission Control System warranty must cover, at a minimum, the following parts:

- i. The entire exhaust aftertreatment system including the DOC, the DPF, the SCR catalyst, the dosing injector and other DEF system components, all sensors and actuators, and any exhaust flap;
- ii. The entire fuel system, including the fuel pumps, high pressure common rail, fuel injectors, and all sensors and actuators;
- iii. The EGR system including the EGR valve, EGR bypass valve, EGR cooler, EGR filter, all related hoses and pipes, and all sensors and actuators;
- iv. The turbocharger system including all related hoses and pipes, all sensors and actuators;
- v. The OBD System and any malfunctions detected by the OBD systems; and
- vi. The ECU and the TCU.

3.9.2 The Engine Long Block warranty must cover the engine sub-assembly that consists of the assembled block, crankshaft, cylinder head, camshaft, and valve train.

3.9.3 The warranty period for the Extended Emissions Warranty shall be the greater of:

- i. 10 years or 120,000 actual miles whichever comes first; and
- ii. 4 years or 48,000 miles, whichever comes first, from date and mileage of implementing the Emissions Modification, except for vehicles offered for resale, in which case, from the date and mileage of the first resale transaction after the modification to the first person who in good faith purchases the vehicle for purposes other than resale.

3.9.4 Defendants must make available online a searchable database that includes all 3.0 Liter Subject Vehicles, by which users, including Eligible Owners, Eligible

Lessees, and prospective purchasers, may conduct a free-of-charge search by vehicle VIN to determine whether the Extended Emissions Warranty, and any Additional Warranty Extension, applies to a specific vehicle. To satisfy this requirement, Defendants may include a webpage that meets these specifications on the Emissions Modification Database, pursuant to subparagraph 3.1.17. Upon the modification of each and every Modified Vehicle, Defendants must identify whether such vehicle is covered by the Extended Emissions Warranty by displaying the applicable warranty disclosure statements when a user enters the VIN. Defendants must provide the VINs for all such vehicles to EPA/CARB within fifteen (15) Days of EPA/CARB's request.

3.9.5 Defendants must also maintain a database that includes all 3.0 Liter Subject Vehicles, by which Dealers shall search by vehicle VIN to determine whether the Extended Emissions Warranty applies to a specific 3.0 Liter Subject Vehicle. Defendants shall establish procedures such that the vehicle VIN shall dictate component or system coverage described in the approved Extended Emissions Warranty Component List. Such procedures shall include a feature on the database by which Dealers shall enter the identification number for any part pertaining to a Modified Vehicle and the database shall inform all Dealers whether such part is covered by the Extended Emissions Warranty, in accordance with the approved Extended Emissions Warranty Component List. Defendants must maintain the Extended Emissions Warranty Component List and the Dealer database to ensure current part identification numbers are listed. In no event shall warranty coverage be subject to service writers' discretion.

3.9.6 The Extended Emissions Warranty is associated with the car, and remains available to any and all subsequent owners and operators.

3.9.7 The Extended Emissions Warranty shall not supersede or void any outstanding warranty. To the extent there is a conflict in any provision(s) of this warranty and any outstanding warranty, that conflict shall be resolved to the benefit of the consumer.

3.9.8 The Extended Emissions Warranty shall not modify, limit, or affect any state, local or federal legal rights available to the owners.

3.9.9 The Lemon Law Provisions and other warranty provisions set forth in Appendix A shall apply.

3.9.10 Any waiver of any provision of the Extended Emissions Warranty by an owner is null and void.

3.9.11 For Eligible Owners and Eligible Lessees who decline to receive the Emissions Modification for an Eligible Vehicle, Defendants must continue to service such Eligible Vehicle in accordance with existing applicable warranty provisions, provided that if service of the ECU is needed, in no event may Defendants install the Master Series Calibration. Such requirements, and the potential effect on Eligible Owners

and Eligible Lessees must be clearly described in the Emissions Modification Disclosure Statement under subparagraph 4.3.10.

IV. EMISSIONS MODIFICATION PROPOSAL REQUIREMENTS

4.1 Defendants may submit to EPA and CARB, for any Test Group or combination of Test Groups of the 3.0 Liter Subject Vehicles, an Emissions Modification Proposal according to the schedule and requirements specified in this Section IV. In addition to the requirements specified herein, the Emissions Modification Proposal must contain all the elements of an Ordered Recall Plan/Remedial Plan, pursuant to 40 C.F.R. Part 85, Subpart S and Cal. Code Regs., tit. 13, § 2125. EPA/CARB will not approve an Emissions Modification Proposal unless and until Defendants have provided in a Submission or Submissions all materials required under Section IV of this Appendix B to EPA/CARB.

4.2 Each Emissions Modification Proposal must be submitted by Defendants to EPA and CARB on or before the dates and as specified in the chart below. EPA/CARB will use the agencies' best efforts to either approve or disapprove each complete proposal (as detailed herein) within 45 Days of the actual Submission. To facilitate an expeditious review and approval process, Defendants may submit data and Emissions Modifications Proposals at any time before the deadlines below. Regardless of the time of Submission, no Approval can be made until after the Effective Date of the Consent Decree. If any of the Final Submittal Deadlines below expire prior to the Date of Entry, such deadlines will be extended to fourteen (14) Days beyond the Date of Entry.

Generation	Defendants' Expected Submittal Date	Defendants' Final Submittal Deadline
1.1	August 25, 2017	November 10, 2017
1.2	August 25, 2017	November 10, 2017
2.1	February 24, 2017	May 12, 2017
2.2 SUV	February 11, 2017	April 25, 2017
2 PC	April 7, 2017	June 23, 2017

4.3 Emissions Modification Proposal, Part A: For any Emissions Modification Proposal, Defendants must submit the following information in a submission clearly marked as

“Proposed Emissions Modification, Part A: [corresponding test group or combination of test groups of 3.0 Liter Subject Vehicles].”

4.3.1 Applicable Required Emissions Performance. Statement specifying the applicable emissions standard or Maximum Emissions Modification Limits, as demonstrated by the Required Emissions Test Procedure results concerning the corresponding vehicles, in accordance with subparagraph 3.1.1, above. For Generation 2.1, Generation 2 PC, and/or Generation 2.2 SUV, Defendants may propose in a single Emissions Modification Proposal to comply with Tier 2/Bin 5 and LEV2/ULEV or, in the alternative, the applicable Maximum Emissions Modification Limits set forth in Appendix B-1 to this Appendix B.

4.3.2 Required Emissions Test Procedures and Data. All emissions data from a vehicle that has been modified pursuant to the Proposed Emissions Modification that demonstrates each of the following:

- i. Compliance to the applicable emissions standard or Maximum Emissions Modification Limits. Defendants must make this demonstration with all data from emissions tests conducted according to the FTP, US06, SC03, and HWY FE, 20° F FTP (no specific compliance limits), and 50° F FTP (no specific compliance limits) test procedures specified in 40 C.F.R. Parts 86 and 600, and the applicable California regulations (the Required Emissions Test Procedures), including the Emission Control System Data Parameters, for all tests, and including any preconditioning tests. The FTP test must be performed at Sea Level and an FTP@1620m must also be performed. Defendants must conduct all tests in driving mode “D.” Consistent with the regulations, EPA/CARB may conduct tests in any driving mode, and noncompliance indicated by such tests may form the basis for disapproval. Defendants may conduct the Required Emissions Test Procedures in regular default mode only, provided that the worst-case configuration is selected (e.g., 4WD-capable vehicles must be tested with the vehicle in 4WD mode), and provided that any compliance tests conducted by EPA/CARB may be conducted in any user-selected mode, as allowed under EPA or CARB regulations. Such demonstration must account for emissions deterioration by conducting the Required Emissions Test Procedures on each Durability Demonstration Vehicle aged to the equivalent of Full Useful Life and must also account for IRAFs, as defined in Paragraph 2.50. For all Generations, a DF shall be calculated according to the requirements of this Appendix B. A DF slope shall be calculated using the incremental increase in NOx based on the delta between the 50K and 120K mile emissions values, and the DF shall be applied based on application of the DF slope to the mileage of the applicable test vehicle for vehicles with the equivalent of less than 120,000 miles. Defendants must conduct emissions demonstrations using only the applicable Durability Demonstration Vehicles and, subject to prior authorization from EPA/CARB, may precondition the test vehicle. Defendants must conduct

the Required Emissions Test Procedures and calculate the DF according to the following specifications:

- a. Generation 1.1 and Generation 1.2: Defendants may conduct the required tests using a vehicle with miles accumulated in-use of less than or greater than 60,000 miles. If less than 60,000, Defendants must age the vehicle with the installed Emissions Modification on the Customized SRC to the equivalent of Full Useful Life. If more than 60,000, Defendants must age the vehicle with the installed Emissions Modification on the Customized SRC for at least the equivalent of 60,000 miles, and treat the resulting mileage as Full Useful Life. For example, if the test vehicle has 50,000 miles, Defendants must install the Emissions Modification and age the vehicle for the equivalent of 70,000 miles, for a total of the equivalent of 120,000 miles. If the vehicle has 80,000 miles, Defendants must install the Emissions Modification and then age the vehicle for the equivalent of 60,000 miles for a total of the equivalent of 140,000 miles that will be treated as the equivalent of 120,000 miles. To generate the DF, Defendants must run emissions tests on the vehicles according to the following intervals: (1) as received, (2) at the Modified baseline, (3) at 30,000 miles, and (4) at 60,000 miles. Before the baseline test, degreening for between 500 and 1000 miles is to be conducted including Preconditioning. As an alternative to the previously-described procedure, Defendants may acquire a Generation 1 vehicle of any mileage and install a new powertrain and exhaust system and age the resulting vehicle to the equivalent of 120,000 miles on the Customized SRC.
- b. Generation 2 SUV and Generation 2 PC Full Useful Life Aging: Defendants must conduct aging to the equivalent of Full Useful Life on the Customized SRC. For purposes of this subparagraph, Defendants procured two GEN 2 SUVs and two GEN 2 PCs with approximately 20,000 customer driven miles and then ran the Customized SRC with an average mileage share of TCM Step 3 of approximately thirty-two (32) percent for approximately 50,000 miles. For the remaining miles to Full Useful Life, Defendants will age the vehicle according to subparagraph 4.3.2(i)(a) using the Customized SRC.
- c. Generation 2 SUV and Generation 2 PC DF Estimates: Defendants must submit a deterioration factor estimate for GEN 2 SUVs based on GEN 2 SUV engineering test vehicle data, subject to EPA/CARB approval. EPA/CARB will use this DF estimate in evaluating the Full Useful Life performance of

GEN 2 SUVs submitted to the agencies for evaluation. Defendants must submit a DF estimate for GEN 2 PCs. To do so, Defendants will further age a GEN 2 SUV to the equivalent of FUL for a GEN 2 PC based on the number of regenerations for GEN 2 PCs set forth in Paragraph 2.22 and submit a DF estimate based on test results for this GEN 2 SUV at FUL and from GEN 2 SUV engineering test vehicle data. EPA/CARB will use this DF estimate in evaluating the Full Useful Life performance of GEN 2 PCs submitted to the agencies for evaluation.

- ii. Fuel economy measured by using the FTP, US06, SC03, HWFET, and 20° F FTP test procedures, based on A-to-B testing for each Generation using the same basic testing conditions, including but not limited to fuel and the test conditions for Condition A testing set forth in subparagraph 3.1.12 of this Appendix B, on the same vehicle that compares Condition A, vehicles with the Master Series Calibration installed and purposefully modified to represent on road emissions in accordance with the specifications of subparagraph 3.1.12 and Condition B, vehicles with the Proposed Emissions Modification installed;
- iii. Fuel economy and emissions test results for all fuel economy data vehicles as required by 40 C.F.R. Part 600 to determine the fuel economy label values of each model type, and the fuel economy label values for each model type as determined by the B-to-C testing set forth in subparagraph 3.1.12 of this Appendix B; and
- iv. All emissions results at 50 degrees Fahrenheit and 20 degrees Fahrenheit over the FTP test cycle (no specific compliance limits).

4.3.3 For formaldehyde emissions, in lieu of test results, Defendants may provide a statement in the Proposed Emissions Modification that the Modified Vehicles comply with the emissions standard for formaldehyde, in accordance with 40 C.F.R. § 86.1829-01(b)(iii)(E).

4.3.4 If Defendants cannot meet the mileage specifications of subparagraph 4.3.2, EPA/CARB may provide approval for any Generation based on Official Durability Data generated by running the applicable test vehicle on the Customized SRC to the equivalent of 75% Full Useful Life; provided, however, that Defendants must also submit projected durability data, to 120,000 miles. For projected durability data to 120,000 miles, Defendants must apply the IRAF, and then apply an upward adjustment of 5% in anticipation of increased emissions deterioration during the second half of useful life. The

procedure for generating the IRAF, as described in Paragraph 2.50 of this Appendix B, must be described in the Emissions Modification Proposal.

4.3.5 Defendants must complete Official Durability Data testing for all Generations no later than the applicable Final Submittal Deadline specified in Paragraph 4.2. Such data must include without limitation:

- i. For each Generation, Defendants must provide all data from all Durability Demonstration tests on the DDVs and the Backup Vehicles that Defendants conducted using preliminary software and Calibration data. Defendants must also provide to EPA and CARB all software and Calibration data changes made during the course of durability testing. All Official Durability Data test results must demonstrate compliance with the applicable emissions standards or Maximum Emissions Modification Limits.
- ii. Defendants must provide EPA and CARB with all Full Useful Life emissions durability testing results at a minimum of 75% of Full Useful Life mileage for each Generation, within 3 weeks of completing such testing, and include any adjustments to DFs observed concerning vehicles that have been modified pursuant to the Approved Emissions Modification. Subsequently, Defendants must complete 100% Full Useful Life emissions durability testing and provide EPA and CARB with all testing results within 3 weeks of completing such testing, including such data demonstrating that the Modified Vehicles remain compliant for 120,000 miles.

4.3.6 A complete and extensively detailed list of each and every AECD and EI-AECD, including descriptions of SCR Inducements, that the Modified Vehicles, including all electronic control modules, will have after receiving the applicable Proposed Emissions Modification. For any AECD that results in a reduction in effectiveness of the Emission Control System, the list must include the rationale for why the AECD is not a Defeat Device. Non-existent EI-AECD counters, as that term is defined in Cal. Code Regs. tit. 13, § 1968.2, will constitute only one noncompliance. No further EI-AECD counters will be requested by EPA/CARB. EPA/CARB will approve only those AECDs that are not Defeat Devices (and that are consistent with EPA and CARB policies and guidelines for approval of AECDs). Defendants must provide a list of all EI-AECD counters existing at the time the Proposed Emissions Modification is submitted.

4.3.7 A description of the procedure for developing the IRAF, as approved by EPA/CARB, for each Generation.

4.3.8 A description of any and all reasonably predictable changes, adverse or otherwise, on vehicle attributes which may reasonably be important to vehicle owners, including: fuel economy, reliability, durability, Noise Vibration and Harshness, vehicle

performance (for example, 0-60 mph time, top speed, etc.), and drivability, including transmission shifting characteristics.

4.3.9 A description of any and all reasonably predictable changes, adverse or otherwise, on aspects of vehicle maintenance which may reasonably be important to vehicle owners, including but not limited to oil changes, EGR cleaning, DEF refill, and DPF replacement.

4.3.10 A draft Emissions Modification Disclosure for EPA/CARB Approval regarding the Proposed Emissions Modification, designed for dissemination to Eligible Owners, Eligible Lessees and, as applicable, prospective purchasers, as required under subparagraph 3.1.18, that describes in plain language:

- i. The Proposed Emissions Modification generally, including but not limited to, if applicable, any increased emissions resulting from the Proposed Emissions Modification relative to the levels contained in the previously issued certificates of conformity for the vehicles;
- ii. All software changes;
- iii. All hardware changes, including but not limited to any and all future recalls associated with the Proposed Emissions Modification, such as any modifications of the OBD system;
- iv. To the extent Defendants elect not to retain original parts associated with the Master Series Calibration for future service of vehicles that have not received an Approved Emissions Modification, Defendants must include in the Emissions Modification Disclosure an explanation in plain language that such parts may not be available after a certain time. Defendants must also describe the potential effect this may have on Eligible Vehicles, including the potential that in the event parts that are no longer available need to be replaced, the ECU associated with an Approved Emissions Modification may need to be installed on the vehicle;
- v. Any and all reasonably predictable changes, resulting from the Proposed Emissions Modification, including the following:
 - a. Reliability, durability, fuel economy, Noise Vibration and Harshness, vehicle performance (for example, 0-60 mph time, top speed, etc.), drivability (including transmission shifting characteristics), and any other vehicle attributes that may reasonably be important to vehicle owners; and
 - b. Oil changes, EGR cleaning, DEF refill, DPF replacement, and any other aspects of vehicle maintenance that may reasonably be important to vehicle owners;

- vi. A basic summary of how Eligible Owners and Eligible Lessees can obtain the Proposed Emissions Modification and the logistics involved in doing so;
- vii. OBD system limitations that make identification and repair of any components difficult or even impossible, compromise warranty coverage, or may reduce the effectiveness of inspection and maintenance program vehicle inspections; and
- viii. Any other disclosures required under Appendix A of the Consent Decree and under this Appendix B.

4.3.11 A draft Extended Emissions Warranty statement in plain language intended for dissemination to Eligible Owners, Eligible Lessees, and, as applicable, prospective purchasers.

4.3.12 A list of all parts, including part identification numbers, covered by the Extended Emissions Warranty (the “Extended Emissions Warranty Parts Coverage List”). Defendants must include in this proposal:

- i. All parts replaced, installed, repaired, upgraded, or otherwise modified as part of the Proposed Emissions Modification;
- ii. All emission control system parts and all engine long block parts;
- iii. All other parts and components which can reasonably be impacted by effects of the Approved Emissions Modification; and
- iv. All parts enumerated in subparagraphs 3.9.1 (i) – (vi) and 3.9.2 of this Appendix B.

4.3.13 Draft labels for EPA/CARB approval, with correct label values for each model type corresponding to the Emissions Modification Proposal, designed to be permanently affixed to each and every Modified Vehicle, as required under subparagraph 3.1.13 of this Appendix B.

4.3.14 For the ECU, the complete software functional description document in the German language, and the table of contents of the functional description document in the English language, the compiled software files (e.g., .HEX Files), and the complete memory map (e.g., .A2L File); for the TCU AL551 transmission, a .HEX file containing data and software code, and an .A2L file containing a description of map addressing and measure points; and for the TCU AL1000 transmission, a .HEX file containing data and software code, and an .A2L file containing a description of map addressing and measure points. For each of the TCU AL551 transmission and the TCU AL1000 transmission, Defendants must also submit a list that identifies all core software functions that are not included in the submission. Such list must also include all descriptive information that is available to Defendants, and include sufficient information for EPA/CARB to identify

and understand which modules and/or software functions have been excluded from the submissions, provided that in the event such information is not in Defendants' possession and Defendants are unable through best efforts to obtain such information from third parties, Defendants must document and submit to EPA/CARB all efforts to obtain such information. Submissions required under this subparagraph must include all such data applicable to the vehicles eligible for modification under the Proposed Emissions Modification before and after application of the Proposed Emissions Modification. Additionally, Defendants must submit a description of any changes to the code functionality on any controller on the vehicle that was for the purpose of removing or modifying to make compliant a Defeat Device, a previously unapproved AECD, or a previously noncompliant Calibration, including a description of all Defeat Devices, previously undisclosed AECDs, previously unapproved AECDs, and previously noncompliant Calibrations in the original software for any computer module that contained a Defeat Device, an undisclosed AECD, a previously unapproved AECD, or previously noncompliant Calibration, and how such software functions were removed or modified to be made compliant and any Calibration changes resulting from the Proposed Emissions Modification. Defendants must provide additional documents, software files, memory maps, and English language translations of excerpts of the functional description document in response to reasonable requests by EPA/CARB.

4.3.15 Repair instructions concerning the Modified Vehicles that Defendants must, upon receiving EPA/CARB's Notice of Approved Emissions Modification, distribute to Dealers, in accordance with Cal. Code Regs. tit. 13, § 1969. Defendants must also provide contemporaneously to EPA and CARB a copy of each communication concerning the Approved Emissions Modification directed at Dealers.

4.3.16 For each Generation, all software analysis by FEV, and any subcontractors of FEV (together, "FEV"), which shall include FEV's analysis of (a) the Master Series Calibration (including analysis of the ECU and the TCU) and (b) the Proposed Emissions Modification Calibrations (including analysis of the ECU and the TCU) (the "Final FEV Analysis"), and (c) all related analysis, emissions test results, reports, and other data created or recorded by FEV to date (the "Underlying Data"). In the event that the Final FEV Analysis is not complete on or before the applicable Final Submission Deadline, Defendants shall provide with the proposal the Underlying Data and the most recent report available from FEV, and must subsequently submit the Underlying Data and the Final FEV Analysis upon completion and no later than November 30, 2017 with respect to the analysis of the ECU, and February 28, 2018 with respect to the analysis of the TCU.

4.3.17 An affidavit from, for proposals concerning Audi and Volkswagen vehicles, a United States Volkswagen Group of America corporate official, a German Volkswagen AG corporate official, and a German AUDI AG corporate official, and for proposals concerning Porsche vehicles, a German Volkswagen AG corporate official, a German AUDI AG corporate official, a United States Porsche corporate official, and a German Porsche AG corporate official certifying, in accordance with Paragraphs 34-36

of the Consent Decree, that once the Emissions Modification is applied, the resulting Modified Vehicle contains no Defeat Devices.

4.3.18 Certification, in accordance with Paragraphs 34-36 of the Consent Decree, with respect to all information contained in the Emissions Modification Proposal.

4.4 Emissions Modification Proposal, Part B: For any Emissions Modification Proposal, Defendants must submit the following information in a submission clearly marked as “Proposed Emissions Modification, Part B: [corresponding test group or combination of test groups of 3.0 Liter Subject Vehicles].”

4.4.1 Statement of OBD Compliance: A statement, if applicable, based on the OBD demonstrations to date, that Defendants believe the OBD system fully complies with the requirements of Cal. Code Regs. tit. 13, § 1968.2.

4.4.2 Statement of OBD Noncompliances: A statement, if applicable, based on the OBD demonstrations to date, that Defendants believe the OBD system does not fully comply with Cal. Code Regs. tit. 13, § 1968. Defendants must specify, and provide a description of, all known and expected OBD noncompliances, including, if applicable, all (1) proposed OBD noncompliances under the Permissible OBD Noncompliance List, (2) proposed Alternate Noncompliances, and (3) all proposed additional OBD noncompliances and associated Additional Warranty Extensions.

4.4.3 For Critical OBD Demonstrations defined in this Appendix B, all data necessary for EPA and CARB to evaluate Defendants’ demonstrations of OBD compliance, using the protocols and processes required under Cal. Code Regs. tit. 13, § 1968.2(h).

4.4.4 A summary table for the Proposed Emissions Modification Calibration, monitoring checklist, descriptions of monitoring strategies that were changed between the original Calibration and the Proposed Emissions Modification Calibration, and testing and reporting as required by Cal. Code Regs. tit. 13, § 1968.2(j)(1) (i.e., verification of standardized requirements on production vehicles).

4.4.5 A list of proposed test vehicles, including VIN, odometer reading, and model year, to be used for purposes of OBD PVE testing, pursuant to Cal. Code Regs., tit. 13, § 1968.2(j)(2)(2.2.2) and (2.2.3), as required under subparagraph 6.1.7 of this Appendix B.

4.5 Emissions Modification Proposal, Part C: For any Emissions Modification Proposal, Defendants must submit the following information in a submission clearly marked as “Proposed Emissions Modification, Part C: [corresponding test group or combination of test groups of 3.0 Liter Subject Vehicles].”

4.5.1 PEMS Test Results. All emission data from PEMS testing on one vehicle from each Generation that has received the Proposed Emissions Modification, and from PEMS A-to-B testing comparing (A) vehicles with the Master Series Calibration with (B)

vehicles with the Proposed Emissions Modification applied. PEMS A-to-B testing is to be conducted using two vehicles of the same Generation, engine type, and body type, with the vehicles chasing each other on the road. PEMS testing must be conducted on one Generation 2.2 SUV vehicle and one Generation 2 PC vehicle that have each received the Proposed Emissions Modification. Defendants must generate these data by testing over the Urban/Downtown Los Angeles Route and the Combined Uphill/Downhill and Highway Route. Defendants must submit all raw data generated by the PEMS testing, including speed, load, and second-by-second emissions data, etc., in a CSV format that can be imported into a spreadsheet or database. From these data, Defendants must calculate average emissions results for NOx, THC, CO, and CO2.

4.5.2 In-use Compliance Test Results. All emissions data from in-use vehicles that have received the applicable Proposed Emissions Modification, including data demonstrating compliance to the applicable emissions standard, over the Required Emissions Test Procedures (FTP, US06, SC03, and HWFET), accounting for IRAFs and DF as measured in the durability runs. For each Proposed Emissions Modification, two in-use vehicles are required. For all Proposed Emissions Modifications for Model Year 2012 and prior years, each in-use vehicle must have between 80,000 – 100,000 miles, accumulated before the vehicle received the applicable Approved Emissions Modification. At a minimum, one of the two in-use vehicles must have accumulated at least 90,000 miles. For all Proposed Emissions Modifications for Model Year 2013 and newer, each Model Year must have accumulated at least 15,000 miles on average per year in use.

V. APPROVAL OR DISAPPROVAL OF PROPOSED EMISSIONS MODIFICATIONS

5.1 EPA/CARB will approve or disapprove each Proposed Emissions Modification according to the schedule and criteria in this Appendix B.

5.1.1 Approve: If EPA/CARB determine that a Proposed Emissions Modification satisfies all requirements herein, then EPA/CARB will timely notify Defendants by letter clearly titled: “Approved Emissions Modification: [corresponding test group or combination of test groups of 3.0 Liter Subject Vehicles],” after which Defendants must implement the Approved Emissions Modification in accordance with the schedules and procedures set forth in Appendix A of the Consent Decree.

5.1.2 Disapprove:

i. Generation 1.1 and 1.2:

- a. If EPA/CARB determine that a Proposed Emissions Modification fails to satisfy any requirement herein, then EPA/CARB will timely notify Defendants by letter clearly titled: “Notice of Disapproval of Proposed Emissions Modification: [corresponding test group or combination of test

groups of 3.0 Liter Subject Vehicles]" that identifies the bases for the disapproval. Within 30 Days of EPA/CARB's letter(s), Defendants may provide a proposed remedy, and within 90 Days of EPA/CARB's letter(s), Defendants may submit one revised Proposed Emissions Modification that must resolve all of EPA/CARB's bases for disapproval. EPA/CARB will then issue either a "Final Notice(s) of Disapproval of Proposed Emissions Modification: [corresponding test group or combination of test groups of 3.0 Liter Subject Vehicles]" or an "Approved Emissions Modification: [corresponding test group or combination of test groups of 3.0 Liter Subject Vehicles]."

- b. Defendants may dispute EPA/CARB's Final Notice(s) of Disapproval of a Proposed Emissions Modification in accordance with the dispute resolution procedures set forth in Section IX of the Consent Decree (Dispute Resolution).

ii. Generation 2.1, Generation 2.2 SUV, Generation 2 PC:

- a. If EPA/CARB determine that a Proposed Emissions Modification fails to satisfy any requirement herein, then EPA/CARB will timely notify Defendants by letter clearly titled: "Notice of Disapproval of Proposed Emissions Modification: [corresponding test group or combination of test groups of 3.0 Liter Subject Vehicles]" that identifies the bases for the disapproval.
- b. If, in a single proposal, Defendants proposed to comply with Tier 2/Bin 5 and LEV 2/ULEV, or, in the alternative, the Maximum Emissions Modification Limits in accordance with subparagraph 4.3.1, and EPA/CARB determine that such proposal fails to demonstrate compliance with Tier 2/Bin 5 and LEV 2/ULEV, but demonstrates compliance with the Maximum Emissions Modification Limits and satisfies all other requirements herein, EPA/CARB will timely notify Defendants by letter clearly titled: "Notice of Disapproval in Part and Approval in Part of Proposed Emissions Modification: [corresponding test group or combination of test groups of 3.0 Liter Subject Vehicles]" that identifies the bases for the disapproval.
- c. Within 30 Days of EPA/CARB's letter(s) described above, Defendants may provide a proposed remedy, and within 90 Days of EPA/CARB's letter(s), Defendants may submit one revised Proposed Emissions Modification that must resolve all

of EPA/CARB's bases for disapproval. EPA/CARB will then issue a "Final Notice(s) of Disapproval of Proposed Emissions Modification: [corresponding test group or combination of test groups of 3.0 Liter Subject Vehicles]," an "Approved Emissions Modification: [corresponding test group or combination of test groups of 3.0 Liter Subject Vehicles]," or a "Final Notice(s) of Disapproval in Part and Approval in Part of Proposed Emissions Modification [corresponding test group or combination of test groups of 3.0 Liter Subject Vehicles]."

- d. Defendants may dispute EPA/CARB's Final Notice(s) of Disapproval of a Proposed Emissions Modification in accordance with the dispute resolution procedures set forth in Section IX of the Consent Decree (Dispute Resolution).

5.1.3 If, in their review, EPA/CARB identify any off-cycle increase or increases in emissions that could potentially be the result of a Defeat Device, then, within 30 Days of notice of the increase or increases by EPA/CARB, Defendants must supplement its Proposed Emissions Modification with a detailed technical explanation of the cause of the increase or increases. EPA/CARB will provide available information to Defendants concerning the increase or increases in emissions. EPA/CARB's response time to approve or disapprove the Proposed Emissions Modification shall be extended to no less than 20 Days from its receipt of Defendants' supplement.

5.1.4 As stated in Section VIII (Stipulated Penalties and Other Stipulated Remedies for Noncompliance), EPA/CARB reserve all rights and authorities to impose consequences in the event the agencies discover a Defeat Device in any Modified Vehicle after either agency approved the corresponding Emissions Modification for that Modified Vehicle.

VI. IN-USE COMPLIANCE ASSURANCE FOR MODIFIED VEHICLES

6.1 In each of the five calendar years following the Effective Date of the Consent Decree, for two vehicles from each of (a) GEN 1.1, (b) GEN 1.2, (c) GEN 2 SUV, and (d) GEN 2 PC on which Defendants have performed an Approved Emissions Modification, Defendants must, no later than October 1 of each year (except as otherwise provided herein):

6.1.1. Notify EPA and CARB 30 Days prior to conducting all in-use testing so that the agencies can arrange to observe the testing.

6.1.2. Use the regulatory in-use compliance vehicle selection process to select vehicles to be tested, as required under 40 C.F.R. § 86.1845-04 and Cal. Code Regs. tit. 13, § 2137, except that vehicles tested may include those that are up to the Full Useful Life in terms of mileage and age, shall be reasonably maintained and may not be excluded solely for lack of maintenance records, multiple owners and/or repairs due to the Emissions Modification. EPA/CARB reserve the right to specify to Defendants the

test group, model, and mileage targets for the two vehicles to be tested, provided that EPA/CARB provide such specifications to Defendants by December 1 of the year preceding the year in which testing will be conducted. Defendants must then randomly select the vehicles within such specifications. Vehicles used for the Final OBD demonstration may not be used to satisfy the requirements of this Section VI (In-Use Compliance Assurance for Modified Vehicles).

6.1.3. Provide EPA and CARB all downloads of all standardized OBD data, in accordance with Cal. Code Regs. tit. 13, § 1968.2, of the tested vehicles. This data shall be collected both pre- and post-testing, on the as-received vehicles.

6.1.4. Generate all emissions data from two in-use Modified Vehicles for each Generation within the Full Useful Life mileage (i.e., 120,000 miles for each Generation) over all required test cycles (FTP, US06, SC03, and HWFET) accounting for Infrequent Regeneration Adjustment Factors, and provide all these data to EPA and CARB. Defendants must complete the tests and provide to EPA and CARB the results, no later than October 1 of each year.

6.1.5. If the test results of any one in-use Modified Vehicle fails the applicable emissions standard for Full Useful Life in high altitude testing, Defendants must formally notify the agencies within 72 hours of the failure. In the event of such failure, Defendants must follow the manufacturer in-use confirmatory testing program, as defined in 40 C.F.R. § 86.1846-01(b). The criteria used for such additional in-use vehicle testing and any additional reporting requirements must be identical to the official regulatory in-use testing and reporting program under 40 C.F.R. § 86.1846-01, except that vehicles selected for additional testing may include vehicles up to the applicable Full Useful Life in terms of mileage and age, shall be reasonably maintained and shall not be excluded solely for such things as lack of maintenance records, multiple owners and/or repairs as a result of the Emissions Modification. As stated in Section VIII (Stipulated Penalties and Other Stipulated Remedies for Noncompliance), EPA and CARB reserve all rights and authorities to impose consequences if a Modified Vehicle fails an applicable emissions standard during the Full Useful Life period.

6.1.6. If the test results of any one in-use Modified Vehicle fails the applicable emissions standard for Full Useful Life in sea level testing, Defendants must formally notify the agencies within 72 hours of the failure. In the event of such failure, Defendants must conduct an In-Use Confirmatory Program. Prior to conducting the In-Use Confirmatory Program, the Defendants must submit a test plan for EPA/CARB review and approval. The criteria used for such additional in-use vehicle testing and any additional reporting requirements must be identical to the official regulatory in-use testing and reporting program under 40 C.F.R. § 86.1846-01, except that vehicles selected for additional testing may include vehicles up to the applicable Full Useful Life in terms of mileage and age, shall be reasonably maintained and shall not be excluded solely for such things as lack of maintenance records, multiple owners and/or repairs as a result of the Emissions Modification. As stated in Section VIII (Stipulated Penalties and Other Stipulated Remedies for Noncompliance), EPA and CARB reserve all rights and

authorities to impose consequences if a Modified Vehicle fails an applicable emissions standard during the Full Useful Life period.

6.1.7. For each Approved Emission Modification, Defendants must perform OBD testing and reporting, in accordance with the requirements of Cal. Code Regs. tit. 13, §§ 1968.2 (j)(2) and (3) (i.e., verification of monitoring requirements on production vehicles, and verification and reporting of in-use monitoring performance on production vehicles, respectively). Pursuant to these regulations, Defendants must complete reporting under Cal. Code Regs. tit. 13, § 1968.2(j)(2) within 180 calendar Days after the first 3.0 Liter Subject Vehicle is modified in accordance with an Approved Emissions Modification, and must complete data collection and reporting required under Cal. Code Regs. tit. 13, § 1968.2(j)(3) within 360 calendar Days after the first 3.0 Liter Subject Vehicle is modified in accordance with the applicable Approved Emissions Modification. In the event this testing demonstrates that any Modified Vehicles do not comply with the applicable OBD requirements, Defendants must submit a remedial plan to EPA and CARB for any such noncompliant Modified Vehicles.

6.1.8. Starting on April 30, 2018, and annually for the following 5 years, Defendants must provide EPA and CARB with a “Report on In-Use Compliance Assurance for Modified Vehicles” that summarizes the testing performed pursuant to this Section in the preceding year. The two vehicles tested under this Section shall be two of the vehicles procured by the Defendants during the Defendants’ compliance with the in-use reporting and compliance requirements in 40 C.F.R. § 86.1845-04 and Cal. Code Regs. tit. 13, § 2137.

6.1.9. Defendants must certify all In-Use Compliance test results required under this Section VI, and submitted to EPA and CARB, in accordance with the certification requirements of Paragraphs 34-36 of the Consent Decree.

VII. ADDITIONAL REQUIREMENTS

7.1 FEV Software Analysis. Defendants shall continue to pay for, provide test vehicles, and otherwise cooperate with FEV’s analysis of the software in the ECU and TCU of the Subject 3.0 Liter Vehicles and Proposed Emissions Modifications specified in subparagraph 4.3.16.

7.2 For all Generations, Defendants may not sell or cause to be sold, resell or cause to be resold, or lease or cause to be leased, any 3.0 Liter Subject Vehicle in Defendants’ possession, or obtained by Defendants in the future, until:

7.2.1. Defendants complete at least the equivalent of 100% Full Useful Life durability testing on an Official Durability Vehicle aged on the Customized SRC, and Defendants provide all data to EPA and CARB;

7.2.2. Defendants complete the Critical OBD Demonstration Testing on a vehicle aged on the Customized SRC to the equivalent of 75% of Full Useful Life, and Defendants provide all data to EPA/CARB;

7.2.3. Defendants remedy any and all OBD noncompliances that are not provided for under this Appendix B and that are known at the time the OBD demonstration required under subparagraph 7.2.2 is completed, and Defendants provide all necessary data and information showing noncompliances reported under subparagraph 7.2.2 are remedied;

7.2.4. Defendants perform an applicable Approved Emissions Modification on any such vehicle and comply with all other requirements applicable to such vehicle under this Appendix B;

7.2.5. Defendants execute all emission-related service actions and repairs required to bring the vehicle into compliance with this Appendix B, apply any and all other recalls concerning the vehicle, and execute any other required service actions;

7.2.6. Defendants submit a Proposed Plan for Sale and Lease of Modified Vehicles, including the materials set forth below:

- i. A statement that the Modified Vehicles comply with the requirements in this Appendix B;
- ii. If the Modified Vehicles do not comply with this Appendix B, a statement of all actions to be undertaken to alter the Emissions Modification to ensure compliance with this Appendix B;
- iii. As necessary, an updated list of OBD noncompliances that were identified during the testing required under subparagraph 7.2.2; and
- iv. Defendants certify the Proposed Plan for Sale and Lease of Modified Vehicles in accordance with the certification requirements set forth in Paragraphs 4.3.17 of this Appendix B;

7.2.7. EPA/CARB approve the Proposed Plan for Sale and Lease of Modified Vehicles. EPA/CARB will respond to the proposal within 14 Days of submittal;

7.2.8. For five years following the Effective Date of this Appendix B, Defendants must submit quarterly reports, certified in accordance with the certification requirements under Paragraphs 34-36 of the Consent Decree, to EPA/CARB to include the following information:

- i. Each vehicle, by VIN, that has been acquired by Defendants, modified with an Approved Emissions Modification (including Modified Vehicles that have been returned to Eligible Owners and Lessors), sold, exported, or destroyed, including the dates of each occurrence; and

ii. By VIN, the repairs and alterations to each 3.0 Liter Subject Vehicle conducted to remedy OBD noncompliances and other defects in the relevant Approved Emissions Modification.

7.3 If the Final OBD Demonstration; Full (or equivalent) Useful Life Durability; testing, data, or reports created or recorded by FEV; or tests by EPA/CARB show that Modified Vehicles do not comply with this Appendix B, or if a substantial number of Modified Vehicles exceed the applicable emissions standards in-use, the Approved Emissions Modification shall be suspended. When an Approved Emissions Modification is suspended, it may not be applied, and no sales, leases, or exports, of relevant Modified Vehicles will be permitted, until such time Defendants correct the defects in the Approved Emissions Modification in accordance with the applicable regulations.

7.4 Defendants must make all disclosures to vehicle owners as required by the Consent Decree and consistent with Appendix A. These requirements are meant to ensure owners are able to make an informed decision about participation in the Emissions Modification and the availability of the Extended Emissions Warranty.

7.5 Defendants must also comply with any additional labeling, disclosure, and warranty requirements set forth in Appendix A.

7.6 Defendants may not terminate the Emissions Modification Program.

VIII. STIPULATED PENALTIES AND OTHER STIPULATED REMEDIES FOR NONCOMPLIANCE

8.1 With respect to Defendants' noncompliance with the provisions of this Appendix B, EPA and CARB reserve all rights to address such noncompliance under applicable laws and regulations, including without limitation, civil, criminal, and administrative enforcement authorities, such as the imposition of penalties and equitable remedies.

8.2 Defendants must pay stipulated penalties to the United States and CARB, and be liable for the following remedies, for each violation of this Appendix B, in accordance with the following paragraphs. Except as otherwise provided herein, 75% of any stipulated penalties due under these subparagraphs shall be paid to the United States, and 25% shall be paid to CARB.

8.2.1. Failure to Disclose AECDs. If, after issuing a Notice of Approved Emissions Modification, EPA/CARB determine that Defendants failed to provide a complete list of each AECD and EI-AECD in the Emissions Modification Proposal that EPA/CARB approved, Defendants must pay to the United States and CARB a stipulated penalty of \$150,000 for each AECD and \$2,000,000 for each EI-AECD not included in the list.

8.2.2. Failure to Comply with Labeling Requirements. If Defendants fail to permanently affix a label to any 3.0 Liter Subject Vehicle, as required under subparagraph 3.1.13 before such vehicle is sold, leased, offered for sale or lease, otherwise introduced into commerce, or returned to the Eligible Owner or Eligible

Lessee, or if the information included in any label is incorrect, Defendants must pay to the United States and CARB a stipulated penalty of \$15 per label, per vehicle, and for each Day that Defendants fail to apply the required label, provided that if Defendants affix the label within 30 Days of selling or leasing the vehicle or returning the vehicle to the Eligible Owner or Lessee, no stipulated penalty shall be required for that vehicle.

8.2.3. Failure to Perform Emissions Modification. If Defendants sell or lease, offer for sale or lease, or otherwise introduce into commerce, or return to an Eligible Owner or Lessee who requested an Emissions Modification, any 3.0 Liter Subject Vehicle that has not received the applicable Approved Emissions Modification, Defendants must (1) make a Mitigation Trust Payment to the Trust Account in accordance with the Consent Decree in the amount of \$50,000 per vehicle; and (2) offer to buy back and terminate the leases for each and every such vehicle, in accordance with the terms and requirements of Appendix A of the Consent Decree. For each such vehicle that Defendants fail to buy back or execute a lease termination, as applicable, within 18 months following EPA/CARB's demand for the stipulated remedy under this subparagraph, Defendants must pay a Mitigation Trust Payment to the Trust Account in accordance with the Consent Decree in the amount of \$25,000 per vehicle.

8.2.4. Failure to Comply with the Applicable Emissions Standard or Limitation. If any test required under this Appendix B, or such other compliance test, as specified in this Appendix B and conducted by EPA/CARB, demonstrates that any Modified Vehicle Test Group exceeds the applicable emissions standard or Maximum Emissions Modification Limit, the following stipulated remedies apply.

- i. Defendants must pay a Mitigation Trust Payment to the Trust Account in accordance with the Consent Decree, an amount based on Formula 1. The Mitigation Trust Payment amount shall be calculated based on the emissions exceedance demonstrated by testing conducted during the 1 year period preceding the EPA/CARB demand for payment. EPA/CARB may issue a separate demand for an additional Mitigation Trust Payment for each year in which the Modified Vehicle exceeds the applicable emissions limit. For Modified Vehicles that exceed more than one emissions limit, the amount of exceedance will be based on the greatest amount by which any emissions limit is exceeded.

Formula 1

[Vehicles not removed from service (number of vehicles in the applicable Generation less the number of vehicles Defendants demonstrate are bought back and destroyed)] x [g/mile (amount of exceedance)] x [15,000 miles] x [grams to tons conversion factor] x [70,000] = [Mitigation Trust Payment in dollars]

8.2.5. Failure to Provide EPA or CARB with Test Vehicles. If Defendants fail to provide any test vehicle within 45 Days of a request by EPA/CARB, as provided in

subparagraph 3.1.14, Defendants must pay to the United States and CARB the following stipulated penalties for each test vehicle and for each Day the vehicles are not provided:

\$5,000	1 st through 14 th Day
\$20,000	15 th through 30 th Day
\$50,000	31 st Day and beyond

8.2.6. Failure to Remove Defeat Devices. If, after EPA/CARB approve the applicable Emissions Modification, Defendants install software, or a Dealer installs software provided by Defendants, for purposes of modifying the vehicle as provided under this Appendix B, and subsequent to such installation, the vehicle contains a Defeat Device, Defendants must offer to buy back, and terminate the leases for, each and every such vehicle that has been purchased or leased, or that has been returned to an Eligible Owner or Lessee who requested an Emissions Modification, and Defendants must also pay to the United States and CARB a stipulated penalty of \$25,000,000 for each Defeat Device (but not for each vehicle that contains such Defeat Device).

8.2.7. Failure to Complete Final OBD Demonstration Testing. If Defendants fail to complete the Final OBD Demonstration testing by the dates required under subparagraph 3.1.11, Defendants must pay to the United States and CARB (at a 50/50 split) the following stipulated penalty for each Day that Defendants fail to complete such testing:

\$5,000	1 st through 14 th Day
\$20,000	15 th through 30 th Day
\$75,000	31 st Day and beyond

8.2.8. Failure to Comply with OBD System Requirements. If the Final OBD Demonstration testing, or such other test conducted by EPA/CARB pursuant to the OBD enforcement regulation Cal. Code Regs. tit. 13, § 1968.5, demonstrates that the Modified Vehicles do not meet the OBD System Requirements set forth in this Appendix B, Defendants must pay to the United States and CARB (at a 50/50 split) a stipulated penalty of \$15,000,000 for each noncompliance (but not for each vehicle that contains such noncompliance) demonstrated by the test(s), and Defendants must also continue to conduct the in-use compliance testing required under Section VI of this Appendix B for an additional 3 year period. If such additional in-use compliance testing demonstrates that the Modified Vehicles exceed any of the applicable emissions standards, then the stipulated remedies under subparagraph 8.2.4 apply.

8.2.9. Failure to Install Hardware Required for Generation 1.1 and Generation 1.2 Vehicles. If Defendants fail to install on any Generation 1.1 or Generation 1.2 3.0 Liter Subject Vehicle the applicable hardware, as required under subparagraphs 3.2.1 and 3.3.1, Defendants must recall each and every such vehicle and install the required hardware, and must pay to the United States and CARB a stipulated penalty of \$500 per vehicle per device that Defendants fail to install.

8.2.10. Failure to Install Hardware Required for Generation 2.1 Vehicles. If Defendants fail to install on any Generation 2.1 3.0 Liter Subject Vehicle the applicable hardware, as required under subparagraph 3.4.1, Defendants must recall each and every such vehicle and install the required hardware and must pay to the United States and CARB a stipulated penalty of \$500 per vehicle per device that Defendants fail to install.

8.2.11. Failure to Install Hardware Required for Generation 2 Passenger Cars. If Defendants fail to install on any Generation 2 PC 3.0 Liter Subject Vehicle the applicable hardware, as required under subparagraph 3.6.1, Defendants must recall each and every such vehicle and install the required hardware and must pay to the United States and CARB (at a 50/50 split) a stipulated penalty of \$500 per vehicle per device that Defendants fail to install.

8.2.12. Failure to Honor Warranty. If Defendants fail to honor the Extended Emissions Warranty under Paragraph 3.9 of this Appendix B, including by failing to cover all costs of parts and labor, or by failing to pay for or provide a loaner car for repairs of more than 3 hours, Defendants must pay to the United States and CARB (at a 50/50 split) a stipulated penalty of \$40,000 per failure, except for failing to pay for or provide a loaner car, for which Defendants must pay a stipulated penalty of \$1,000 per failure.

8.2.13. Failure to Disseminate the Emissions Modification Disclosure and the Additional Emissions Warranty Extensions. If Defendants fail to timely execute the disclosures required under subparagraphs 3.1.9 or 3.1.18, Defendants must pay to the United States and CARB (at a 50/50 split) the following stipulated penalties for each Day such notice is not provided:

\$2,000	1 st through 14 th Day
\$10,000	15 th through 30 th Day
\$50,000	31 st Day and beyond

8.2.14. Failure to Maintain a VIN-Searchable Database with the Required Emissions Modifications Disclosures and Specifying Warranty Coverage. If Defendants fail to maintain an accurate and complete database specifying the warranty coverage for each 3.0 Liter Subject Vehicle, the Defendants must pay to the United States and CARB (at a 50/50 split) the following stipulated penalties for each Day the database is not maintained, and for each covered part omitted:

\$2,000	1 st through 14 th Day
\$10,000	15 th through 30 th Day
\$50,000	31 st Day and beyond

8.2.15. Failure to Comply with In-Use Compliance Testing, Notice, or Reporting Requirements. If Defendants fail to conduct the tests or fail to comply with the reporting or notice requirements under Section VI of this Appendix B (In-Use Compliance Assurance), Defendants must make Mitigation Trust Payments to the Trust Account in

accordance with the Consent Decree in the following amounts for each requirement Defendants fail to meet, and for each Day of such failure:

\$50,000	1 st through 14 th Day
\$100,000	15 th through 30 th Day
\$500,000	31 st Day and beyond

8.2.16. Failure to Comply with Other Testing Requirements. If Defendants fail to conduct any other test or timely submit the results as required under this Appendix B, including any test Defendants are required to conduct after EPA and CARB issue a Notice of Approved Emissions Modification, but excluding tests required under Section VI of this Appendix B, Defendants must pay to the United States and CARB (in a 50/50 split) the following stipulated penalties for each requirement Defendants failed to meet, and for each Day of such failure:

\$5,000	1 st through 14 th Day
\$20,000	15 th through 30 th Day
\$50,000	31 st Day and beyond

8.2.17. Failure to Comply with Other Notice or Reporting Requirements. If Defendants fail to meet any of the other notice or reporting requirements under this Appendix B, Defendants must pay to the United States and CARB (at a 50/50 split) the following stipulated penalty for each requirement and for each Day Defendants fail to meet such requirements:

\$2,000	1 st through 14 th Day
\$5,000	15 th through 30 th Day
\$25,000	31 st Day and beyond

8.2.18. Failure to Comply with an Approved Emissions Modification. Except as otherwise provided herein, if an Emissions Modification performed by or on behalf of Defendants fails to conform to any of the requirements of the applicable Approved Emissions Modification, Defendants must pay to the United States and CARB (at a 50/50 split) a stipulated penalty of \$5,000 for each nonconformance with the Approved Emissions Modification and for each Modified Vehicle that contains a nonconformance.

8.3 These stipulated penalties in this Appendix B shall not apply if, at any time prior to instituting an Emission Modification Program, the Defendants decide not to pursue an Emission Modification Program.

IX. DISPUTE RESOLUTION

9.1 Disputes under this Appendix B shall be governed by the dispute resolution procedures set forth in Section IX of the Consent Decree.

9.2 With respect to any dispute under this Appendix B, in any judicial proceeding conducted pursuant to the dispute resolution procedures set forth in Section IX of the Consent

Decree, Defendants shall have the burden of demonstrating that EPA/CARB's determination or action was arbitrary and capricious or otherwise not in accordance with the law based on the administrative record.

X. SUBMISSIONS

10.1 Except as otherwise provided herein, Defendants must provide EPA and CARB with all correspondence required hereunder concurrently, by the method and in the form specified in Section XIII (Notices) of the Consent Decree.

10.2 EPA and CARB will provide Defendants with all correspondence required hereunder by the method and in the form specified in Section XIII (Notices) of the Consent Decree.

XI. CONFIDENTIAL BUSINESS INFORMATION

11.1 Defendants may assert claims that their Submissions contain Confidential Business Information, as specified in the Consent Decree.